



RHODES UNIVERSITY
Where leaders learn

2022 | RESEARCH REPORT



2022



RHODES UNIVERSITY
Where leaders learn

Rhodes University Research Report

A publication of the Rhodes University
Research Office, compiled and edited by
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Cover Photo: School of Journalism and Media Studies' Africa
Media Matrix building. Photo: Chris Marais

Back Photo: Wood gatherers in Grahamstown in the late
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Foreword

From Left to Right: The Chancellor of Rhodes University, Judge Lex Mpati; DVC: Research & Innovation, Professor Peter Clayton, DVC: Academic & Student Affairs, Professor Mabokang Monnapula-Mapesela; and the VC, Professor Sizwe Mabizela.

Photo: Velisile Bukula

2022 was a year in which Rhodes University reviewed its purpose and reimagined its future. All stakeholders, ranging from current students and staff, to alumni, collaborators, community partners, councillors, governors and funders, were invited to participate in the process of reflection and reimagination, and to craft a new roadmap. This culminated in the University Council adopting a revised Institutional Development Plan (IDP) at its final meeting of 2022.

Rhodes University exists to serve three core purposes, each of them deeply traditional in nature, but each also required to be acutely attuned to the changing inflections of the era:

- I. To *produce and disseminate knowledge* through all kinds of research, creative endeavours and scholarship, so that we can advance the frontiers of knowledge, human understanding and wisdom.

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- II. To teach in ways which allow and encourage our students to engage critically with **knowledge** and its production. Through our teaching, our students should not only develop a critical appreciation of the ways in which we gain knowledge and understanding of the universe, of society, and of ourselves, but should also be inducted into the intricacies of knowledge-making.
 - III. To discharge our critical **societal responsibility** through engagement with the pressing questions of the day, whether these are urgent local needs in our own community, or wider issues confronting societies globally. Universities do not exist in a vacuum - they exist within a particular social, economic, cultural, political and historical context, and are an integral part of the community in which they exist.

In short, our University is a place of knowledge, a place of ideas, a community of scholars engaged in the generation, dissemination and application of knowledge in the service of humanity. The revised IDP strengthens our institutional resolve to be a scholarly university, and one that produces graduates who are ethical leaders, committed to the values of human understanding, social justice, human development and service to humanity.

The idea of Rhodes University as a research led intellectual space was seeded in the 1970s, with a number of our country's research pioneers setting a research trajectory at our institution. In the 2000s, Rhodes University's research productivity had grown to become among the highest per capita in the South African Higher Education sector. The

University appointed Professor Peter Clayton as its first Deputy Vice-Chancellor: Research and Innovation in 2008. Professor Clayton retired in December 2022.

Many researchers of outstanding scholarly reputation and productivity have emerged within our intellectual space, prompting the University to introduce a *Distinguished Professor* academic rank to recognise scholarly work of international acclaim. To date the title has been conferred on eight research scholars, two of them during the year under review.

Professor Oleg Smirnov (Radio Astronomy techniques), a world authority on radio astronomy interferometry, who has been a critical success factor in South Africa's leadership role of the SKA (Square Kilometer Array), and one of the reasons why Rhodes University continues to be a world name in radio astronomy. He was awarded an NRF A rating (signifying that he is a world leader in the field) in 2022, with one of his peer reviewers noting that "*Prof Smirnov's group is not just a leading R&D group for interferometric imaging, it is THE leading group in the world.*"

Professor Charlie Shackleton (Environmental Science), widely regarded as one of Africa's foremost authorities on sustainable livelihoods. He is best known for his work on non-timber forest products and livelihoods. His work has had an influence on policy and practice in the conservation and sustainable use of natural resources, both in South Africa and globally.



Professor Peter Clayton at his farewell dinner, 30 November 2022.

Photo: Velisile Bukula



From Left to Right: Dean of Humanities, Associate Professor Enocent Msindo; Professor Emeritus Pat Terry; Dean of Education, Professor Eureka Rosenberg; Professor Peter Clayton; Dean of Science, Professor Tony Booth; Dean of Commerce Professor Dave Sewry; and Dean of Law, Professor Laurence Juma. Photo: Velisile Bukula



Jaine Roberts, Director: Research Office

Photo: Velisile Bukula

In 2022 the University underwent an institutional accreditation audit by the Council on Higher Education, which focussed on the ongoing quality of both the Undergraduate and Postgraduate offerings at Rhodes University. The reports and accompanying evidence highlighted the institution as a small university that enjoys the distinction of having among the best undergraduate pass and graduation rates in South Africa, high Postgraduate success rates in relation to the sector, and being amongst the top performing institutions with respect to research output per academic staff member.

2022 was a very special graduation year for many reasons. After two years of Covid-19 lockdowns with virtual online graduation ceremonies, our graduation ceremonies were once again held in a physical space, and were wonderful celebratory occasions.

Many of our outstanding scholars attracted external acclaim during the year under review.

Distinguished Professor Heila Lotz-Sisitka was appointed to UNESCO's International Expert Group for revising the "1974 Recommendation concerning Education for International Understanding, Cooperation and Peace, and Education relating to Human Rights and Fundamental Freedoms". Only 24 experts chosen from across the globe serve on this expert group, which will revise this policy instrument to govern UNESCO member countries in promoting the role of education in eradicating conditions that threaten human survival and well-being.

Professor Jen Snowball was appointed to the Board of Advisors of the United Nations Conference on Trade and Development Creative Economy Section.

School of Journalism and Media Studies TV Lecturer, **Ms Thandeka Gqubule-Mbeki**, was appointed to President Cyril Ramaphosa's National Anti-Corruption Advisory Council.

Several of our SARCHI Chairs received renewals from the National Research Foundation after rigorous external 5-year reviews. These were **Professor Dion Nkomo** (Intellectualisation of African Languages, Multilingualism and Education), **Distinguished Professor Charlie Shackleton** (Interdisciplinary Science in Land and Natural Resource Use for Sustainable Livelihoods), and **Distinguished Professor Oleg Smirnov** (Radio Astronomy Techniques & Technologies). Two additional SARCHI Chairs underwent successful reviews, which will result in the renewal of their chairs in 2023: **Distinguished Professor Catriona Macleod** (Critical Studies in Sexualities and Reproduction), and **Distinguished Professor Martin Hill** (Insects in Sustainable Agricultural Ecosystems).

Professor Adrienne Edkins was awarded an African Research Leader grant from the UK Medical Research Council. The funding from this award will enable her to continue her work on AIDS-related cancers in collaboration with Leeds University.

Emeritus Professor Denis Hughes was awarded the Southern African Society of Aquatic Scientists' Gold Medal for his outstanding contribution to Aquatic Sciences over a life time.

The Vice-Chancellor's Distinguished Research Award for 2022 was awarded to **Associate Professor Iain Paterson** of the Centre for Biological Control.

The Vice-Chancellor's Book Award for 2022 was awarded to **Professors Chrissie Boughey and Sioux McKenna** for their jointly authored book *Understanding Higher Education - Alternative Perspectives*, (African Minds, 2021).

Many other individual academics received widespread national and international acknowledgement of their work. Their fine accomplishments are contained within the pages of this report.

We extend our congratulations and thanks to all of our researchers, supervisors, collaborators, funders, donors, and partners who contributed to making 2022 a year in which research at Rhodes University flourished. Your expertise, integrity, dedication, rigour and generosity make Rhodes University the rich and distinctive intellectual space that it is.

Professor Peter Clayton and Louisa Clayton.

Photo: Velisile Bukula



2022

Top 30 Researchers

Rhodes University acknowledges and congratulates the following for their accredited research outputs (Journal Publications, Books & Chapters, and Masters/Doctoral students graduated) in 2022:

- Distinguished Professor Tebello Nyokong**
Department of Chemistry,
Rhodes/DST Institute for Nanotechnology Innovation
- Distinguished Professor Heila Lotz-Sisitka**
Faculty of Education,
Environmental Research Learning Centre (ELRC)
- Associate Professor Enocent Msindo**
Dean of Humanities
- Professor Kirk Helliker**
Department of Sociology and Industrial Sociology
- Professor Rui Krause**
Department of Chemistry
- Distinguished Professor Charlie Shackleton**
Department of Environmental Science
- Associate Professor Kevin Lobb**
Department of Chemistry
- Professor Adrienne Edkins**
Department of Biochemistry and Microbiology
- Associate Professor Alan Kirkaldy**
Department of History
- Professor Özlem Tastan Bishop**
Department of Biochemistry and Microbiology
- Distinguished Professor Catriona Macleod**
Department of Psychology
- Dr Pascall Taruvinga**
Department of Anthropology
- Associate Professor Philani Mashazi**
Department of Chemistry,
Rhodes/DST Institute for Nanotechnology Innovation
- Professor William Froneman**
Department of Zoology and Entomology
- Professor Kenneth Ngcoza**
Faculty of Education,
Department of Secondary and Post School Education
- Distinguished Professor Martin Hill**
Department of Zoology and Entomology,
Centre for Biological Control
- Associate Professor Sally Matthews**
Department of Political and International Studies
- Professor Jen Snowball**
Department of Economics and Economic History
- Professor Julie Coetzee**
Department of Zoology & Entomology
- Associate Professor Charlene Lubaale**
Faculty of Law
- Professor Warren Potts**
Department of Ichthyology and Fisheries Science
- Professor Sioux McKenna**
Centre for Postgraduate Studies
- Dr Clement Simuja**
Faculty of Education,
Department of Secondary and Post School Education
- Professor Mellony Graven**
Faculty of Education,
Department of Primary and Early Childhood Education
- Professor James Gambiza**
Department of Environmental Science
- Associate Professor Sheunesu Ruwanza**
Department of Environmental Science
- Associate Professor Amber Childs**
Department of Ichthyology and Fisheries Science
- Associate Professor John Mack**
Department of Chemistry,
Rhodes/DST Institute for Nanotechnology Innovation
- Professor Rosemary A. Dorrington**
Department of Biochemistry and Microbiology
- Associate Professor Nelson Odume**
Institute for Water Research

2022

PhD Graduates

FACULTY OF COMMERCE (5 PhDs)

DEGREE OF DOCTOR OF PHILOSOPHY

GIBSON-TESENDORF, Jacoba Cornelia, NDip, HDip (Vaal Triangle), MBA (Rhodes), in Management, in the Rhodes Business School. Degree by thesis. Thesis: *A grounded theory study of the identity and career decisions of artistic creative entrepreneurs.*

Supervisor: Professor NJ Pearse.
Co-supervisor: Professor MME Mohapelo.

NXOZI, Monelo, BSc (InfSys) (Rhodes), MBA (WITS), in Information Systems, in the Department of Information Systems. Degree by thesis. Thesis: *A compliance framework for IT governance adoption and use by state-owned entities in South Africa.*

Supervisor: Professor SV Flowerday.

NTSONGE, Sinazo, MSc (Rhodes), in Economics, in the Department of Economics and Economic History. Degree by thesis. Thesis: *Developing a framework for assessing the socioeconomic success of Expanded Public Works Programmes (EPWP): The case of the Prosopis mesquite Working for Water clearing project in the Northern Cape Province, South Africa.*

Supervisor: Professor GCG Fraser.
Co-supervisor: Professor JD Snowball.

OWEN, Morné, NDip (IT) (PE Technikon), BTech (Technikon SA), MTech (NMMU), in Information Systems, in the Department of Information Systems. Degree by thesis. Thesis: *The role of optimism bias in susceptibility to phishing attacks in a financial services organisation.*

Supervisor: Professor SV Flowerday.

SIMBI, Chipo, BSc (WUA), BComHons (Great Zimbabwe), MAcc, DipEd (Zimbabwe), in Accounting, in the Department of Accounting. Degree by thesis. Thesis: *The adoption of international financial reporting standards and foreign direct investment inflows: The moderating effect of the institutional environment in Africa.*

Supervisor: Professor EM Stack.
Co-supervisor: Dr SA Khumalo.

FACULTY OF EDUCATION (14 PhDs)

DEGREE OF DOCTOR OF PHILOSOPHY

BHUREKENI, John, Med (Great Zimbabwe), in Education, in the Department of Education. Degree by thesis. Thesis: *Exploring aspects of community of inquiry (COI) in Afrophilia learning processes for transformative education using an Afrophilic "Philosophy for Children" approach.*

Supervisor: Distinguished Professor H Lotz-Sisitka.
Co-supervisor: Professor RB O'Donoghue.

FERGUSON, Robin Anne, MPhil (Stell), in Education, in the Department of Education. Degree by thesis. Thesis: *A Pedagogy of Love: Reflections on 25 years of informal vocational education and training practices in the commercial fishing industry in South Africa.*

Supervisor: Distinguished Professor H Lotz-Sisitka.

HODGSKISS, Jennifer Adelé, MEd (Rhodes), in Education, in the Department of Education. Degree by thesis. Thesis: *An in-depth investigation of an early literacy intervention in Grade R.*

Supervisor: Dr C van der Mescht.

LOVEMORE, Tarryn Shirley, MEd (Rhodes), in Education, in the Department of Education. Degree by thesis. Thesis: *Integrating music and mathematics for connecting across multiple constructs of fractional understanding: An RME task design journey.*

Supervisor: Dr S-A Robertson.
Co-supervisor: Professor M Graven.

SIMASIKU, Fredrick Simataa, MEd (Rhodes), in Education, in the Department of Education. Degree by thesis. Thesis: *Leveraging a peer-learning community and expert community members in the integration of indigenous knowledge into the learning and teaching of Grade 10 Chemistry on the rate of reactions.*

Supervisor: Professor K Ngcoza.
Co-supervisor: Dr Z Nhase (UFS).

ANDREWS, Ruth, BA (Stell), MBA (Rhodes), in Education, in the Centre for Higher Education Research, Teaching and Learning. Degree by thesis. Thesis: *The morphogenesis of higher education leadership - A social realist exploratory journey.*

Supervisor: Professor CM Boughey.

CHANYAU, Ludwig, BScHons (Zimbabwe), MSocSci (UCT), in Education, in the Department of Secondary and Post-School Education. Degree by thesis. Thesis: *Learning to make a difference: Small-scale women farmers in social learning spaces for climate action.*

Supervisor: Professor E Rosenberg.

JUNIUS, Daniel Franscius, BEd (Namibia), MEd (Rhodes), in Education, in the Department of Secondary and Post-School Education. Degree by thesis. Thesis: *The use of dynamic software to potentially enhance conceptual understanding and a productive disposition in the visual learning of algebra: an interventionist case study.*

Supervisor: Professor M Schäfer.

KALIMA, Robert Chagwamtsoka, BEd (Malawi), MSc (Kumamoto), in Education, in the Department of Primary and Early Childhood Education. Degree by thesis. Thesis: *Field facilitation in open and distance learning in resource-constrained environments: a case of Mzuzu University, Malawi.*

Supervisor: Professor C Grant.

Co-supervisors: Dr S Clarence and Professor S McKenna.

KIGUNDU, Stephen, DipEd (Makerere), BEdHons (Transkei), MA (UKZN), in Education, in the Department of Primary and Early Childhood Education. Degree by thesis. Thesis: *Design of an LMS-mediated tutorial to support deep and effective engagement in the process of learning mathematics.*

Supervisor: Professor B Brown.

KNOWLES, Corinne Ruth, BA (UPE), HDE (UCT), MA, PGDip(HE) (Rhodes), in Education, in the Department of Secondary and Post-School Education. Degree by thesis. Thesis: *With dreams in our hands: towards transgressive knowledge-making cultures.*

Supervisor: Dr D McGarry.

Co-supervisor: Distinguished Professor H Lotz-Sisitka.

MABOTE, Ntele Emily, BTech, MTech (TUT), PGDip (HE) (Rhodes), in Education, in the Centre for Higher Education Research, Teaching and Learning. Degree by thesis. Thesis: *Mechanisms conditioning the implementation of an integrated quality assurance and enhancement approach at a South African University of Technology.*

Supervisor: Professor LE Quinn.

MAGXALA, Xoliswa Patience, MEd (WSU), in Education, in the Institute for the Study of the Englishes of Africa. Degree by thesis. Thesis: *Exploring the interplay between Foundation Phase learners' home and school literacy practices.*

Supervisor: Professor M Hendricks.

Co-supervisor: Professor M Mbelani.

THEODORIO, Adedayo Olayinka, BSc (Olabisi Onabanjo), MEd (Ibadan), MSc (Ibadan), in Education, in the Department of Secondary and Post-School Education. Degree by thesis. Thesis: *TPACK Development: Technology integration with teacher educators in foundation phase teacher training programme.*

Supervisor: Dr C Simuja.

FACULTY OF HUMANITIES (25)

DEGREE OF DOCTOR OF PHILOSOPHY

AJIBORO, Aderonke Adeyinka, MA (Obafemi Awolowo), in Philosophy, in the Department of Philosophy. Degree by thesis. Thesis: *Anonymous Testimony and Epistemic Responsibility.*

Supervisor: Professor W Jones.

ANJUGU, Taimako Ajigo, BAHons (Jos), MA (Benue State), in French, in the School of Languages and Literatures. Degree by thesis. Thesis: "Délices et négation: une approche de l'écriture féminine à travers dix romans francophones africains." [*Delight and negation: An analysis of feminine writing in ten selected Francophone African novels.*]

Supervisor: Professor PK Mwepu.

BARKER, Kim Elise, BA (WITS), MPhil (Cantab), MTh (UNISA), in Psychology, in the Department of Psychology. Degree by thesis. Thesis: *Impacts of participating in an anti-rape protest: listening to and thinking with the narratives of victim-survivors.*

Supervisor: Professor T Feltham-King.

Co-Supervisor: Distinguished Professor CI Macleod.

CAHILL, Susan Mary, MSocSci (Natal), in Psychology, in the Department of Psychology. Degree by thesis. Thesis: *Action Research reflecting the process of a collaborative, multi-theoretical group intervention with foster parents of children affected by childhood trauma.*

Supervisor: Professor J Akhurst.

CHRISTIE, Camilla Rose, BA, PGDip (Library Studies), BAHons, MA (UCT), MA (Rhodes), in English Language & Linguistics, in the Department of Linguistics and Applied Language Studies. Degree by thesis. Thesis: *Click consonants in contact: a comparative sociohistorical analysis with special reference to Nama-Afrikaans contact.*

Supervisor: Dr W Bennett.

Co-supervisor: Professor MA de Vos.

DU TOIT, Ryan Rudolph, MSocSci (UKZN), in Psychology, in the Department of Psychology. Degree by thesis. Thesis: *"How do you feel about the abortion?": pre-termination of pregnancy counselling in the public health sector in the Eastern Cape.*

Supervisor: Distinguished Professor CI Macleod.

GABIE, Sharon, MA (WITS), in Anthropology, in the Department of Anthropology. Degree by thesis. Thesis: *Izit? Hoe lyk hulle? Kom ons _Xoa - A South African Khoe-San narrative.*

Supervisor: Professor J Owen (UFS).

GORHAM, Catherine Margaret, BAHons (Rhodes), in Sociology, in the Department of Sociology. Degree by thesis. Thesis: *An examination of the use and value of support systems for people living with HIV/AIDS in Makhanda.*

Supervisor: Professor JJ Roodt.

GRAHAM, Nicola Susan Jearey, BA (Wits), BAHons, MA (Rhodes), in Psychology, in the Department of Psychology. Degree by thesis. Thesis: *A formative evaluation and critical analysis of an alcohol and pregnancy intervention in the Eastern Cape of South Africa*.

Supervisor: Distinguished Professor CI Macleod.

HAINE, Phillipa Claire, BSc, BAHons (Stell), MA (Rhodes), in Psychology, in the Department of Psychology. Degree by thesis. Thesis: *The professional experiences of early career counselling psychologists in South Africa: A mixed method study*.

Supervisor: Professor CS Young.
Co-supervisor: Dr DD Booysen.

HUMAN, Antoinette Charlotte Lucy, MEd (Pretoria), in Psychology, in the Department of Psychology. Degree by thesis. Thesis: *Developing and exploring a career education programme for disadvantaged FET-phase learners in the northern areas of Gqeberha: A developmental-contextual approach*.

Supervisor: Professor J Akhurst.

KALICHINI, Gladys Melina, BA (Zambia), MFA (Rhodes), in Art History, in the Department of Fine Art. Degree by thesis. Thesis: *InVisible Freedom Fighter: A critical analysis of portrayals of women in archival photographs, independence monuments and contemporary art in Zambia (Northern Rhodesia) and Zimbabwe (Southern Rhodesia)*.

Supervisor: Professor R Simbao.

KENQU, Amanda Yolisa, BAHons (Wits), MA (Rhodes), in English, in the Department of Literary Studies in English. Degree by thesis. Thesis: *From euphoria to disenchantment: The intangible in black post-Apartheid South African fiction*.

Supervisor: Dr SJ Marais.

LEWIS, Christine, BSocSci, BSocSciHons, PGCert. (FETP) (UFS), MSocSci (UFH), in Psychology, in the Department of Psychology. Degree by thesis. Thesis: *The relevance of career counselling in higher education: a study following students at a South African university*.

Supervisor: Professor J Akhurst.

LUMASIA, Patrick Chesi, BEd, MA (Nairobi), in English, in the Department of Literary Studies in English. Degree by thesis. Thesis: *Kenyan comedy: transmogrifying stereotypes and fashioning a "Kenyaness" of aesthetic escapism*.

Supervisor: Professor LG Spencer.
Co-supervisor: Dr M Dass.

MOKOATSI, Thapelo, MA (UFS), in History, in the Department of History. Degree by thesis. Thesis: *Saul Msane: Friend or Foe of the people? The life of the late nineteenth to early twentieth centuries South African politician and journalist*.

Supervisor: Professor J Wells.

MUVHUTI, Tichapera Barnabas, DipEd (Hillside), BAHons (MSU), BAHons (UCT), MPhil (Stell), in Art History, in the

Department of Fine Art. Degree by thesis. Thesis: *Revisionist Narratives: Locating Six Black Artist-teachers onto the Map of Twentieth-Century Modern Art in Zimbabwe*.

Supervisor: Professor R Simbao.

MVUNDURA, Emaculate Musimeki, BAHons (Africa), MA (Midlands), in English Language & Linguistics, in the Department of Linguistics and Applied Language Studies. Degree by thesis. Thesis: *Seeing diplomatic relations through diplomatic constellations: An analysis of the positioning of Zimbabwe and the United Kingdom in Zimbabwean news articles*.

Supervisor: Dr I Siebörger.

NGOMA, Amuzweni Lerato, MA (Wits), in Sociology, in the Department of Sociology. Degree by thesis. Thesis: *Mega-churches and the neo-pentecostalisation of South Africa's black middle class*.

Supervisor: Professor LJW Van der Walt.
Co-supervisor: Professor RJ Southall.

PANCHIA, Bhavisha Laxmi, BAFA (Wits), MA (CCS Bard College), MA (Wits), in Art History, in the Department of Fine Art. Degree by thesis. Thesis: *Playing it back: audible traces in contemporary African art*.

Supervisor: Dr T Goniwe.

RUNGAN, Natalie, MMus (Natal), in Music, in the Department of Music and Musicology. Degree by thesis. Thesis: *Creating jazz pedagogical strategies: An A/R/Tographic investigation of the South African jazz caps syllabus*.

Supervisor: Dr B McConnachie.

SHAIK, Shabnam, BSocSci, BSocSciHons, MSocSci (UKZN), in Anthropology, in the Department of Anthropology. Degree by thesis. Thesis: *Lifting the veil on the 'Untouchable': a study of Muslims living with HIV in Durban, South Africa*.

Supervisor: Dr S De la Porte (UKZN).
Co-supervisor: Professor M Dold Cocks.

UNEBGU, Osundu Chukwuemeka, BA (Abia State), MA (Bayero), in English Language & Linguistics, in the Department of Linguistics and Applied Language Studies. Degree by thesis. Thesis: *An analysis of power relations, affiliation, and individuation in selected inaugural, coup and secession speeches of Nigerian leaders, 1960-2015*.

Supervisor: Dr I Siebörger.

VORSTER, Angela Carol, MA (UFS), in Psychology, in the Department of Psychology. Degree by thesis. Thesis: *South African women's experience of the decision, procedure and recovery from 'foeticide' and late termination of pregnancy due to the presence of severe foetal abnormality: women's and health service providers' perspectives*.

Supervisor: Distinguished Professor CI Macleod.
Co-supervisor: Professor LA Wilbraham.

WILLIAMS, Ulagh, MMus (NMU), in Music, in the Department of Music and Musicology. Degree by thesis. Thesis: *Beyond*

mastery: jazz, gender, and power in post-apartheid South Africa.

Supervisor: Dr N Rama.

FACULTY OF PHARMACY (3)

DEGREE OF DOCTOR OF PHILOSOPHY

DUXBURY, Theodore Orlando, MPharm (Rhodes), in Pharmacy Practice, in the Faculty of Pharmacy. Degree by thesis. Thesis: *Understanding critical concepts in engaged research to promote health resilience: the case of a systems analysis and epistemically just rural health development project in South Africa*.

Supervisor: Dr SA Paphitis (KCL).

Co-supervisors: Professor R Tandlich and Dr J Bezerra.

MADIKIZELA, Phindile, MSc (Pharmacy) (Rhodes), in Pharmacy, in the Faculty of Pharmacy. Degree by thesis. Thesis: *Disaster risk management issues in WASH in South Africa: examinations of selected challenges and development of novel solutions*.

Supervisor: Professor R Tandlich.

SHARMA, Samridhi, BPharm (Rhodes), in Pharmacy, in the Faculty of Pharmacy. Degree by thesis. Thesis: *Health communication for antimicrobial resistance and stewardship in the Makana local municipality, South Africa*.

Supervisor: Professor S Srinivas.

Co-supervisor: Professor R Tandlich.

FACULTY OF SCIENCE (45)

DEGREE OF DOCTOR OF PHILOSOPHY

ABAHO, Ivan, MSc (Makerere), in Fisheries Science, in the Department of Ichthyology and Fisheries Science. Degree by thesis. Thesis: *The androgenic and anabolic effects of pine pollen on Nile tilapia (*Oreochromis niloticus*)*.

Supervisor: Professor CLW Jones.

Co-supervisors: Professor C Masembe and Dr P Akoll.

BAILEY, Lauren Ashleigh, MSc (Rhodes), in Fisheries Science, in the Department of Ichthyology and Fisheries Science. Degree by thesis. Thesis: *The link between behavioural plasticity and aerobic scope phenotypes in predicting the survival of *Chrysoblephus laticeps* under climate variability*.

Supervisor: Dr A-R Childs.

Co-supervisors: Professor WM Potts and Dr N James (SAIAB).

BAROZI, Victor, BBLT (Makerere), MSc (Rhodes), in Bioinformatics, in the Department of Biochemistry and Microbiology. Degree by thesis. Thesis: *In silico characterization of missense mutations in infectious diseases: case studies of tuberculosis and Covid-19*.

Supervisor: Professor O Tastan Bishop.

CHINDIPHA, Stones Dalitso, MSc (Rhodes), in Computer Science, in the Department of Computer Science. Degree by thesis. Thesis: *Evaluation of the Effectiveness of Small Aperture Network Telescopes as IBR Data Sources*.

Supervisor: Professor BW Irwin.

Co-supervisor: Dr A Herbert.

CHITHAMBO, Bertha, BSc (Malawi), MA (The Open University), MSc, PGCert. (Education) (Rhodes), in Chemistry, in the Department of Chemistry. Degree by thesis. Thesis: *Synthesis of natural product-inspired imido and 3,5-disubstituted-1,2,4-oxadiazolo phosphonates as potential anti-malarial agents*.

Supervisor: Professor RWM Krause.

Co-supervisor: Professor PT Kaye.

DARAMOLA, Olamide Abiodun, BSc (OOU), MSc (WSU) in Chemistry, in the Department of Chemistry. Degree by thesis. Thesis: *Rapid Synthesis of Thiol-Co-Capped CdTe/CdSe/ZnSe Multi-Core-Shell QDs and their encapsulation in liposomes and chitosan nanoparticles; Comparative bio-compatibility studies using HeLa and Vero cells*.

Supervisor: Professor RWM Krause.

DUBE, Makasithembe, BScHons (Midlands), MSc (NUST), in Microbiology, in the Department of Biochemistry and Microbiology. Degree by thesis. Thesis: *Arbuscular mycorrhizal fungi associated with wheat under conventional and conservation agricultural cultivation*.

Supervisor: Professor JF Dames.

FRY, Anthony St Leger, BSc (UCT), in Water Resource Science, in the Institute for Water Research. Degree by thesis. Thesis: *Leverage points for meaningful participatory governance: Lessons from the Tsitsa River catchment, South Africa*.

Supervisor: Professor CG Palmer.

Co-supervisor: Dr JK Clifford-Holmes.

GIBB, Ross-Lynne Alida, MSc (NMU), in Microbiology, in the Department of Biochemistry & Microbiology. Degree by thesis. Thesis: *Phytoplankton communities provide insight into ecosystem functioning of the Agulhas Current system*.

Supervisor: Professor RA Dorrington.

Co-supervisor: Professor T Bornman (SAEON).

HECKENDORN, Katrina Ann, BSc (Idaho), MSc (Nevada), in Fisheries Science, in the Department of Ichthyology and Fisheries Science. Degree by thesis. Thesis: *Towards a better understanding of small-scale fishing decisions and their consequences in Northern Mozambique*.

Supervisor: Professor S Aswani.

Co-supervisors: Professor WHH Sauer and Dr A Bernard (SAIAB).

ISEMONGER, Eric William, BScHons (Rhodes), in Microbiology, in the Department of Biochemistry & Microbiology. Degree by thesis. Thesis: *South African supratidal microbialites: prokaryote communities, metabolic capabilities and biogeochemical processes*.

Supervisor: Professor RA Dorrington.
Co-supervisor: Dr R Sipler (Bigelow Laboratory for Ocean Science).

JAMABO, Miebaka, BScHons (Niger Delta), MSc (JHU), in Biotechnology, in the Biotechnology Innovation Centre. Degree by thesis. Thesis: *Characterization of Trypanosoma brucei Stt1 and its interactions with Trypanosoma brucei Hsp83 and human Hsp90*.

Supervisor: Professor A Boshoff.
Co-supervisor: Professor AL Edkins.

LIKONGWE, Patrick Jeremy, BSc (Malawi), MSc (Jomo Kenyatta), in Environmental Science, in the Department of Environmental Science. Degree by thesis. Thesis: *Status and potential of green infrastructure to support urban resilience in Zomba City, Malawi*.

Supervisor: Distinguished Professor CM Shackleton.

NENE, Lindokuhle Cindy, MSc (Rhodes), in Chemistry, in the Department of Chemistry. Degree by thesis. Thesis: *The development of ionic Zinc (II) phthalocyanines for sono-photodynamic combination therapy of cervical and breast cancer*.

Supervisor: Distinguished Professor T Nyokong.

MAHLELE, Maduma Ernest, BScHons (Rhodes), in Biotechnology, in the Biotechnology Innovation Centre. Degree by thesis. Thesis: *The heterologous expression and in vitro biochemical characterization of the Hsp70 escort protein 1 and mitochondrial Hsp70 partner proteins of the Trypanosoma brucei parasite and humans*.

Supervisor: Professor A Boshoff.

MAÛSSE SITOE, Silvia Natal David, Lic Hons (Forest Engineering) (Eduardo Mondlane), MSc (Pretoria), in Microbiology, in the Department of Biochemistry and Microbiology. Degree by thesis. Thesis: *Arbuscular mycorrhizal fungi associated with maize in South Africa, under conventional and conservation agricultural cultivation*.

Supervisor: Professor JF Dames.

MGIDLANA, Sithi, BSc (WSU), MSc (Rhodes), in Chemistry, in the Department of Chemistry. Degree by thesis. Thesis: *Asymmetrical zinc(II) phthalocyanines conjugated to nanomaterials for degradation of organic pollutants and inactivation of Staphylococcus aureus bacteria*.

Supervisor: Distinguished Professor T Nyokong.

MPOPETSI, Pule Peter, MSc (Rhodes), in Ichthyology, in the Department of Ichthyology and Fisheries Science. Degree by thesis. Thesis: *Exploring the drivers of co-occurring multiple non-native fish assemblages within an invaded and flow-modified African river system*.

Supervisor: Professor WT Kadye.

MURONZI, Tendai, BScHons (Zimbabwe), MSc (Rhodes), in Bioinformatics, in the Department of Biochemistry and Microbiology. Degree by thesis. Thesis: *Computational studies in human African trypanosomiasis*.

Supervisor: Professor O Tastan Bishop.

MUTIZWA, Tadiwa Isaac, BScHons (Zimbabwe), MSc (Rhodes), in Ichthyology, in the Department of Ichthyology and Fisheries Science. Degree by thesis. Thesis: *Species diversity and biogeographic patterns of three genera of freshwater fishes in southern Africa*.

Supervisor: Professor WT Kadye.
Co-supervisor: Dr A Chakona.

NANDUTU, Irene, BSc (UCU), MSc (UTAMU), in Applied Mathematics, in the Department of Mathematics. Degree by thesis. Thesis: *Wildlife- vehicle collisions mitigation measures using road ecological data and deep learning*.

Supervisor: Dr M Atemkeng.

NDAGANO, Urbain Nshokano, BSc (UCT), BScHons, MSc (Rhodes), in Chemistry, in the Department of Chemistry. Degree by thesis. Thesis: *Silica supported sulfuric acid-catalysed one-pot processes for the synthesis of N-heterocycles*.

Supervisor: Professor R Klein.

NDEBELE, Nobuhle, MSc (Rhodes), in Chemistry, in the Department of Chemistry. Degree by thesis. Thesis: *The electrocatalytic activity of metallophthalocyanines and their conjugates with carbon nanomaterials and metal tungstate nanoparticles*.

Supervisor: Distinguished Professor T Nyokong.

NJANJE, Idris, MSc (Limpopo), in Microbiology, in the Department of Biochemistry and Microbiology. Degree by thesis. Thesis: *Screening isolation and biological characterization of antibacterial secondary metabolites from macrofauna endemic to the southern African coast*.

Supervisor: Professor RA Dorrington.
Co-supervisor: Professor AL Edkins.

NKHAHLE, Reitumetse Precious, MSc (Rhodes), in Chemistry, in the Department of Chemistry. Degree by thesis. Thesis: *Enhancing the electrocatalytic activity of phthalocyanines through finding the ideal combination of substituents in push-pull phthalocyanine-based systems*.

Supervisor: Distinguished Professor T Nyokong.

NOVOKOZA, Yolanda, BScHons (WSU), MSc (Rhodes), in Chemistry, in the Department of Chemistry. Degree by thesis. Thesis: *Prediction of mass spectra using an ab initio approach*.

Supervisor: Professor KA Lobb.

NWAHARA, Nnamdi Ugochinyere, BSc (Lesotho), BScHons, MSc (Rhodes), in Chemistry, in the Department of Chemistry. Degree by thesis. Thesis: *Liposomal formulations of*

Metallophthalocyanines-nanoparticle conjugates for hypoxic photodynamic therapy and photoelectrocatalysis.

Supervisor: Distinguished Professor T Nyokong.

OKEKE, Chiamaka Jessica, BScHons (Lagos), MSc (Rhodes), in Bioinformatics, in the Department of Biochemistry and Microbiology. Degree by thesis. Thesis: *Falcpain 2 and 3 as malarial drug targets: Deciphering the effects of missense mutations and identification of allosteric modulators via computational approaches.*

Supervisor: Professor O Tastan Bishop.

OKPARA, Michael Obinna, BTech (FUT), MSc (MED) (UCT), in Biochemistry, in the Department of Biochemistry and Microbiology. Degree by thesis. Thesis: *Identification of novel therapeutic agents targeting kaposi's sarcoma-associated herpesvirus (kshv) lytic replication.*

Supervisor: Professor AL Edkins.

OLADIPO, Hannah Oluwakemi, BSc (Usmanu Danfodiyo), MIT (Ladoke Akintola), MSc (Northumbria) in Biochemistry, in the Department of Biochemistry and Microbiology. Degree by thesis. Thesis: *HOP abundance affects nuclear pore components and the export of protein and RNA cargo.*

Supervisor: Professor AL Edkins.

PARKINSON, Matthew Cameron, MSc (Rhodes), in Ichthyology, in the Department of Ichthyology and Fisheries Science. Degree by thesis. Thesis: *Movement ecology of a West African sciaenid fish, *Argyrosomus coronus*, in southern Angola.*

Supervisor: Professor WM Potts.

Co-supervisors: Professor AJ Booth and Professor A-R Childs.

RAMMALA, Isabella Dineo, BScHons (UFS), MSc (Rhodes), in Physics, in the Department of Physics and Electronics. Degree by thesis. Thesis: *Discovery and classification of compact objects in the MEERKAT galactic centre data.*

Supervisor: Professor A Karastergiou.

Co-supervisors: Professor I Heywood and Professor OM Smirnov.

REID, Megan Kim, MSc (Rhodes), in Entomology, in the Department of Zoology and Entomology. Degree by thesis. Thesis: *A native weevil and an exotic planthopper: investigating potential biological control agents for *Nymphaea mexicana zuccarini* (Nymphaeaceae) and its hybrids in South Africa.*

Supervisor: Professor JA Coetzee.

Co-supervisor: Distinguished Professor MP Hill.

SALAMI, Sodeeq Aderotimi, BSc (Kebbi State), MSc (Ilorin), in Chemistry, in the Department of Chemistry. Degree by thesis. Thesis: *From more sustainable isocyanide-based multicomponent reactions to spiro- heterocyclic compound synthesis.*

Supervisor: Professor RWM Krause.

Co-supervisor: Dr V Smith.

SCHWARZ, Kelly, BScHons (Rhodes), in Biochemistry, in the Department of Biochemistry and Microbiology. Degree by thesis. Thesis: *Analysis of the role and regulation of HOP1a and HOP1b splice variants in cancer biology.*

Supervisor: Professor AL Edkins.

SITHOLE, Yonela, BSc (WSU), BScHons, MSc (Rhodes), in Ichthyology, in the Department of Ichthyology and Fisheries Science. Degree by thesis. Thesis: *A comprehensive review of the taxonomic diversity within the freshwater catfish genus *Parauchenoglanis* (Auchenoglanididae: Siluriformes).*

Supervisor: Dr A Chakona.

Co-supervisor: Dr EJW Vreven.

SOY, Rodah Cheruto, BEd (Egerton), MSc (Eldoret), in Chemistry, in the Department of Chemistry. Degree by thesis. Thesis: *Porphyrinoid dyes for photodynamic anticancer and antimicrobial therapy treatments.*

Supervisor: Professor J Mack.

Co-supervisor: Distinguished Professor T Nyokong.

TENDWA, Maureen Bilinga, MSc (UWC), in Bioinformatics, in the Department of Biochemistry and Microbiology. Degree by thesis. Thesis: *African population prevalent genetic variations of dihydropyrimidine dehydrogenase as the 5-flourouracil cancer drug metabolizing enzyme: computational approaches towards pharmacogenomics studies.*

Supervisor: Professor O Tastan Bishop.

Co-supervisor: Dr T Musyoka.

THAGANYANA, Golekamang Piet, BScHons (NWU), MSc (UWC), in Physics, in the Department of Physics and Electronics. Degree by thesis. Thesis: *A statistical study of travelling ionospheric disturbances over the African-European and American sectors.* Supervisor:

Dr JB Habarulema (SANSa).

TOWNER, Alison, BScHons (North Wales), MSc (UCT) in Ichthyology, in the Department of Ichthyology and Fisheries Science. Degree by thesis. Thesis: *Spatiotemporal ecology and potential displacement of white sharks in southern Africa.*

Supervisor: Professor AJ Booth.

Co-supervisor: Dr M Smale.

VAN STEENDEREN, Clarke Julian Mignon, MSc (Rhodes), in Entomology, in the Department of Zoology and Entomology. Degree by thesis. Thesis: *A molecular investigation of stem-galling *Tetramesa* Walker (Hymenoptera: Eurytomidae) on African grasses: applications to biological control.*

Supervisor: Dr G Sutton.

Co-supervisor: Professor ID Paterson.

VAZQUEZ MORAN, Chenelle Lesley, MSc (Rhodes), in Fisheries Science, in the Department of Ichthyology and Fisheries Science. Degree by thesis. Thesis: *Economically important cephalopods of southern Angola, with a focus on the artisanal jig fishery.*

Supervisor: Professor WM Potts.
Co-supervisors: Professor WHH Sauer and
Professor MR Lipinski.

VORSTER, Johannes Stephanus, BScHons (Pretoria), MSc (Liverpool), in Computer Science, in the Department of Computer Science. Degree by thesis. Thesis: *Developing an Evaluation Framework for Authentication Schemes: Using Grounded Theory applied to Standards to develop a framework for authentication scheme evaluation, with specific application to Graphical Password Authentication Schemes.*

Supervisor: Professor BVW Irwin.
Co-supervisor: Dr R van Heerden (CSIR).

WATSON, Ralph Gareth Andrew, BAS (SAXION), MSc (UCT), in Ichthyology, in the Department of Ichthyology and Fisheries Science. Degree by thesis. Thesis: *Co-occurrence of sympatric Poroderma species.*

Supervisor: Dr T Murray.
Co-supervisors: Dr E Gennari (Oceans Research) and
Professor P Cowley.

WITTE, Andrew Dennis, MSc (NMMU), in Fisheries Science, in the Department of Ichthyology and Fisheries Science. Degree by thesis. Thesis: *Development of a stock assessment model for abalone ranching in the Eastern Cape Province, South Africa.*

Supervisor: Professor PJ Britz.
Co-supervisor: Dr P Steyn (NMU).



Vice-Chancellor's Distinguished Research Award

Associate Professor
Iain Paterson

Cactus mealy bug - a biocontrol agent for invasive cactus.
Photo: David Taylor

Special agent bug

Invasive plants from foreign countries have become one of the greatest threats to biodiversity around the world. Fortunately, there is an environmentally sound solution: Biocontrol, using the plants' natural insect enemies. Associate Professor Iain Paterson of the Centre for Biological Control at Rhodes University, has deployed many carefully chosen insect armies on cacti and other problem alien plants with great success.

A century ago South Africa in particular the Eastern Cape, faced a nightmare of a problem. Prickly pears (*Opuntia ficus-indica*) had invaded the land, turning nearly one million hectares into a wasteland of dense, thorny thicket.

There were piteous tales of cattle, goats and sheep with mouths so full of fine thorns (glochids) they died of starvation. Ostriches in particular could not resist the fruits. They often died with their long throats coated with glochids.

The prickly pears, originally from the Central Americas, formed such an impenetrable spiny green jungle that many farmers

abandoned their land. The area between Kariëga (formerly Uitenhage) and what is now the N10 was so thickly infested with such tall prickly pears that those with motorcars had to turn on their lights in broad daylight to see through the tunnel of *Opuntia*.

The plants were brought to South Africa in the 17th Century, possibly via Mediterranean countries or the Canary Islands. They were useful as living fences, for fodder and for the fruit, also called Turkish Fig (*turksvy* in Afrikaans, *itolofiya* in isiXhosa).

The Government began importing arsenite of soda to combat infestations in 1893. The only notable effect was that in addition to the prickly pear scourge, farmers quickly realised the arsenic also killed other plants, livestock and quite often, humans. Meanwhile, poisoned prickly pear leaves (cladodes) that dropped to the ground simply grew again.

To make matters worse, the jointed cactus (*Opuntia aurantiaca*), imported as an ornamental plant, had also become a scourge in the Eastern Cape by the early 1900s.

Prickly pears spread all over South Africa, but it was in the frost-free regions of the Eastern Cape where it thrived to a dangerous extent. Italian Prisoners-of-War and later teams of migrant workers were hired to chop it out and burn it, but that tactic proved ineffectual. They just grew back, often more densely than before.

In the 1930s, the Cactoblastis moth was imported from Australia, where it had notable success in eradicating *Opuntia*. South Africa had limited success with it.

A few years later, the cochineal bug (*Dactylopius opuntiae*) was introduced, and despite some initial problems - and fierce opposition from those who had bred a smooth version of prickly pear for drought fodder - *Opuntia ficus-indica* began to retreat. Now it occupies only 10% of its original invasive range.

It is no longer a threat. In fact, it is a boon to pickers who sell it on roadsides in February every year. Usefully, it fruits just when schools open, and when money for books and uniforms is badly needed.

The Perfect Weapon

Biological control has been used to restrict the spread of many invasive alien plants in South Africa since these early successes. One of the important regulators of plant populations globally are herbivorous insects, and the majority of herbivorous insects are specialists, feeding on one or just a few species of plants.

When a plant is moved from its indigenous home, these specialist herbivores are left behind, and that is why so many alien plants become overabundant and problematic. Biological control reunites the herbivores with the invasive plant in order to reduce the invasive plant populations.

A lot of the work biocontrol scientists do is making sure that the insects only feed on the weed and no other plants, making sure that they will only damage the invasive plant and nothing else in the environment. The biocontrol agent then permanently reduces the alien plant populations because it becomes a permanent part of the ecosystem.

“One major problem with any national initiative to control invasive alien plants on a national scale, is that it requires a huge amount of herbicide,” says Iain Paterson, Associate Professor and Deputy Director of the Centre for Biological Control (CBC) at Rhodes University.

“Basically, it’s poison, really bad for the environment and damaging even to people. So if we can develop a biocontrol agent, it’s environmentally friendly, and it’s safe to people and ecosystems.”

A Love of Nature

Associate Professor Iain Paterson encountered the principles of biological control early in his undergraduate degree at Rhodes University. In 2002, he’d signed up to major in Zoology and Botany, and knew nothing about Entomology until he attended Professor Martin Hill’s lectures on Entomology that formed part of the Zoology first year course.

“I was just fascinated by it. So I took Entomology because of Professor Hill’s lectures. Also, insects are amazing. There’s more insects than any other animal on Earth. If you’re going to be a biologist, you might as well be an entomologist, because there’s just so much to study.”

Iain had decided to become a biologist by the age of 11, thanks mostly to his father, Angus, who taught Biology at St Johns College in Johannesburg.

“He would take the college boys on walking trips into the bushveld, teaching them about grass species, and he would take me along as a kid. I learned all about the grasses and birds and trees, from the age of ten. And then I just became obsessed with nature, categorising everything that I had seen. I had a book with lists of all the seaweeds that I could identify, all of the snails, all of the birds, all of the grasses and trees.”

The biological control of invasive plants made absolute sense to Iain Paterson.

“It’s about controlling alien invasive plants, which are a massive problem attacking the thing that I love, attacking Nature. And you can use your understanding of Nature to safely and sustainably control those plants and protect the ecosystem.”

There was also no doubt that he would head to Rhodes University for his tertiary education.



Deputy Director of the Centre for Biological Control, Associate Professor Iain Paterson against a backdrop of cochineal-weakened drooping prickly pears (*Opuntia monacantha*) at Burnt Kraal outside Makhanda. Photo: Chris Marais

"My whole family has been through Rhodes University starting with my grandfather's older brother. There was a newspaper article when my parents graduated saying that the number of degrees in the family must be 'some kind of record'. Both my grandparents on my father's side got degrees at Rhodes, and if you include their children and grandchildren, plus their spouses, there are 39 degrees in total."

A Pest called Pereskia

Iain focused on an invasive cactus called Pereskia for his PhD.

"It doesn't look like cactus. It's more like a vine and resembles a bougainvillea. It's a primitive cactus and a 'missing link', a bit like a Coelacanth, so it was brought across from its native habitat in southern Brazil to grow in botanical gardens. Then it became a problem."

Pereskia escaped the gardens and spread to South Africa's rare patches of indigenous forest, especially along the Wild Coast and KwaZulu-Natal. It has even popped up in the southern and Western Cape.

"What happens is that it grows over indigenous forest trees, and they collapse beneath its weight. So to find sites for my PhD, I would look on Google Earth and see patches of forest that had caved in, and that's how we identified where we had a Pereskia problem."

"The main issue with Pereskia is that it's a vine but also a cactus. If a tiny piece falls to earth, it will grow. So using mechanical control is completely counter-productive. And if you use herbicides, you can't kill it unless you also kill everything else."

Iain travelled to southern Brazil to find a likely insect that would attack this invasive vine.

"I released a new biocontrol agent on this from my PhD. There are certain areas it can't survive because it's too cold. But it has established itself in East London, and KZN. There's another biological control agent that was also released on Pereskia. That's doing really well in all the warmer parts of the country."

"So the agent gives the indigenous plants a chance to compete with the weed. I've seen some infestations disappear completely. But that takes a long time. It is still a major weed, but biological control is playing an important role on a national scale, to reduce it."

"Pereskia led to me working on Cactaceae in general. So now I work on biological control of all cactus weeds in South Africa."

Tiny Needles and the Damage Done

Cactaceae are particularly problematic in South Africa's rangelands.

"Obviously lots of cacti are really spiny. They often grow in the shade underneath trees and around water sources. So they block the movement of livestock and wildlife to shade and water, which can be fatal. Animals going into areas infested with cactus get hurt, and sometimes die or have to be prematurely culled, especially small livestock.

"Some species of Cactaceae have these really small thorns called glochids. If animals eat the fruit or the leaves (cladodes), glochids get onto their lips and mouths and into their guts, and this stops them from digesting things properly."

Fortunately, all Cactaceae come from North and South America, making them good targets for biocontrol. There is only one cactus (the epiphytic mistletoe cactus or *Rhipsalis baccifera*) that also occurs naturally in the forests of Africa.

"If an insect has evolved to eat cactus, it normally can't eat anything else, so most insects that eat cactus in the Americas can safely be released into Africa without risk to indigenous plants."

Exploratory Entomology

The process of fighting an invasive plant starts with going to its indigenous habitat and finding its natural insect herbivores, a process that can take months of intensive fieldwork.

Once a likely biological control insect (called an agent) is found, it is brought back and put into strict quarantine where it undergoes host specificity testing to make sure that the insect only eats the invasive plant and no others. The majority of insects can only survive if they eat the plants that they have evolved to feed on. If they don't have those plants to eat, they will die.

Cochineal insects recently settled on invasive prickly pear.
Photo: David Taylor



"In our quarantine facility at Rhodes, we test what the insects can feed on. We test the insect on all of the close relatives of the invasive plant, then we slowly move on to more and more distantly related groups of plants until we've circumscribed the entire host range of the insect.

"We always have a control where we put the same insect on the invasive plant and it must survive. And it must eat enough of that invasive plant to make a demographic difference to its numbers in the field. So that's how we get evidence to put together release applications which we give to the Department of Forestry, Fisheries and the Environment (DFFE) and to the Department of Agriculture, Land Reform and Rural Development (DALRRD)."

Once permission is granted, the biocontrol agent must be monitored to find out whether the insects are successfully reducing the weed populations. First prize is if there is a discernible social or economic benefit, like reduced water use, or benefits to agriculture, for example.

"The part of my work that I really like the most is identifying a new and possibly useful insect that no one knows anything about. Then you've got to learn how to culture it and look after it.

That's when you really learn about the lifecycle of the insect. You get to learn all their tricks and tactics.

"I once brought an insect back from Brazil and thought it laid its eggs on the new shoot of the plant and that it then ate its way down the inside of the stem to the base of the plant. I found out later it laid its eggs right in the woody part of the plant and bores its way up. Until I figured out where it oviposited (laid its egg), I was unable to rear it."

Mass Rearing and Release

Setting loose a few biocontrol agents and hoping for the best does not always work. The most effective method is to mass-rear the insects for inundative releases.

"So we breed large populations of six different species of cactus biocontrol agents at a facility I run outside of Kariega (Uitenhage), employing nine people. These agents combat problem species like the jointed cactus, the drooping prickly pear, devil's rope, the Australian pest pear (which actually comes from the Americas) and Queen of the Night cactus. This work, like much of cactus biocontrol work done in South Africa, is funded by the Department of Fisheries, Forestry and the Environment (DFFE).

"Biodiversity officers from the DFFE go around and find problem areas. We also try to get our name around as much



A prickly pear (*Opuntia ficus-indica*) leaf or cladode, free of the cochineal bug.

Photo: Chris Marais

as possible, and put articles in magazines like *Farmer's Weekly*. Anyone in the public can get hold of us if they have a problem on their land. We will come and do a release. So far we've done releases at more than 500 sites in South Africa."

Queen of the Night

On a private nature reserve just outside Makhanda, skeletal Queens of the Night (*Cereus jamacaru*) tower above healthy Eastern Cape thicket, bright with red flowering aloes.

They are quite dead. It is a sight that fills Iain Paterson with quiet joy.

These cacti have been comprehensively beaten back by the Cactus mealy bug (*Hypogeococcus*) introduced at this site in 2018.

"The first thing that happens when the biocontrol agent is released, is that it depletes the plant's energy stores, which stops it from fruiting - its main form of propagation. One of the CBC Researchers, Pippa Muskett, measured out a few transects and tagged every single small plant before the mealy bug was released. There were about 40 just in this small patch. When she came back a year later, they were all gone. Every single one. She had to pick the tags off the ground.

"The little ones die quicker, but then the big ones started succumbing. I think many of them were more than 40 years old. Most are completely dead now, and if any do come grow again, the agent will take them out."

Queen of the Night cacti had become a serious problem in several parts of the country, including the Eastern Cape, farmland around Groot Marico in the North West, and KwaZulu-Natal.

"It was so dense in Groot Marico and other areas, it caused a problem with grazing.

Having a few big plants is fine, but the land became covered with a dense layer of small plants. So it was restricting the movement of wild animals and livestock.

"I work on implementation, so we are doing long-term monitoring at this specific site and others. The case of Queen of the Night is interesting, because this is a plant on which herbicide is sometimes still used.

"But in a thicket like this one, it would be impossible. There were hundreds of these cacti five years ago. In this thick vegetation, it would take a whole day to do a 30-metre transect. You'd have to have a foliar herbicide spray, but the problem is, cacti have a water-saving form of photosynthesis which means they have closed stomata during the day. So spraying them before dark is far less effective.

“So then you either have to do stem injections (and you can’t do that with the small plants), or spray at night. How would you avoid killing other, non-target plants like cabbage trees and aloes? And even then, it wouldn’t be nearly as effective in the long term as the mealy bug is.”

The management at Thomas Baine Provincial Nature Reserve across the road from a private nature reserve asked the Centre for Biological Control if they could help with their Queen of the Night infestation.

“So we released there, and now these mealy bugs are protecting our natural heritage.”

Burnt Kraal’s Dying Cacti

On the other side of Makhandia is a popular area for dog walkers and cactus-haters. Here Iain Paterson is delighted to see that the drooping prickly pear (*Opuntia monacantha*), the jointed cactus (*Opuntia aurantiaca*) and the ‘normal’ prickly pear (*Opuntia ficus-indica*) are all looking very much the worse for wear, thanks to various cochineal bugs mass-reared at Kariega.

The jointed cactus is a particular scourge for livestock. Small thorny pieces break off on their faces and bodies, causing enormous suffering, and sometimes, death. The only way to handle it is with a cactus-specialist’s tool of choice, the braai tong.

Fortunately, there is a cochineal bug from Argentina that wipes it out. Before us, we could see that the plant was a mere shadow of its former self, its thick stem disintegrating on the ground.

“Last year, they got it in Kruger National Park for the first time, a patch of 50 by 50 metres. They asked me to come in and help. I released the cochineal, and in less than a year, everything was gone. It’s the perfect weapon. Doesn’t touch our aloes or anything else.”

“My students laugh at me, saying I want to see nothing more than a dying cactus.”

The African Tulip Tree

It’s not just foreign plants that cause problems in Africa. African plants are causing serious problems in other countries, and Iain Paterson is working on them too.

“One of the worst weeds in the world is called the African tulip tree (*Spathodea campanulata*). It’s indigenous to Central and West Africa, and a bit of East Africa, where it grows as a spectacularly beautiful tree on the edges of forests. Lovely orange tulip shaped flowers.”

But in the Pacific Islands, it is devastating, says Professor Paterson. There it usually grows to only about three metres in height, but with hundreds of saplings so close together that a human cannot walk through a stand of them.

“In Fiji, they grow taro as a cash crop, but the fields must be rested every second year, or can be used to grow cassava, which gives back to the soil. Then the price of cassava went down so people opted to simply rest the fields. That’s when *Spathodea* got in. And it is so difficult to clear that farmers began clearing indigenous forests for their next crop of taro rather than tackle the African tulip tree.”

Fortunately, a mite was found that showed great promise as a biological agent. Associate Professor Paterson and colleagues collected it in Ghana and imported it into quarantine at Rhodes, where all the testing was done.

“One of the most hectic trips I did was to take the mite for the African tulip tree through New Zealand to get it to Rarotonga, part of the Cook Islands. I arrived after a very long flight with a wad of paperwork, finally got to the front of the queue and of course, they asked if I have anything to declare. And I said yes, I do, I have quarantined biocontrol agents.”

“So you’ve flown all those hours, and then you have to go straight into quarantine and stare down a microscope for hours on end while jet-lagged, to make sure there was nothing except that mite in the container with the plant. An inspector from the New Zealand Department of Agriculture came and inspected my consignment and gave permission to take it to Rarotonga, which doesn’t have a quarantine facility.”

“We flew there, released it, and now that mite has spread to almost every African tulip tree on the island. It even made it to another island, probably via a bird’s feet.”

Grasses and Goggas

African grasses are some of the worst invasive plants in South America, North America and Australia. Many were brought in 100 years ago to improve the quality of grazing.

“A perennial African grass called *Megathyrus maximus* is causing particular problems in the USA. It’s now abundant in the southern savannas of Texas. There’s a little quail that lives there and the quail can’t live in the areas that are infested with the grass because there’s not enough plant diversity for its chicks to feed and survive. So it’s becoming an endangered species.”

Grasses were long considered plants that could not be targeted. It was thought that they did not have specific specialised natural enemies, and that they were naturally resistant to herbivory. Also, many of our crops are grasses. Then one of Iain’s doctoral students, Guy Sutton, began work on them.



Associate Professor Iain Paterson in the quarantine laboratory at the Centre for Biological Control. This is where likely biological agents are tested to make sure they will not feed on plants other than their targeted alien invasive. Photo: Chris Marais

"We've found a huge diversity of promising specialist biological agents for grasses. It's just that no one's ever looked. So it's been proper exploratory entomology and fun, finding these new species. It's been quite a breakthrough."

The Dreaded Ice Plant

Another African plant, *Cryophytum crystallinum* (crystalline ice plant) is causing havoc in California and its islands. It is outcompeting local vegetation to such an extent that a miniature fox, which feeds on insects associated with endemic plants, is now under serious threat.

This plant, which thrives in salty soils, accumulates hyper-saline solutions in bladder cells that shine like ice - the source of its name. Crystalline ice plant is an annual, and every time it dies back, more salt is leached into the topsoil. Eventually only its own seeds can survive.

"So whole islands off California are just covered with it. Whereas in South Africa you'll never find dense infestations. They're all growing apart. In fact, all of our ice plants look quite ragged and moth-eaten. That's because nearly every single plant you look at is being eaten by a weevil that lives in the soil, that girdles or ringbarks the taproot, pupates inside it and kills the whole plant.

"Another species of weevil feeds on the stems of the plant and kills it. Yet another one eats the seeds. We are still doing testing, but the stem-mining weevil looks the most promising at the moment."

The World Needs More Entomologists

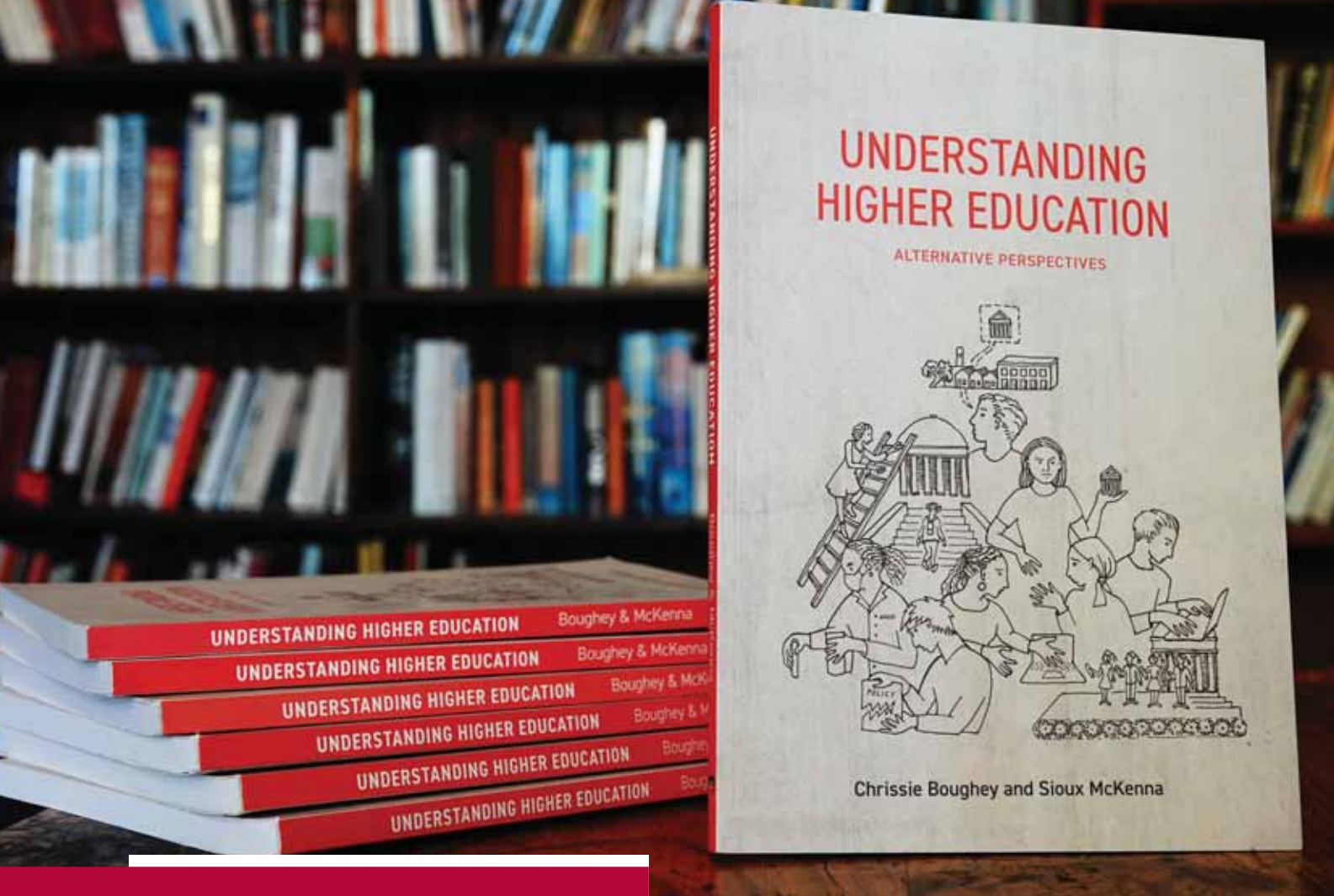
"Another part of my job I really enjoy is how collegial it is. There is a network, around the country and the world, of scientists who collaborate on biological control. South Africa is highly regarded in this field. We are among the top five, along with New Zealand, the US, Australia and Canada.

"I think it's really special that we have the Centre for Biological Control within the Department of Zoology and Entomology at Rhodes. It connects the CBC to the development of new entomologists and exposes those students to the work that the CBC does.

"We need more entomologists in the world. These are the people who are going out and getting jobs in industry. There aren't a huge number of people who do postgrad degrees in Entomology. But we get a fair number every year, and there are always jobs for them.

"As the world moves away from the excessive use of pesticides, entomologists, and biocontrol specialist in particular, will become more and more important."

By Julienne du Toit



Vice-Chancellor's Book Award

Professor Emeritus
Chrissie Boughey

Professor
Sioux McKenna

Photo: Chris Marais

Two of South Africa's top Higher Education experts have produced a landmark book called *Understanding Higher Education: Alternative Perspectives*.

Professor Emeritus Chrissie Boughey and Professor Sioux McKenna, Director of the Centre for Postgraduate Studies at Rhodes University, have been colleagues and friends since just after the turn of the century. Their new book is the culmination of a two-decades-long collaboration.

Asked in separate interviews about the contents of the new publication, they said:

"It's partly about the way the Higher Education system in South Africa hasn't lived up to the hopes we had for it in the early 1990s." - Professor Boughey.

"It's very clear that university students' experience emerges from the larger structures and culture of the discipline, the institution they attend, the national history of South Africa, and current major global forces." - Professor McKenna.

Together, they state:

"First, the book represents the attempts of two academics who have been involved in many of the national initiatives intended to transform higher education over the past 20 or more years in one country to answer the questions 'What



Professor Emeritus Chrissie Boughey.
Photo: Chris Marais



Professor Sioux McKenna, Director of the Centre for Postgraduate Studies at Rhodes University. Photo: Simon Pamphilon

worked?’ and ‘What didn’t work?’ in order to raise questions about the South African context in ways that might be of use to those working here and in other countries, particularly countries in the Global South facing similar rapid increases in student numbers and sector-wide reforms.

“We argue for a different way of understanding students, of understanding the curriculum and of understanding the universities themselves. In order to do this, we have to cast aside our common-sense assumptions and question much of what we have been led to believe. We have had to critically interrogate the way dominant ideas have shaped our thinking.

“It is only by questioning common-sense assumptions and dominant ways of thinking that we will begin to understand what we can begin to do to make things better.”

A Re-think on Higher Education

During apartheid, getting a university degree was the preserve of a small part of the South African population, who were generally groomed by their families from childhood to read and discuss books.

“Historically, few young people followed a path leading to qualifications from universities, as these were held to be the domain of the elite, and so most prepared for the world of work in other ways, such as apprenticeships and other forms of on-the-job training,” the authors say.

“In the globalised world, many of these opportunities have fallen away, with a degree or some other form of certification

held up as the means through which to avoid low-paying, low-prestige jobs.”

The fall of apartheid ushered in the era of massification as student numbers on campus grew dramatically. Unfortunately in parallel to this, came the pressures of neoliberalism. Academic preparations for landing a job and gaining financial access to the well-marketed world of material things was now of paramount importance to universities, students and prospective employers.

“Neoliberalism entails a hegemony of market logic; that is the economisation of every aspect of our lives. The literature on neoliberalism typically focuses on free-market capitalism and, thus, the reduction of any form of control on economic activity conducted by individuals and companies.

“For many, the formulation of higher education as credentials has resulted in the devaluing of education, as young people enter universities not because of any intrinsic interest in what is being studied but with the instrumental purpose of getting a qualification that will lead to a job and a ‘better’ life.”

The Neoliberal Way

“The general discourse in South Africa and around the world is that universities are about training for the workplace - which they are, to some extent,” said Professor McKenna. “But they should do a whole lot more than that.”

“Even within the university, that idea of training for the workplace is so privileged that the economic metric often

determines what is valued in the academic environment. And in the process, we often absent the other very important roles of the university. After all, a university is state-subsidised by taxpayers, and so it should be good for all of society to have highly educated critical citizens. Why should taxpayers support an individual just to get a good job?

“That narrow idea of the purpose of a university puts a lot of pressure on students, and makes it exceptionally difficult for them to then navigate the weird complexities of what it actually means to get a higher education.”

Professor Boughey said:

“One of the great strengths of Rhodes University is that it offers a discipline-based education, not just for neoliberal purposes. Disciplinary knowledge is powerful knowledge, structured knowledge and systemic knowledge, in the sense that it can help to explain the world around us now and into the future.

“In the early 2000s, South Africa moved towards skills-based programmes. Now here's the problem. Let's say you have been training for a specific job, maybe in the digital 4th Industrial Revolution sphere, and artificial intelligence, perhaps a robot replaces you. What do you do? You have to completely re-train for other employment.

“But if you have had a broad discipline-based education, you can shift to another field or adapt to take the massive changes within your field into account. Your education will last you throughout your lifetime and you will be committed to being a critical learner throughout your life.”

The Decontextualised Student

“In the discourse of students as decontextualised individuals, their success and failure is explained in terms of attributes inherent within them as individuals, such as intelligence, motivation and aptitude,” say the authors.

“Students are understood as if they are simply individuals who work hard or do not, are motivated or are not, are bright and talented or are not, and who are therefore in the appropriate course or do not really belong in the academy. The student is decontextualised from their social norms and practices, and their successes and failures are understood to be primarily or even exclusively a personal responsibility. This understanding hides from view the ways in which the university can simply reinforce social inequalities.”

Professor Boughey recounted a personal experience:

“I once gave a keynote lecture at a university somewhere, and argued that we've got to use this understanding of

students as social beings, and bring this into our understanding of their learning and what they do.

“So I finished, and then it was open to the floor for questions. And somebody put his hand up and said, ‘Yeah, well, you know, the trouble with the students is that they're lazy and not prepared for university.’

“This person was drawing on the idea of students as deficient, which is what we've been fighting against. But such accounts are sadly widespread.”

How the Book Began

After the apartheid years, the new government established a body called the Council on Higher Education (CHE), to advise the Minister of Higher Education.

The Higher Education Quality Committee (HEQC), a standing committee within the CHE, was set up to promote and coordinate efforts throughout the system. In 2005, the HEQC embarked on the first cycle of institutional audits, producing a wealth of data related to public universities.

“In 2008, the Council on Higher Education commissioned me to do a big piece of research to answer a question about the impact of the first cycle of institutional audits, quality assurance audits, on teaching and learning,” said Professor Boughey who, at the time, was Dean: Teaching and Learning at Rhodes University.

“And in order to do that piece of research, they gave me all the audit data. The research was completed in a number of tranches. I did the first three tranches of that research and three reports were submitted to the CHE. And then Sioux McKenna came on board and worked with me.

“So we had all this data, and we had the insights that had been developed from that analysis. The CHE were going to publish this book initially, but then changed their minds.”

Professor McKenna added:

“We hope the reports were, ultimately, useful for the CHE, but we also felt there were things in them that would be useful for people across the university sector. And as time passed, we did more research, broadening the scope of our findings, many of which, in a way, foreshadowed students' concerns expressed during the 2015 campus protests.”

Writing the Book

Understanding Higher Education was written in stages over a decade.

“We would write together whenever we could,” said Professor McKenna. “So if we were at a conference, for instance, we would tack on a day or two at the end and work together. Parts of the book were written in Amsterdam and San Francisco.”

“Sioux was my first PhD candidate, back in 2003,” said Professor Boughey. “Some time after her degree had been awarded, we attended a Higher Education conference in Havana, Cuba, where we lost all our luggage. Apart from sharing this difficult predicament, we also shared a hotel room and altogether it was a good bonding experience. In the many years to follow, we had quite a few adventures together.”

Apart from a strong friendship, they also found common ground in their work.

“We’ve always shared the same research interests,” said Professor Boughey.

They have also led a number of international projects, focused on Postgraduate education. These projects were funded by the Dutch government, and then the European Union.

“This meant we travelled to Amsterdam a lot, and often stayed on for a bit to work on the book,” said Professor Boughey. “Whenever we could, we wrote together in interesting but affordable places. We never stayed in conference hotels if we could find cheaper accommodation elsewhere.”

Professor McKenna said they eventually found the ‘perfect publisher’ for the job, in Western Cape-based African Minds.

“Their publishing model has allowed us to make the PDF version of the book open access,” she said. “And although the hard copy is for sale, it’s really affordable.”

“This was very important to us, because academic books and journals are very expensive, and often out of the financial reach of academics in the Global South. There is so much crucial knowledge locked behind paywalls, which means university teaching staff and students in the Global South are prevented from fully participating in the conversation.”

The fact that the digital version of *Understanding Higher Education* is free has had a positive spin-off for the authors.

“Yes, it has served us well, because we’re getting feedback, networking, collaborating and talking to people from all corners of the world.”

The Findings

Professor Boughey commented:

“Since democracy, we’ve had many new policies, like the White Paper on Higher Education policy, followed by the Higher Education Act. And then, from 2000 onwards, we got the restructuring in the National Plan. There was a new funding formula for Higher Education. So South Africa has been very strong in introducing what we would call structural change.

“But in our book we argue that, although South Africa had all this structural change, insufficient account has been taken of the changes in demographics, the needs of the student population and the knowledges they bring with them, and

the fact that you can draw on alternative understandings of students’ problems and their experiences to produce different outcomes.

“In the chapter dealing with curriculum, we argue very strongly that there are alternative understandings available. And you have to take account of those if you want change for the better in the system. That crucial factor has been ignored.

“One of the things we say several times in the book is that global data shows that the greatest single indicator of a young person’s ability to get into and succeed in university is their home of origin,” said Professor Boughey.

“Basically, if you’re born into a middle class home, from birth, you’ll be socialised into ways of thinking, ways of speaking and ways of seeing the world which are more likely to be valued in the academy.

“Although the standard of school you attended matters, what really counts is a child coming home and somebody in the household saying, ‘What homework have you got and what’s it about?’ or ‘What did you do in school today?’ thereby extending the learning at school.

“Now, we also know that there’s a difference between learning at school and learning at university. If you put it very generally, at school, you would say that learners have to consume the knowledge. It’s presented to them, they have to learn it, remember and regurgitate it.

“When they get to university we want them to do something different with the knowledge passed on. So if they haven’t been nurtured from early on into broader, more critical, ways of thinking, they will see the university simply as a place where you learn the stuff and regurgitate it - and they will fail. You can have students who got good marks at school, but then struggle at university because the peculiar expectations placed on them in the academy are insufficiently mediated.

“Furthermore, the academy generally ignores the knowledge, values, norms and practices that students bring with them. This is a large part of why we hear of students feeling alienated by the university.

“Formal education basically works to reinforce privilege. You’re born into privilege, which doesn’t mean you have to be mega-rich. But if you’re born into a home where there are books, and people sit about reading books, you’re more likely to read books and talk to each other about them. And that will serve you well when it comes to university and life thereafter. We need to be far more critical about how universities serve to reinforce rather than challenge the status quo.”

The book was written and updated to include teaching and learning lessons from the student protests of 2015 and the

subsequent Covid-19 pandemic of 2020, which ushered in an accelerated rate of online university education.

What's To Be Done?

When asked the way to the solution of this problem, Professor Boughey replied:

"We need to understand that the knowledge generation practices we use are not common-sense but rather have emerged over decades. And they differ from discipline to discipline. So we need to mediate access to these practices by making them explicit to students, rather than following sink-or-swim teaching approaches which privilege some over others.

"And we need to connect more explicitly with our students and with the knowledge they bring with them. We can look at how some of the critical practices that are commonplace in middle-class schools are made available in all schools.

"And of course, Rhodes University is doing that with some of its community engagement programmes, where a lot of our students sit with learners in Makhanda schools as they read and do their homework.

"So there's part of your answer: you can start with social endeavours like these. But it needs a lot of effort and understanding."

Professor McKenna:

"Our role is not a kind of a neutral transmission of content. It involves teaching students to see the transformative power of knowledge, and how that personal transformation through their relationship with knowledge can actually change how they see themselves in the world.

"You can teach the items on your syllabus, but you also have to have that deep care and compassion, become invested in your students' success. And success cannot simply be passing assessments. It needs to include this personal transformation through access to powerful knowledge.

"Paolo Freire [a Brazilian educator and philosopher who was a leading advocate of critical pedagogy] said we can't have a banking model of education, where you simply transmit content into a student's head. As an educator, you've got to actually want students to become expert knowers in their chosen field. And that's what a higher education is really all about."

By Chris Marais

Sampling of Book Reviews

This wonderful book will be a treasure for graduate students and scholars who seek to understand and theorise higher education in ways that support social justice. Rooted in the experiences of South Africa, the book uses social realism to argue for alternative ways of seeing higher education that can inform practice and policy in both the Global South and Global North.

Professor Leesa Wheelahan

*William G. Davis Chair in Community College Leadership,
Ontario Institute for Studies in Education,
University of Toronto.*

Professors Chrissie Boughey and Sioux McKenna have written a truly insightful, engaging and informative book on teaching and learning in higher education. Every vice-chancellor, academic and ordinary citizen must read this book.

Professor Sizwe Mabizela

Vice-Chancellor, Rhodes University.

This is an outstanding book, offering an exceptionally rich analysis of the impacts of neoliberalism on higher education in South Africa. It examines in vibrant detail the ways through which a market ideology has penetrated the education system, with devastating costs on faculty, students, and research.

It also sheds light on resistances to the neoliberal transformation together with attempts to develop alternative perspectives. The book is an essential reading for anyone interested in neoliberalism, higher education, and the political economy of South Africa and beyond.

Professor Fikret Adaman

Department of Economics, Bogaziçi University, Turkey.

A timely, insightful, and nuanced rendition of alternative perspectives on higher education. Boughey and McKenna have given local thinking the gravitas that will reverberate at the global level for many decades to come.

Professor Emmanuel Mgwashu

*Director: Centre for Teaching and Learning,
North West University, South Africa.*

This book provides an informative, illuminating and insightful critique of higher education. Its arguments change the way higher education is conceived of and conducted in African universities and beyond.

This is a timely and most welcome research work that is theoretically grounded beyond the usual common-sense discourses on the subject.

Professor Christopher Odhiambo Joseph (CJ)

*Dean: School of Postgraduate Studies,
Moi University, Kenya.*

The authors provide a fascinating reflection on the discourses that dominate our higher education system. They use Social Realism to analyse the higher education system and offer an alternative for understanding students by challenging common-sense beliefs such as the notion of the untalented and unmotivated student. The book turns on its head the idea that universities are a meritocracy.

Dr Simpiwe Sobuwa

*Head of Department: Emergency Medical Care & Rescue,
Durban University of Technology.*

This important book offers a theoretically rich and engaging account of what is needed to ensure that university education is meaningfully accessible to all students.

By examining these issues from the perspective of policies, students, curricula, and academic staff, it offers a systematic view of the challenges facing teaching and learning in higher education and the potential for positive change.

Professor Paul Ashwin

*Head of Department: Educational Research, Lancaster
University, UK.*

Any academic text has to strike a delicate balance between the complexity of its content and simplicity in delivery. This book nails it!

The authors provide us with significant insights into the contextual dynamics that are the world of higher education. This book is a compelling read for everyone involved in academia.

Dr Lillian Omondi

*Department of Sociology and Anthropology,
Maseno University, Kenya.*

This book will occupy a distinct place for those grappling with research on teaching and learning. It will fill a significant gap because it enables teaching and learning practitioners to bridge the chasm between their observations and experiences on the one hand, and the lessons we can learn from scholarship.

Dr Matete Madiba

Director: Student Affairs, University of Pretoria, South Africa.

If you wish to understand higher education today, especially in the Global South, this book is for you. Boughey and McKenna bring their extensive experience and astute analytical minds to bear on critical issues of teaching and learning to offer alternative perspectives that provide positive ways forward.

Professor Karl Maton

*Director of the LCT Centre for Knowledge-Building,
University of Sydney, Australia.*

Based on their rich experience as engaged lecturers and researchers, Chrissie Boughey and Sioux McKenna have exceptional abilities to critique the very system of which they are inevitably a part.

They highlight why often seemingly self-explanatory systems are not effective in practice. Boughey and McKenna have written an accessible text that makes complex global challenges and problematic local realities comprehensible, whilst also outlining a vision for real change.

Dr Henk van den Heuvel

*Director of the Centre for International Cooperation,
Vrije Universiteit, The Netherlands.*

This book offers a critical stance with which all higher education practitioners should engage given the rapid social and economic changes taking place the world over. This book is a must-read for academics across disciplines, academic developers, researchers, policy-makers, students and everyone concerned about universities and their role in society.

Dr Langutani Masehela

*Head of Department: Academic Development Unit,
University of Venda.*



The House of Story

50th Anniversary of the School of Journalism and Media Studies

Africa Media Matrix building, School of Journalism and Media Studies. Photo: Chris Marais

In the past 50 years, nearly 5 000 students have joined Rhodes University's School of Journalism and Media Studies, where the mission statement is to produce graduates with journalistic skills and the ability to engage critically on media issues.

The Rhodes University School of Journalism and Media Studies (JMS) stands in what could be called an African Storyteller's Hub. In its former life, the building housed the Leather Industries Research Institute, which had closed down in 2000, after 58 years of serving the industry.

The outer walls of what is now the Africa Media Matrix are covered in elegant murals that capture snatches of South Africa's media history, from pre-colonial times through to the post-apartheid era. The visual effect is creative, thought-provoking and, somehow, outrageously cheerful - the ideal qualities, one might say, of a JMS graduate.

The remarkable artwork was done by Mook Lion and Sanelisiwe Singaphi, two highly-regarded Eastern Cape graffiti artists whose wall paintings have often cheered the streets of Makhanda.

Inside, it's a blend of sophistication and bright-colour fun. The walls are adorned with art, the toilet tiles bear wise and witty media quotations from around the world and in the

centre well of the totally remodelled (an extra floor was also added) structure sits a state-of-the-art television studio.

Add to that an audio production studio with a link through to Rhodes Music Radio, a number of labs for design, digital media, writing, editing, multi-media, photography and a newsroom for *Grocott's Mail*, South Africa's oldest surviving independent newspaper, acquired by Rhodes University in 2003.

At the Helm

In an office on the top floor, one meets department head Dr Jeanne du Toit and Professor Anthea Garman for a joint interview on the 50-year milestone of the school, which is still regarded as the African flagship of journalistic teaching.

"At one stage, the different sections of this department were spread out across six campus venues," says Anthea Garman, known as the long-form writing specialist at the school.

"In the early 2000s, with the digital revolution in which we all needed to do everything, we asked the University for a place of our own. Professor Guy Berger, head of the school at the time, was given a lighter teaching load and went fund-raising for this purpose."

Guy Berger and Joe Alferts, then the school's Technology Manager, had a special vision for the new location in the old 'Leather Institute'.

"This is a building which is not just a building," says Jeanne du Toit, who cut her journalistic teeth back in the 1980s with Bush Radio, a community broadcaster in the Cape Town area that was often in the crosshairs of the apartheid government.

"Because the previous occupants had been working here with leather and chemicals, the place first had to be detoxified and then gutted so we could turn it into something we could use.

"The next big step was convergence, where every student could build up a strong digital foundation, with access to all the digital programmes they needed. It's a network that plugs everybody into each other because of the way the digital space is set up. It's also the centre of an integrated media ecology, with tendrils into other spaces."

Working journalists on a visit to the Africa Media Matrix are often amazed by the contents of the building. Jeanne continues:

"The JMS is the best-resourced journalism institution in South Africa, and so it's important for the school to hold onto its reputation of being cutting edge when talking about the study and production of media."

At the Beginning

When the Journalism Department at Rhodes University separated from the English Department in 1972, it was based on the edge of campus at The Rhodes Theatre building on Somerset Street.

Professor Anthony Giffard, a South African journalist with extensive overseas experience both in the newsroom and at two journalism schools in the USA, headed the Journalism Department until 1979.

His vision for the school was that it should operate in tandem with the English liberal press (the mainstream media during the apartheid era) to produce young journalists who could question and stand up to the government of the day.

During the first couple of years of its existence, the department operated in a campus environment almost totally populated by white middle-class students who had come to study, socialise and generally luxuriate in the leafy, idyllic rural hideaway that was the centre of Grahamstown in those days. Very few Rhodes students had any inkling of township dynamics and 'community engagement' was yet to become a well-used phrase.

The Journalism Department at RU taught its students the basic newsroom skills of the time, and often looked at the element of the evolving media world outside South Africa's borders. This was where many journalism students first heard of the ground-breaking American authors Tom Wolfe, Gay Talese, and Hunter S. Thompson. It was called 'The New Journalism'.

The Department also exposed students to new theory, like that of Canadian communications guru Marshall McLuhan, who coined the phrase: "The medium is the message."

Anthony Giffard and his deputy, Dr Les Switzer, organised vacation jobs at major newspapers like *The Star* in Johannesburg and *The Pretoria News* for those students interested in a taste of real-time newsroom experience. They were even paid a small salary by the Argus newspaper group for the period of their internships. The more promising future reporters had jobs waiting for them once their studies were completed.

Times Change

By the end of 1975, however, South African society was in rising turmoil. Male journalism students leaving Rhodes University suddenly faced the reality of a military call-up, either for a full year, and later two, or three-month camps in Angola for those who had been conscripted before their university studies. The "Angolan campaign" was something that they could not legally report on - or avoid.

On June 16 the following year, the country erupted in civil unrest sparked by young Soweto pupils raging against the Bantu Education system and the apartheid government in

general. There was great confusion and no small degree of panic in the mainly white mainstream media bubble of South Africa.

In Grahamstown, however, the Journalism Department had been taking note. By 1975, the school was already engaged in a budding form of media studies, and the curriculum was beginning to reflect this new awareness.

Instead of just being ‘the lecturer’, Les Switzer was learning some transformational truths from his own students who were being exposed to resistance politics. He became the initial driving force that would eventually pave the way for academic staff (like Associate Professor Lynette Steenveld) to refine the field of media studies, especially in a de-colonising context. Instead of just preparing the students with journalistic skills, the department was now also encouraging them to think deeply on their craft.

Jeanne du Toit interviewed Dr Switzer as part of her PhD research.

“He told me about how the students educated the staff in the mid-1970s, especially about the changes that needed to take place at the University.

“At that time, people all across campus were involved in study groups on critical theory. Switzer, with his American background, had a communications science perspective, but he was conscious of that not being the right frame for something that had to do with revolution.”

A New Awareness

In the early 1970s, the Special Branch of the apartheid government policing structure tried their best to recruit some of the poorer students on campus as informants on a monthly stipend. Happily, most refused their offer.

In contrast, when young Guy Berger arrived in Grahamstown to study journalism in 1975, he looked up from the Drostdy Arch and immediately registered the existence of Fingo Village around the hill that looms over Grahamstown.

“The city layout is interesting,” he says. “Normally, the townships would be separate from the white centre. Here, because the *amaMfengu* had been given this land by Queen Victoria, it still belonged to them - despite the relocation efforts of the government.

“You could just walk down the road and you’d be in a township, so you could see the effects of apartheid vividly.”

Instead of an approach from a security policeman in grey shoes, there was a strong Black Consciousness movement in the Grahamstown township community that was reaching out to the more liberal-minded students on campus.



End Conscription Campaign meeting, Great Hall, Rhodes University. Photo: TJ Lemon



Students off to lectures amidst the End Conscription Campaign protests of the late 1980s. Photo: TJ Lemon

Berger was immediately intrigued, so much so that he took Sesotho lessons for a year and, when he returned in 1994, studied isiXhosa for five years.

“In those days, as an urban white South African, you only seemed to meet black people in the form of domestic workers or gardeners. Suddenly, we were coming into contact with young Africans who believed they were not subservient at all, and behaved thus.

“The lecturers in the department were also quite liberal. Advanced media studies were being taught at universities

in the United Kingdom, mainly around power, ownership and corruption in journalism. These analyses influenced the department and informed our local understandings of power and possibilities in the media.

"The government was trying to impose a sort of statutory Media Council, and the Journalism Department staged a conference called *Freedom of the Press* to debate the issue.

"Harvey Tyson (then-editor of *The Star*) addressed the conference. He described editing a newspaper in the apartheid era as 'walking through a minefield with crutches and one arm tied behind your back.'"

Community Press

Berger developed a great interest in grassroots media, which was a mix of 'resistance content' and everyday community stories.

"I started this newspaper called *Ilizwi LaseRhini* (Grahamstown Voice), working with teenagers in the township," he says. "We produced ten issues over two years. It was an eight-page multi-lingual paper containing a lot of news about township happenings and social stories - I don't think it was very political, although the police seemed quite interested in what we were doing."

The idea was revived and streamlined nearly 20 years later, when Guy Berger was in charge of the school.

"I started a community project working with township schoolkids, and they produced a newspaper. I was trying to build a bridge between the community and the University, to encourage young township people to get involved in journalism, to publish their own paper, right down to selling advertising space in town.

"I remember one youngster selling an ad for R100. He had never held so much money in his life!"

Janice Warman, who studied journalism at Rhodes University in the early days of the department's existence, wrote this about Berger in *The Guardian* (UK):

"When I remember those times and the people who shaped them, it was natural to think of Guy Berger...he was an Honours student then, rather handsome, charismatic, popular as a tutor.

"Throughout his time at Rhodes he was involved in student study groups, self-help groups, a township newspaper and volunteer projects in the townships. He was engaged in research for the ANC in 1980 and in his Honours year, when he was arrested - betrayed, he is convinced, by the notorious spy Craig Williamson, a member of the security police who

Students in the Makhanda community doing field work. Photo courtesy Rhodes JMS





The old *Grocott's Mail* building in downtown Grahamstown (now Makhanda). Photo: Chris Marais

had been carrying messages to Berger from the ANC in Botswana.

"For me at the time," he told Janice Warman, "it seemed there wasn't an easy middle way. You had to get involved directly. The only way the (apartheid) nut could be cracked was directly rather than through Parliament."

An Old Tradition

Les Switzer also realised that the real media opposition to apartheid lay in the alternative press, mostly published in South African townships, and under the radar of white readers.

"The alternative press constitutes a unique political, social and literary archive," he wrote in an issue of the department's *Journalism Review*. "It is the oldest, most extensive and varied collection of this kind in sub-Saharan Africa."

He outlined the four distinct phases in the history of South Africa's alternative press:

- The **African mission press** (1830s-1880s), where some of the earliest African protest literature appeared;
- The **independent protest press** (1880s-1930s), representing the aspirant black middle-class;
- The **early resistance press** (1930s-1960s), which began to embrace a more militant alliance of left-wing working and middle-class interests;
- The **later resistance press** (1970s-1980s), representing primarily the Black Consciousness movement and 'progressive' community press.

After Switzer

In 1980, Gavin Stewart, a veteran newsman steeped in opposition mainstream media experience, took over as Head of the department.

By now, the *Rand Daily Mail* and *Sunday Express* had exposed the Information Scandal, which was later said to have brought down the administration of Prime Minister John Vorster, opening the way to the regime of PW Botha.

Stewart was also one of the founder-members of the South African National Editors' Forum (SANEF), which became a very effective body in its time. A Rhodes University tribute after his death in 2013 read:

"The 1980s were hectic times politically, no more so than in the Eastern Cape. With him at the helm, members of his department played a major part in supporting the Eastern Cape News Agencies and bolstering its capacity to report on events as they unfolded.

"At a time when black students were not exactly welcomed with open arms at Rhodes, he worked hard to secure financial support for them to study there, starting the Steve Biko scholarships with Donald Woods."

During his tenure at Rhodes University, Gavin Stewart brought the real world to the academic environment of the department by virtue of his newsroom experience and the events he organised, such as the International Conference on Media and Transformation in the early 1990s.

Guy Berger Arrives

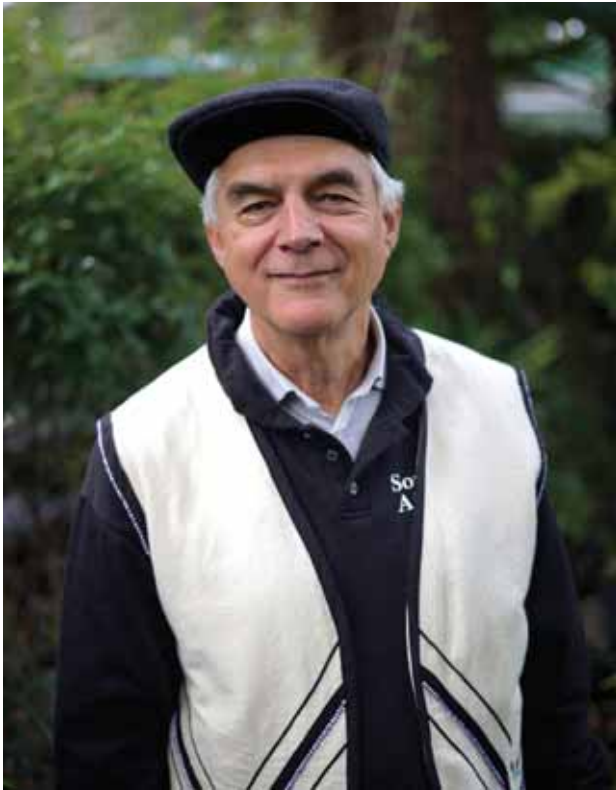
Professor Guy Berger, who was appointed head of the department in 1994, came with some hard experience gleaned over the previous 14 years. In 1981, he was convicted of possessing prohibited books and being a member of the then-banned ANC, and sentenced to seven years imprisonment, of which he served two years before his release.

In 1985, he went into exile in London, where he spent five years working for the *Weekly Mail* and the *Morning Star* newspaper. Berger then set up a television production company called Afravision, before returning to South Africa as the editor of *New Era* magazine.

By 1994, South Africa was a changed country. There was a new, democratically-elected government, transformation was in the air and it was an exciting time to be making and teaching media.

"I knew South Africa would be changing fast," he says. "And I thought it was important to produce quality black students who could be active in the industry, defending independent journalism, transforming the kind of worldview of a lot of media to cover stories that need to be covered.

"But it took a good number of years before we started to get resources and marketing to get black students into the department. And although I had actually been an ANC activist in the 1990s, I could see, as democracy emerged, that journalism and ANC activism weren't the same thing. Journalism had to have its own integrity and independence.



Professor Guy Berger, who was appointed HOD of the Journalism School in 1994. Photo: Dirk Pieters

"It wasn't just about changing the colour of the faces in media, it was about overcoming self-censorship, complicity and capture - although we didn't use word 'capture' in those days."

One year into his new job, Guy Berger and his team organised a conference on freedom of information.

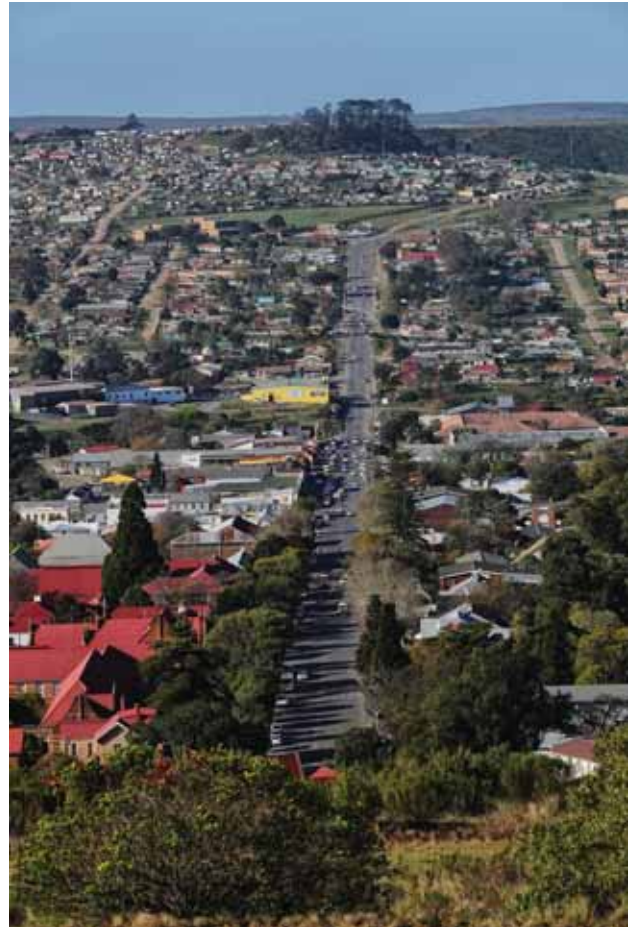
"Although we were now in a society that was free to communicate, we also needed to open up the State by way of a Freedom of Information Bill. We had this big conference where Thabo Mbeki was the keynote speaker. Two years later, the Promotion and Access to Information Act was passed."

"So the department was also playing in the policy space."

In 1999, Professor Lynette Steenveld was appointed Independent Chair of Media Transformation. She began to engage with owners, management and editorial in the South African print industry and the SABC.

Steenveld facilitated processes of self-engagement in the media leadership she came into contact with.

Another highly successful project was the Highway Africa conference, which still continues in digital format.



The unique spatial planning of Grahamstown (now Makhanda), where the town centre flows right up into the townships. Photo: Chris Marais

"At the first conference, you had something like 400 journalists from all over the African continent, descending on this little town of Grahamstown, attending workshops, debates and training sessions."

"This idea that the Rhodes University JMS could be a hub for beyond South Africa was exciting," said Berger. "Many of those foreign journalists attending Highway Africa then also wanted to study here, so we helped them get scholarships. For instance, I remember the editor of one Ugandan newspaper sponsoring 15 of his journalists to come here and do their Masters."

The Africa Media Matrix

When he embarked on his two-year fund-raising initiative for an updated JMS headquarters, Guy Berger had a brand new building in mind.

"Although we had some support from overseas donors, most of the money we raised came from the South African media industry," he says. "But it wasn't enough to set up a whole new building, so we decided to take over and reconfigure the old Leather Industry Research Institute. We cleaned it up, rebuilt parts of it and made it vibrant."



Students at a Highway Africa gathering.

Photo: Rhodes JMS

Berger recounts a story about the time he went to see a top-ranking American media figure for funding.

"I tried to get him interested in the Media Matrix project, but he wasn't biting. Some years later, he attended a conference in South Africa, and contacted me to say he would be coming down to a game reserve near Grahamstown afterwards. So I invited him to pop in and see our new building.

"During his visit, he used one of the men's toilets and spotted, just above floor level, a quote on a tile that interested him. Then he realised it was attributed to him! I had chosen that quote for its relevance, not its source.

"Anyway, he came back to me with a change of heart and later gave us R3-million to upgrade technical systems at *Grocott's Mail* and train township citizen journalists - all because of a quote on a toilet tile."

The Africa Media Matrix building now houses the JMS, the Sol Plaatje Institute for Media Leadership and the SA Reserve Bank Centre for Economics Journalism as well as the Public Service Accountability Monitor.

The UNESCO Years

In 2011, Guy Berger went to work for UNESCO in Paris as Director for Freedom of Expression and Media Development.

His responsibilities included World Press Freedom Day, safety of journalists, internet freedom, media pluralism, journalism

education and grant-making by the International Programme for the Development of Communication.

"Of course, coming from South Africa, I had a lot of experience in freedom of expression policy, and the role of the media. I had first-hand experience of various media initiatives and raising donor funding."

Having retired from full-time UNESCO employment and now based in Cape Town, Guy Berger still does various projects for the organisation and Research ICT, a thinktank founded by Rhodes University JMS alumna Alison Gillwald.

As a JMS Professor Emeritus, he is still in touch with the department and holds Rhodes University and Makhanda (formerly Grahamstown) high in his estimation.

"The JMS now has an unrivalled network of alumni who populate senior communications positions all over the world," he says. "The students in the department have the chance to practise their skills at JMS platforms like *Grocott's Mail*, Rhodes Music Radio, Radio Grahamstown and the various Festival publications like *Cue*.

"If you're going to run a journalism school or be a journalism student, you don't want to be in an academic ivory tower.

You want to connect to the real world of stories, finding them and telling them in the best, most thoughtful, way possible.”

Post-Berger: 2011 Onwards

The 12 years since Guy Berger left JMS have seen South Africa in a torrid phase of its young democracy.

The stress-elements over more than a decade have included State Capture, stuttering state-owned enterprises, civil unrest, the ravages of the COVID-19 pandemic, a winter of widespread looting during 2021, in-migration to the Western Cape, out-migration to foreign shores and SA's wobbly stance in the world of international diplomacy.

In the same period, the country's universities have had their own issues to deal with, in the form of de-colonising both campus and curricula, combined with student protests that are often rooted in legitimate concerns. The two-edged sword effect of social media has been dramatic, taking centre role in the communications space. Ironically, there is more news out there than ever before - but can it be trusted?

Over this period of disruption, the Rhodes University JMS has had to maintain pace with an ever-shifting raft of national changes. Professor Emeritus Larry Strelitz, who ran the department from 2011 to 2019, said in a Highway Africa interview:

“Our curriculum goes through a continual process of transformation to take on board the changes in both media production and dissemination. Students will leave us no longer as specialising in one particular area. They will now be equipped with an array of media production skills.”

This new and varied skill set comes in handy for JMS graduates in many fields of endeavour besides getting a rare job in traditional mainstream media. They can now be accommodated in corporate marketing, government communications and NGO groups. The online jobs bulletin boards for all levels of journalists are dominated by openings in both digital marketing the production of digital content.

“When I first came here, our media partners were the alternative press and the mainstream press,” says current HOD Jeanne du Toit. “Now we're broadening ourselves far beyond journalism, into what we call a 'journalistic mindset'. It's not just about journalism as a practice but also communication practice from a journalistic perspective.”

By Chris Marais

(Rhodes University BJourn 1972-75) is a multi-award-winning journalist, editor, travel-writing tutor, author and independent publisher.

Professor Larry Strelitz and Professor Sizwe Mabizela, Rhodes University Vice-Chancellor, at a JMS 50 function in 2022.
Photo: Rhodes JMS





The Graduates

School of Journalism and Media Studies

JMS Head Dr Jeanne du Toit, Veteran Journalist, Yoliswa Njamela and Rhodes University Vice-Chancellor Professor Sizwe Mabizela at the JMS 50 function in 2022. Photo: JMS

The real measure of a university journalism school lies in its alumni cohort. Here is a sampling of 30 career role models who first learnt their trade at the Rhodes University School of Journalism and Media Studies.

In 2022, the JMS School at Rhodes University celebrated its 50th anniversary in style throughout the year, with a series of get-togethers and events in co-operation with the RU Communications Department.

“It was an amazing partnership between the JMS and the University leadership,” says the HOD, Dr Jeanne du Toit. “We put together a programme organised around the regular University highlight events, like Graduation Day, Media Freedom Day, the National Arts Festival, and Press Freedom Day. Then we staged a range of colloquia over the second half of the year.

“As we were planning the celebrations, we realised what had to be at the centre of this thing: the alumni. We retrieved this whacking great print-out listing nearly 5 000 graduates, and chose 50 to highlight with awards recognising their career achievements.”

According to Professor Anthea Garman, the special element of all the alumni gatherings that followed, in-person or on-



Lizeka Mda and Professor Sizwe Mabizela, Vice Chancellor of Rhodes University at the JMS 50 function in 2022.
Photo: Rhodes JMS

line, was the interaction between the chosen graduates, a mix of eminent media veterans and younger individuals at the beginning of their careers.

“The awardees were also given three minutes to speak at the events,” she says. “They didn’t hold back, in their praise of how Rhodes University had changed their lives but also how hard it is to be a working journalist in modern times.

“We also realised how important it was to be communicating with our alumni. We realised that as a journalism school we had a responsibility that was bigger than a simple celebration. Journalism is in trouble, people who work in the media are in trouble, and some truthful things needed to be said.”

Adds Du Toit:

“The events allowed us to be reconnected to a world we really need to be in touch with. It also felt good to know that we matter, and that our graduates look to us for direction and resources.”

A new website within the main University platform was set up as JMS50.

“The website is a time capsule,” says Jeanne. “And also a space which will continue to grow because of alumni contributions and connections.”

Here is a sampling of 30 career role models who first learnt their trade at the Rhodes University School of Journalism and Media Studies.



1972
Kerry Swift

Retired newsman Kerry Swift was among the first group of Rhodes journalism students to complete his BJourn degree in 1972, having signed on for the course when it was still under the auspices of the English Department.

He joined the *Sunday Times* and was the last journalist to travel through the Mozambican war zones before the coup in Portugal. These experiences led to his book *Mozambique and the Future*.

In 1990, he returned to Rhodes as a senior lecturer in the School of Journalism and Media Studies, where he launched and edited the *Rhodes Journalism Review*.

Swift then joined Churchill-Murray Publishing and went on to run the Times Media Journalism School. On retirement he acted as a consultant to universities and penned a private memoir, *Another Country*.



1975
Anand Naidoo

In the early 1990s, Rhodes University JMS graduate Anand Naidoo's career in journalism started at the *Rand Daily Mail*. He went on to work as a field producer for Belgian television as well as a producer and anchor for the Belgian Radio World Service. In the mid-1990s, he relocated to Atlanta, USA, to take up the roles of anchor, correspondent and editor on CNN.

Anand's next career move took him to Washington DC, to join Al Jazeera as news anchor and reporter. In 2012 he moved to CGTN America (China Global Television Network) where he anchors a daily talk/interview show called *The Heat*, providing insightful live streaming news and podcasts on global political and economic issues.



1977
Guy Berger

Guy Berger graduated with a BA in Journalism from Rhodes in 1977 and BA Honours in 1978. While still a student he founded and edited a local community newspaper, *Izwi laseRhini*.

In 1981 he was sentenced to seven years in jail for possessing banned books and being a member of the ANC. He was released in 1983, worked locally as a media consultant and then moved to London for five years as a freelancer.

Following his return to SA he became editor of *New Era*, editor and CEO of the weekly newspaper *South* and led the formation of the Independent Media and Diversity Trust.

In 1994 Guy was appointed Professor and Head of the Department of Journalism and Media Studies, where he spearheaded its expansion and development and initiated a number of ground-breaking projects.

In 2011 he left JMS to take up the post of UNESCO's Director for Freedom of Expression and Media Development.



1978
Peter Bruce

Veteran South African newspaper editor and commentator, Peter Bruce, is recognised as one of South Africa's most experienced journalists.

Over the course of his career, his roles have included editor of the *Financial Mail*, *Business Report* and UK news editor of the *Financial Times*. He has been both the Madrid and Bonn correspondents for the *Financial Times*. Peter was editor-at-large at Arena Holdings (formerly Tiso Blackstar) and editor-in-chief of *Business Day*, *Financial Mail* and *ABC*. In addition, he held the post of editor of *Business Day* from 2001 until August 2012.

Today he is a senior commentator at Arena Holdings, writing popular weekly columns for the *Sunday Times*, *Business Day* and the *Financial Mail*.



1980
Zubeida Jaffer

A working stint at the *Cape Times* inspired Zubeida Jaffer to enrol as a journalism student at Rhodes, where, uniquely, she was allowed to complete the three-year degree in two years.

After graduating, Zubeida returned to the *Cape Times*. She also worked for the *Rand Daily Mail* and was a volunteer journalist at the community newspaper *Grassroots*.

While reporting on police violence and killings in the Cape Flats she was arrested and detained without trial. In 1981

her passport was withdrawn and would only be returned a decade later.

She was a key organiser in the formation of the United Democratic Front. In 1986 she was detained again and tortured but eventually released without charge.

In 1995 she obtained an MA degree in journalism from Columbia University in the US. On her return to South Africa she worked as political editor for the Daily News and then became the founding editor of Independent Newspaper's parliamentary bureau.



1982
Alison Gillwald

Graduating from Rhodes University with a B.Journ in the early 1980s, Alison received her PhD in 2009 from Wits University. Her thesis reflected her working career in telecommunications, having been appointed by Parliament to the founding Council of the South African Telecommunications Regulatory Authority (SATRA) in 1997, after establishing the policy department in the first broadcasting regulator, the Independent Broadcasting Authority, in 1994.

She is currently executive director of Research ICT Africa (RIA), an African digital policy and regulatory think-tank that works across 20 African countries. Alison is currently also an adjunct professor at the University of Cape Town's Nelson Mandela School of Public Governance, where she convenes a doctoral programme in the Digital Economy and Society in Africa, covering professional development and executive training for policymakers, regulators and parliamentarians in the areas of policy, regulation and data governance.



1984
Lizeka Mda

Lizeka Mda graduated from Rhodes University in 1984 with a B.A. Honours in Journalism and Sociology.

Over four decades, Mda has written for local and international publications on diverse topics, from media to migration. She has produced radio programmes on politics and society for the SABC, the BBC, and the Canadian Broadcasting Corporation. Mda has authored fiction and non-fiction books and regularly presents papers at international conferences, with a special focus on African Media.

Her career has included roles as a senior writer for the *Mail & Guardian*, Deputy Editor at *City Press*, Johannesburg Bureau Chief at *Femina* magazine, Executive Editor at *The Star*, and editor-in-chief of *Sawubona* magazine.



1984
Rich Mkhondo

Veteran marketing communications specialist Rich Mkhondo completed his journalism degree at Rhodes in 1984.

He began his career as a journalist at the *Rand Daily Mail* and later worked for Reuters News Agency, Independent Newspapers, *Pretoria News* and *The Citizen*.

Rich then moved into marketing communications and public relations, working for Ogilvy PR Worldwide, Discovery, South African Airways, the 2010 FIFA World Cup local organising committee and then MTN as Group Spokesperson in the corporate affairs division.

In 2014 he founded The Media and Writers Firm, a content development agency and reputation management consultancy, and continues to lead the company.



1986
Paula Fray

After graduating from Rhodes University with a BJourn degree in 1986, Paula went on to become the first black female editor of the *Saturday Star* newspaper.

Besides being a top newsperson, Paula Fray is also a well-respected educator. In 2005, she established Fray Intermedia, described as a 'pan-African communications company' and then, in 2017, she set up Fray College, which provides 'short courses and qualifications in journalism and communication across the African continent and beyond.'

She is President of The New Humanitarian news agency, a board member of Africa Check and of Accountability Lab SA. She is a Print and Digital Media SA Fellow and a public representative on the Press Council of South Africa.



1988
Audrey Brown

As a child, Audrey Brown was inspired by journalists such as Maud Motanyane and Don Mattera, and this led to her obtaining a Bachelor's degree in Journalism, African History and Politics (1988) from Rhodes University and, later, a Masters degree in Journalism from the University of Wales.

In addition, she studied film criticism and documentary film-making at the Varan Institute of Cinema Direct in Paris. After starting her career writing for newspapers such as *Vrye Weekblad* and *Weekly Mail* in the 80s and early 90s, Audrey has been a broadcast journalist with the BBC World Service since 2005, and she is senior presenter for BBC's *Focus on Africa*.



1988
Philippa de Villiers

Philippa de Villiers obtained her BA degree, with Journalism as a major, from Rhodes University, going on to obtain an Honours in Dramatic Art and Scriptwriting from Wits University and went on to study mime and theatre at the Lecoq International School of Theatre in Paris.

In 1998, as a graduate of Lecoq, she returned to South Africa and worked as an actor with Theatre for Africa.

A distinguished career in scriptwriting saw her writing for the SABC, with scripts for *Backstage*, *Tsha Tsha*, *Thetha Msawawa*, *Takalani Sesame* and *Soul City* among others. Her theatre scripts include the two-hander *Where the Children Live*, and the one-woman show *Original Skin*, which she performed in South Africa (including at the Grahamstown Festival) and abroad.



1989
Angie Kapelianis

Angie Kapelianis graduated with a BA (Translation) in 1988 and a Higher Diploma in Journalism in 1989. After a stint with the NBC in Namibia, she returned to South Africa, and joined the SABC, where she has remained.

Already established as a radio journalist, in 1995 Angie was promoted to a senior role with the SABC, and it was during her five years in this position that she was present at and reported on the Truth and Reconciliation Commission.

In the years since this seminal project, Angie has moved through the echelons of the SABC, and is currently the National Radio Current Affairs Editor.



1994
Tanya Accone

Having graduated from Rhodes University in the early 1990s, Tanya Accone began her working career just as the digital age arrived. She joined the first on-line team at *The Washington Post*, moved back to South Africa and worked on the *Sunday Times* before becoming an executive on M-Web Africa.

Since 2001, however, Tanya has fulfilled several roles within UNICEF, initially as Deputy Chief of their Internet, Broadcast and Image Section. She is currently the Senior Advisor on Innovation with the organisation, working towards innovative solutions in over 200 countries worldwide with the vision of realising UNICEF's child-related Sustainable Development Goals.



1994
Stephen Grootes

Graduate Stephen Grootes is nationally known as an astute political analyst. He began his radio career as a student at Rhodes Music Radio and became well-known as the host of *Midday Report* on Radio 702 and 567 Cape Talk in 2012. He has gone on to SAfm Radio and the role of presenter on the 24-hour TV news channel *Newzroom405*.

Stephen contributes regularly to the *Daily Maverick*, and is very active on Twitter. He has authored a book called *SA Politics: Unspun*, described as a 'roadmap to South Africa's complex political landscape'.



1995
Nick Grubb

Completing his BJourn in 1995, Grubb started his career in the Eastern Cape, firstly with the Eastern Cape News Agency in the then-Grahamstown (now Makhanda), and thereafter with Radio Algoa, where he took on the role of news editor.

In 2002 he moved to the SABC flagship station 5FM as programme manager, and thereafter filled the roles of programme strategist and New Media Manager: PCS with the SABC.

In 2011, Grubb moved full-time to Kagiso Media, one of South Africa's premiere audio and broadcasting businesses. As Chief Executive: Radio, Grubb is responsible for overseeing the group's radio operations.



1999
Leonie Joubert

Leonie Joubert is a science writer and author specialising in climate and environmental collapse, energy policy, urban studies and public mental health.

She has explored these topics through books, journalism, communication support to academics and civil society organisations, non-fiction creative writing, and podcasting.

She specialises in feature writing, opinion and analysis and has been widely published in local and international media, including in the *Mail & Guardian*, *Sunday Tribune*, *Africa Geographic*, *Getaway* and *Farmers Weekly*, among many others.

Leonie is author of more than ten books, including *Scorched: South Africa's Changing Climate*, *Boiling Point: People in a Changing Climate*, *Invaded: the Biological Invasion of South Africa* and *The Hungry Season: Feeding Southern Africa's Cities*.



1999
Dr Kameshnee Naidoo

Dr Kameshnee (Kammy) Naidoo completed her BJourn (1997) and MA (with distinction, 1999) at Rhodes University, later gaining her PhD at Wits. While at Rhodes, Kammy worked

on student newspapers *Activate* and *Rhodeo*.

A large portion of Kammy's professional career has been spent in the Strategic Investments Division of the MTN Group, the largest mobile operator on the African continent, and she has been involved in key strategic roles at MTN, Deloitte and PricewaterhouseCoopers.

As the MAP (Making Access to financial services Possible) Global Programme Advisor for the UN Capital Development Fund (UNCDF), she coordinates policy implementation and research activities, impacting the lives of 549 million people and spearheading inclusive growth with her deep market knowledge and strong networks in governments, multi-nationals and in-country partners. Kammy also works with academia through the LSE, Boston, and Columbia Universities, leading new thinking on inclusive growth.



2001
Sherwin Bryce-Pease

Sherwin Bryce-Pease started his broadcast work with Rhodes Music Radio during his Bachelor of Journalism years, and began his working career as an intern in the Marketing and Communications Division at Rhodes University, thereafter completing an internship in marketing as Rhodes University's International Communications Liaison Officer in America.

On his return to South Africa, he took up a radio position at SAfm as drivetime news anchor and bulletin writer. He then became insert producer and co-anchor of the SABC's Weekend Live, with stand-in appearances on SABC 2's Morning Live.

In 2008 Sherwin returned to the United States as the SABC's US bureau chief and correspondent, based at the New York offices of the United Nations.



2001
Daneel Knoetze

Daneel Knoetze graduated in 2011 from Rhodes University with a Bachelor of Arts (Honours) in Journalism and Media Studies.

After a stint at the *Cape Argus*, he moved to *GroundUp* and then became Communications Officer for Ndifuna Ukwazi.

In 2017, Deneel went to the USA as a fellow on the US State Department's Hubert H Humphrey Fellowship Programme.

During this time he completed a professional affiliation at Reveal from the Centre of Investigative Reporting in San Francisco.

On his return to South Africa, Daneel became the founder and editor of investigative reporting unit Viewfinder, an accountability journalism project carrying out long term investigations into abuses of power which impact on the public interest - specifically as it relates to the need for equality and redress - in post-apartheid South African society.



2003
Karyn Maughan

Graduating with an MA in Journalism from Rhodes University in 2003, Karyn Maughan has worked as a specialist legal journalist in print and broadcast media for close to twenty years.

Her first two books, *Love is War: the Modimolle Monster* and *Lolly Jackson: when fantasy becomes reality*, are the product of countless hours in court and the in-depth analysis of the criminal justice system.

Karyn writes for *Business Day*, *News24* and *Financial Mail*. She also contributes to *Newzroom Afrika*. She has also produced hard-hitting, acclaimed documentaries for eNCA's *Checkpoint* show.

In April 2022, Karyn's latest book, *Nuclear: Inside South Africa's Secret Deal* was published.



2005
Haru Mutasa

Haru Mutasa graduated with a BJourn in 2005 and shortly afterwards was hired by Al Jazeera, at a time when the news network was still gearing up for the launch of its English-language channel.

Over the course of her career Haru has covered many key events in Africa, including the Islamist invasion of Somalia, an attempted coup in Chad, Niger Delta militants, post-election violence in Kenya and Zimbabwe, the FIFA World Cup in SA, Jacob Zuma's corruption trial, Nelson Mandela's death, unrest in the DRC and Burundi, and civil wars in Ivory Coast and South Sudan.



2005
Minoshni Pillay

Minoshni Pillay completed a BJourn degree (2004) and a Postgraduate Diploma in Media Management (2005) at Rhodes University.

During this time Minoshni filled the roles of DJ, talk show host and newsreader on campus radio station Rhodes Music Radio.

After completing her studies Minoshni spent a year working with Highway Africa News Agency, which included overall management of the annual Highway Africa conference and the responsibility for liaising with journalists from across Africa.

In 2009 Minoshni joined the SABC as a radio news journalist, where her role included field reporting, story generation, scripting for news bulletins, and live and telephonic interviews for current affairs shows.



2006
Rebecca Davis

One of the most-read media stars of the cutting-edge *Daily Maverick* on-line stable, Rebecca Davis is a well-travelled journalist, social commentator and author of *Best White and Other Anxious Delusions* and *Self-Helpless: A Cynic's Search for Sanity*. Rebecca graduated from Rhodes University with a BA in 2003, an Honours (English and Linguistics) in 2004 and a MA (English) in 2006.

Rebecca also appears regularly on Cape Talk Radio in conversation with John Maytham, discussing the week's events.



2006
Jin Jeong

After completing a BJourn degree at Rhodes University in 2006, and a Masters in Media Studies and Practice at the University of Cape Town thereafter, Jin Jeong, worked as a director and production manager for the SABC and eTV for five years before going on to produce a weekly travel programme featuring stories in and around Asia.

In addition, Jin has produced human-interest documentaries for Korea's major public broadcasters KBS (Korean Broadcasting System), EBS (Educational Broadcasting System), and TVChosun.

She launched the International Media Department at Prosum Inc. to continue creating opportunities for international co-productions.



2007
Lindile Mpanza

After completing a BJourn degree at Rhodes University in 2007, Lindile Mpanza cut her journalistic teeth via a Carte Blanche Investigative Journalism TV Scholarship and became a researcher for the show.

This grounding stood her in good stead when she moved from MNet to eNCA to take up her next position as producer for *Third Degree*. She then became a Specialist Producer for the SABC's Special Assignment, where she continues to produce work of high journalistic quality.

In addition to winning the CNN African Journalist of the Year Award for *Silence of the Innocents*, Mpanza was also a finalist in the Michael Elliott award for excellence in African storytelling, and won Best Current Affairs Actuality Programme at the 2017 South African Film and TV Awards.



2009
Pippa Erlich

Pippa Ehrlich is the co-writer, editor, and director of *My Octopus Teacher* (2020), South Africa's first original Netflix documentary which went on to win an Academy Award for Best Documentary Feature in 2021. The documentary was a Sea Change Project initiative.

Ehrlich graduated with a BJourn in 2009, specialising in television, and then began her career as a researcher and production assistant at Flying Fish productions. Here she helped produce several award-winning investigative television pieces for Carte Blanche.

Following this, Ehrlich freelanced, taught English in Thailand, and worked as a conservation journalist and media co-ordinator for the Save Our Seas Foundation. Her work specialised in the field of marine science and conservation, with a particular interest in the intersection between people and the natural world.



2011
Zikhona Tshona

Zikhona Tshona grew up in Ntoleni Village in Fort Beaufort. In 2011, she graduated with a BJourn and was immediately hired as a reporter for eNCA, where she remained for 11 years.

In 2013, she was head-hunted to be part of the team that launched SA's first black-owned talk radio station, Power FM, and was producer of the drive time show.

Among the many notable stories Zikhona has covered are the passing of Winnie Madikizela-Mandela, the Life Esidimeni tragedy and subsequent arbitration hearings, and the impact of the VBS Mutual Bank saga on local communities.

Through her work she strives to amplify the voice of ignored communities and vulnerable people in our country. Zikhona is a four-time winner of the Vodacom Journalist of the Year awards. She now works as a senior reporter for Newzroom Afrika.



2012
Yusuf Omar

Yusuf Omar obtained a Bachelor's degree in business in Australia before coming to Rhodes to do a journalism diploma in 2010.

After graduating he worked as a multimedia reporter for Independent Newspapers, covering events across Africa; as a foreign correspondent and mobile journalism trainer for eNCA; as Mobile Editor for the *Hindustan Times* in Delhi; and, as Senior Social Reporter for CNN in London.

Yusuf is perhaps unique in that all his journalistic work, including covering the war in Syria, has been produced using just his smartphone.

In 2017 Yusuf co-founded Hashtag Our Stories, an organisation aimed at promoting hyperlocal mobile journalism within communities and helping news organisations to diversify their coverage.



2013
Dr Margaret Jjuuko

Margaret Jjuuko obtained both her MA (2013) and PhD (2022) in the School of Journalism and Media Studies. She has taught and consulted on a number of media training and developmental projects in Rwanda, Uganda, South Sudan, Kenya, Tanzania, Burundi and South Africa.

She has served as Secretary General of the East African Communication Association (EACA) and remains a board member of the association. Margaret is currently an Associate Professor of Journalism, Media and Communication Studies and Coordinator of the MA programme at the School of Journalism and Communication (SJC), University of Rwanda.



2015
Krivani Pillay

Krivani Pillay graduated with a BJourn in 2001 and an MA in Journalism and Media Studies in 2015. She is known for her high-profile journalism at the SABC (Lotus and SAFM), Primedia (Eyewitness News), and eNCA.

Krivani worked as Executive Producer for Current Affairs at SABC News during Hlaudi Motsoeneng's tenure as Group COO, when she and seven of her colleagues (the SABC 8), challenged the autocratic editorial policies imposed on news broadcasts at the station.

The SABC 8 paved the way to Parliament's first-ever inquiry into the SABC which led to the suspension of Motsoeneng and the dissolution of the SABC board.

In November 2018, Krivani was seconded to the role of Elections Editor, co-ordinating content for Radio, Television and Digital platforms. Since 2019 Krivani has been working for the United Nations as Partnerships and Development Finance Officer.



2016
Dr Admire Mare

Dr Admire Mare holds a PhD in Journalism and Media Studies from Rhodes University. He now holds the role of associate

professor in the Department of Communication and Media (CAM) at the University of Johannesburg.

Admire has published two co-edited and co-authored books: *Participatory Journalism in Africa: Digital News Engagement in the Global South* (with Hayes Mabweazara) and *Media, Conflict and Peacebuilding in Africa* (with Jacinta Maweu).

His research focuses on media innovation and entrepreneurship, platformisation of news and journalism, relationship between publishers and platforms, integration of artificial intelligence in African newsrooms and journalism ethics.

Dr Mare is the founder of Dinari Mentorship Programme, the main thrust of which is to empower young people to reach and exceed their full potential.



2018
Heather Robertson

Heather Robertson came to Rhodes University to complete an MA in Journalism and Media Studies two decades into a very successful career as a journalist.

Her career has taken her from *Elle* magazine, to features editor on the *Sunday World*, to a decade-long stint at the *Sunday Times*.

After five years as editor of the *EP Herald*, Robertson made the decision to enrol at Rhodes University to complete an MA in Journalism and Media Studies. At this time, she was also acting as director and partner for Change Routes Publications.

In May 2020, Robertson became the editor of the *Daily Maverick* publication *DM168*, renowned for moving from a digital-only format back to a weekly print edition, bucking the trend in news journalism today.

Note: Extracts courtesy of the Rhodes University School of Journalism and Media Studies.

For more, go to <https://jms50.ru.ac.za/alumni-awards/>

Alumni photos: Rhodes JMS

By Chris Marais



Lighting the way ahead

On a visit to the Africa Media Matrix, Rhodes University's state-of-the-art journalism school headquarters, one meets some of the staff members who keep the academic lights on in this dynamic place.

Radio broadcasting session at the Africa Media Matrix.
Photo: Rhodes JMS

First up is the legendary Shepi Mati, veteran anti-apartheid activist and community radio man who comes with a wealth of experience and a lovely sense of humour. We sit down for two sessions that total nearly four hours, because the man has many stories to tell - and he has a very special way of telling them.

"I remember, as a kid growing up in the Adelaide (Eastern Cape) area, I once saw a white man entering a township house," he says. "Someone said he was Special Branch. I thought he was being very respectful to the family because he spoke to them in isiXhosa.

"Many years later, after a number of detentions, I realised just how 'special' the Special Branch could be," he says, with more than a touch of irony in his voice.

"We never had shoes as children. Walking to school in winter was hard, so whenever we saw a fresh cowpat in the street, we would compete to see who could plant their feet in the warm dung first."

Shepi came to live with his extended family in Port Elizabeth (now Gqeberha) in late 1976, when South Africa was on the boil.

"I remember the smell of the Casspirs (armoured police vehicles) on the streets. But how can a Casspir have a smell? Maybe it was just the smell of fear."



Shepi Mati - Lecturer, Audio

Photo: Chris Marais

Doing part of his high school education in Cape Town in 1979, Shepi also joined The History Society which, although it took historical studies seriously, was a cover for a political study group.

Bouncing between Port Elizabeth and Cape Town, getting deeper into the anti-apartheid movements every month and attracting the unwanted attention of the security police, Shepi Mati took a job in the Mother City at the City and Service Club.

"I worked as a wine steward, and often eavesdropped on conversations between apartheid-era politicians and businessmen. I was also the club's night watchman for a while, and during that time I just read all the books I could find that were written by African authors."

By 1982, Shepi Mati was elected President of the Congress of South African Students (COSAS).

"We were always in the spotlight of the Special Branch," he says. "We grew so strong that they had to ban us in 1985. By then, I was studying journalism at Rhodes University."

Guy Berger, who had been released from prison in 1983, was instrumental in Shepi Mati's acceptance at Rhodes University, helping him get a study permit from the Minister of Education.

Apart from politics, Shepi's next love was the medium of radio.

"As a family, we would gather around the radio and listen to the powerful drama shows. We were taken by the broadcasters' mesmerising command of isiXhosa. We also listened to Radio Freedom, broadcast sometimes from Madagascar, sometimes from Angola, Rwanda or even Ethiopia. But we did it with one eye out the window, making sure the Special Branch weren't around."

After his studies, Shepi Mati worked in various community radio jobs in Cape Town, eventually landing a post with the Institute for Democratic Alternatives in South Africa (IDASA), later known as the Institute for Democracy in South Africa.

"As part of IDASA's effort to prepare the country for democracy, they realised that the radio component was crucial in getting to the masses."

After 11 years at IDASA and three freelancing, Shepi Mati joined the staff at Rhodes University's JMS school. He brought with him skills from the field and a special hands-on method of teaching his young journalism students.

"For instance, there's this week-long orientation phase, where I first send the students out onto the streets to do vox pop interviews on burning issues regarding service delivery and crime.

"Then I take them to the various spaces of service delivery here in Makhanda. They sit in the gallery at the Magistrates Court, hearing all sorts of cases and learning about the justice

system from the inside. Then we go off to the police station, where I take them through the charge office and the cells for the 'ambience'.

"Then we're off to the local municipality, where we meet the mayor, who explains all the departments and their duties. That is followed by a visit to the local clinic, where they learn about issues of health and medical management.

"On the final day, we visit radio stations in Gqeberha: the public broadcaster, a commercial station and a community station.

"Having done the vox pop, the students get to ask probing questions, sometimes even providing solutions that the authorities never dreamt of. The students also have a clearer picture of what goes on in these spaces. The relevant issues they learn about provide enough study material for us to use throughout the year."



Dr Priscilla Boshoff - Senior Lecturer, Honours degree co-ordinator, School Exco committee member

Photo: Chris Marais

The popular culture expert at the department is Priscilla Boshoff, whose first job came at the age of 16, when she was House Mother at a school for handicapped children in KwaZulu-Natal.

"It forces you to grow up pretty quickly," she says.

Priscilla later studied anthropology and Latin at Rhodes University, did nursing for a year, and came back to Makhandla for her Honours in Latin and a Higher Diploma in Education. She went over to the United Kingdom, where she was "poor, teaching unruly children in a cold, dark country".

Then life took a positive turn for young Priscilla.

"I left the UK, dusted my heels off and went to live in India for a year," she says. "I then saw Nepal, the Himalayas, the Khyber Pass in a hired Jeep with a military escort, crossed China on the Silk Route, taught English in Beijing for a year and then moved to Sapporo, Japan, where I taught for three years. Then, after eight years overseas, I came back to Grahamstown, and did a Postgrad Diploma in Journalism and Media Studies.

"Initially, I thought I would be a travel writer, but I found myself being drawn to media studies. I was intellectually hungry and had wonderful teachers like Larry Strelitz and Lynette Steenveld.

"Media Studies, which I now teach, is a kind of sociology of the media, understanding the kinds of roles media play in society, how media and people's use of media contribute to the way that society is structured, how power circulates in society, how ideas circulate, how we create an image of ourselves and our societies through the media, and the consequences of that for communities, nations, and the globe.

"I find it a fascinating area of study. Instead of being the person producing the media, I look at what happens once the media is produced."

Priscilla Boshoff's PhD thesis was on the way the popular newspaper *The Daily Sun* covered crime. She admits to being fascinated by aspects of this mass media newspaper and the way it evolves to remain current to its readers.

"Significant numbers of Rhodes University students now come from the Eastern Cape," she says. "We are an excellent research facility in a very poor province, so we have a very important role to play.

"Part of what I teach now involves service learning, where I get my studies involved with community partners. Last year, I developed a course on digital media literacy, how to use it to one's benefit, how to spot misinformation and fake news - general staying safe in the digital space."



Simon Pamphilon - Lecturer, Media Law and Ethics, Communication Design

Photo: Chris Marais

Simon Pamphilon, who studied for a B-Journ degree in the mid-1980s, returned to teach at the department in 2005:

"Media regulations had been harsh under the apartheid government for many years - the Riotous Assemblies Act, the Prisons Act, the Official Secrets Act, the Defence Act, where journalists could go, who they could speak to or quote, what they couldn't write - but what was promulgated during the states of emergency in the 80s went way beyond even these restrictions. We went from things like not being able to report on or publish photographs of protest action to making it illegal even to be present at protest scenes.

"As student journalists we didn't want to cover only what was happening on campus. We wanted to provide information about what was happening around the country. But it was a minefield. It wasn't just the real possibility of breaking the law but the financial implications of doing so.

"University management at the time wanted us to submit our pages for pre-approval, but we contested this. We said let us decide what is potentially illegal, we'll run it by someone who is mutually acceptable to both you and us, and we'll decide whether to accept that person's advice. As it turned out, we agreed on law professor John Grogan, and he was enormously helpful, not just pointing out things that would get us into trouble but actively helping us find loopholes.

"These days journalism students still need to have a good understanding of the law and, yes, there have long been threats of repressive media legislation under the ANC government, but a fundamental difference between South Africa now and countries like the UK is that our parliament is not sovereign.

"We are a constitutional democracy and parliament cannot simply pass any legislation even if a majority of lawmakers support it. If that legislation is unconstitutional it will fail. And our constitution specifically asserts the right to 'impart' and 'receive' information."



Simon Pamphilon, when he was a student in the 1980s and involved in Rhodes University student media. Photo: TJ Lemon



Dr Alette Schoon - Senior Lecturer, Television

Photo: Chris Marais

The author of a paper titled '*Makhanda Forever?: Pirate internet infrastructure and the ephemeral hip hop archive in South Africa*', Alette Schoon's journalistic and academic interests lie at the intersection of community involvement, youth internet trends, the use of social media and television documentary.

Makhanda Forever examines how "hip hop heads in marginalized, Black, low-income neighbourhoods in a town in South Africa make use of 'grey' pirate internet infrastructure from the Global South to create distribution platforms for their music."

Her text continues:

"As digital pioneers in their communities, these hip hop heads showcase innovation from below by cobbling together translocal digital spaces that incorporate grey pirate platforms.

"Since they exist outside of the public, algorithmically monitored channels of the internet, these spaces remain outside of the mainstream centralized global media flows and exemplify 'pirate modernity' in the Global South.

"They point to the deep infrastructural inequalities between and inside countries and the need for building a more inclusive internet where no-one is exiled to the low-bandwidth, mostly off internet outposts of the less-connected.

"While pirate platforms form part of an interim innovative solution to help connect communities, their ephemeral nature means that the music archives created by these hip hop communities remain precarious and under constant threat of being lost forever."

An experienced documentary filmmaker, Schoon teaches television production, documentary filmmaking, and video production for the Multimedia Storytelling course.



Taryn Issacs de Vega - Lecturer, Media Histories

Photo: Chris Marais

A contributor to a ground-breaking book on decolonising journalism, Taryn Isaacs de Vega's special interest lies in media studies, black South African media history in particular.

"One of the studies we're doing right now is on the first Nguni language newspaper in South Africa in 1837, published right here in Makhanda," she says. "It was called *Umshumayeli Wendaba* (Preacher of the News) and it was founded by the Wesleyan Methodist Missionary Society.

"Those kinds of alternative black presses had great powers to get to their readers en masse and generate deep conversations about their own existence, the kind of lives they wanted for themselves and generations to come."

De Vega was also part of the 2022 JMS50 organising group, helping to set up colloquia and events around both Media Freedom Day and Press Freedom Day.



Professor Anthea Garman and Dr Jeanne du Toit poring over the morning newspapers. Photo: Chris Marais

"For me, the most exciting part of the project was showcasing the many contributions our alumni have made in their fields," she says. "I also loved the planning discussions we had on what should appear on the outside walls of the Africa Media Matrix, to reflect the kind of journalism we teach."

"In every course we teach, there is a constant balance between the practice and the theory. It signals to students the importance of both creativity and deep critical thinking. That is the niche of the JMS."



Ryan Hancocks - Director of the South African Reserve Bank Centre for Economics Journalism, Rhodes University School of Journalism and Media Studies

Photo: Chris Marais

"I wake up at five every morning, read all the newspapers, and by seven o'clock I'm in a fuming mood. I've researched a ton of stories and I'm angry. And I want to go and find answers to why I'm angry. That's journalism. You're angry about the state of the world, but you take action and do something about it."

Those are the passionate words of Ryan Hancocks, head of Economics Journalism at the JMS.

"What I really like doing here is looking at where we are going as a department, working out what our strategy should be, finding what the students need to have for the future, finding out what they buy into," he says.

"The older generation did not have access to the whole world of everything since the age of five, students entering university now are so much more self-aware, they know what they want to do in life, what their specific interests are."

Hancocks' career so far is a blend of academic, corporate, mainstream media and freelancing. He has worked at Unilever and Morgan Stanley ("Yes, I lived the *Wolf of Wall Street* life for a while") and holds a Masters and a Postgraduate Diploma in Economics Journalism.

He also works on the in-house *Grocott's Mail* Direct newspaper, in digital format, a project he loves.

"It's very useful as a real-time teaching mechanism," he says.

"If you give students a chance to write for an in-campus publication like this, they can occasionally make mistakes, learn from them and be forgiven as students by the communities they write about."

"I always encourage my students to make their mistakes here, first, so they don't make them once they're out there working professionally - where they could seriously damage their brands."

About the school, he says:

"The history and content of our courses still give you the best overall framework for being a journalist and media practitioner that you will get out of any other local institute."

By Chris Marais



Students at work in the television studio of the Africa Media Matrix.
Photo: Rhodes JMS

The Jobs Market

School of Journalism and Media Studies

As the digital revolution upends traditional media, job losses around the world have been dramatic. However, exciting employment horizons have opened up in the specialist news sector.

At first glance, the modern-day job market for young journalism graduates looks bleak when compared to the post-apartheid euphoria of the 1990s, when the mainstream South African media was flourishing alongside the advertising industry.

But, on closer inspection, it turns out that there might be more employment options out there than ever before - just in different forms.

On the local newspaper scene, outfits like the *Mail & Guardian*, *Daily Maverick* and the monolithic Media 24 have built a huge reader footprint and, in many cases, re-designed their funding models to suit the times.

The successful media platform takes its funding from a mix of donors, reader-subscribers, advertising and special events. Managements are thinking out of the box and editorial departments are leaner.

Rise of the Freelancers

In the pre-digital era, there were fewer freelancers around. A steady mainstream media job provided regular income, medical benefits and access to a pension fund. Journalists,

not famous for their entrepreneurial abilities, preferred a regular salary to the constant hustle and absence of a financial safety net that has always been the lot of the freelancer.

But when many of the mainstream institutions (in SA and elsewhere) began to lay off their staff in great numbers, the recently-unemployed had to reinvent themselves to stay in the game.

And they did, learning new skills, acquiring the ability to run a small editorial shop, becoming specialists in one field or another, claiming niches for themselves. The freelancers took their severance packages, carved out some office space in their homes, upgraded their equipment, ensured some decent WiFi and put themselves back on the market.

In time, they became specialists, proving to be of great value to media owners, NGOs, government departments, corporates and, most of all, to readers.

Bhekisisa Centre for Health Journalism

Instead of having to fill the newsroom with full-time reporters, media houses have begun to contract to specialists who have won their trust, delivered work on deadline and do not expect medical or pension benefits.

Take, for example, the case of Rhodes University Journalism lecturer, Mia Malan, and her media start-up, *The Bhekisisa Centre for Health Journalism*. Bhekisisa is isiZulu for 'scrutinise'.

One of their stated objectives is 'to create a new generation of health journalists in South Africa'.

The platform first began operating as the *Mail & Guardian* health desk before becoming independent in 2019. It is primarily funded by the Bill & Melinda Gates Foundation, with additional support from the Open Society Foundation, the Regional Sexual and Reproductive Health Rights Fund and Global Health Strategies.

Bhekisisa's content flows out to News24, the *Daily Maverick*, *Financial Mail* and *Mail & Guardian*, reaching a top-notch audience of policy makers, academics, activists and political leaders.

Mia Malan - Editor-in-chief



Operating with a comparatively large group of 12 journalists (including Rhodes University JMS graduates Yolanda Mdzeke, Dylan Bush and Lillian Roberts), Malan's organisation has won nearly 40 journalism awards for work done as part of the *M&G* and afterwards.

Yolande Mdzeke - JMS Graduate



Dylan Bush - JMS Graduate



Lillian Roberts - JMS Graduate



AmaBhungane Centre for Investigative Journalism

Founded by celebrated investigative journalist Sam Sole, the AmaBhungane team has made an international name for the centre by focussing primarily on exposing political corruption in southern Africa.

Named rather quirkily after the isiZulu word for dung beetle, the agency says they are 'digging dung, fertilising democracy'.

"Our advocacy has secured information flows for journalists and the public at large," states AmaBhungane. "We helped found the campaign that stopped the 'Secrecy Bill'; secured legislative amendments that include making company ownership transparent; litigated successfully in preserving the public status of court records and have unduly intrusive state surveillance practices struck down; and improved access-to-information law by exercising it in and out of the courts."

The group was seminal in the 'Gupta Leaks' revelations during the Zuma presidency, during which South Africa first learnt about the term 'State Capture'.

Reader donations and support from various charitable foundations keep the 14-person team afloat - and supplying media partners with solid content.

Food for Mzansi

This platform deals in positive news about the South African agricultural industry. They look for the 'unsung heroes' of agriculture, covering all communities from emerging farmers to their more established counterparts.

"We believe in the power of agriculture to promote nation building and social cohesion by telling stories that are often overlooked by broader society," they say. "Furthermore, we would like to introduce ordinary people to the many career opportunities available within the agriculture space."

South Africa is a farming country with an extensive agri-business component and an agri-landscape that is constantly evolving. Success stories, 'how-to' stories and generally useful content involving issues like climate change are their stock in trade.

GroundUp

Another highly respected non-profit news group that consists of an eminent board and 12 staffers is GroundUp, which also takes its funding from tax-deductible public donations.

Their articles, well researched and always in the public good, won GroundUp the 2021 Nat Nakasa Community Award. Their work is re-published in News24, *Daily Maverick*, *BusinessTech*, *The Citizen*, *The South African* and *Moneyweb*.

About their editorial complement:

"We have a team of staff and freelance reporters. Many of them live in townships or come from informal settlements, and it is life here that they write about. They have a deep understanding of the areas they report on.

"In an era of shrinking newsrooms, few opportunities exist for young reporters to receive training and support. GroundUp has an intensive editing process that produces high-quality articles for publication, but also helps our reporters to improve."

The Outlier

Media data is the name of the modern game, and an online publication called *The Outlier*, originating from The Media Hack Collective, supplies the kind of well-researched fact stock that working reporters value highly. Editorial offerings include data studies on consumer prices over time, rainfall analysis, green audits, population growth, outcomes of clean municipal audits, water issues and political breakdowns.

"Our hope is that the work we do helps people to understand the world around them a little bit better," says *The Outlier*. "We focus primarily on the issues that have the most impact on people's lives: education, health, climate, politics, economics and state services."

A Clear Picture

What emerges from a quick survey of the specialist South African news agencies is generally positive. Most of them were formed by very experienced media makers who now act as mentors to younger staffers. This in itself means that a Rhodes University JMS graduate stands an excellent chance of on-the-job training to add to academic qualifications.

By Chris Marais



The Daily Sun, shining bright in Alexandra Township, Johannesburg.
Photo: Chris Marais

Tracking the Media Trends

School of Journalism and Media Studies

In the 50 years of its existence, the Rhodes University Journalism and Media Studies School has had to navigate three distinct eras of recent South African history.

The Slow News

The South African print media tech landscape was a strange beast back in 1972, the year Rhodes University established a formal Journalism Department on campus.

The open-plan offices of SA's mainstream newspapers were frenetic dens of reporters and photographers swirling around the calmer realm of the sub-editors, day and night, chasing deadlines for their morning or afternoon editions. On the news editor's desk in the middle of all this madness stood the object most feared by the writers: The Spike. This is where unacceptable stories died a dramatic death, as typed paper sheets would be pierced by grumpy veterans.

The click-clack of manual typewriter keys and the metallic smash of their carriage returns overrode all other sound. Articles were bashed out on little grey A5 'takes' that accommodated only three paragraphs at a time. Handsets of rotary telephones were almost permanently fixed to reporters' necks as they interviewed contacts while bashing away at their Underwoods or scribbling cryptic notes.



The *Saturday Star* newsroom of the 1990s.

Photo: TJ Lemon

The nearby telex machines, bringing breaking news from afar via the South African Press Association (Sapa) and Reuters, occasionally sprang to life with urgent sounds of their own. Staffers out in the field would phone their stories in, and tele-typists would try their best to follow the excited garble on the other end of the line. The fantastical fax machine and the television set were yet to arrive on the local tech scene.

Research material was gleaned in the archives, where stern but helpful librarians gave reporters the relevant newspaper cuttings that looked like police dockets.

Upstairs in Photographic, the darkroom would be humming as print film was being processed and contact sheets passed on to the Photo Editor for selection.

Above all, the throb of the printing presses downstairs was the heartbeat of the whole newspaper building. And almost everybody smoked cigarettes in the office.

The Fast News

Five decades on, the modern newsroom is a digital animal run by a comparatively skeletal staff complement that still produces stories - but in a very different way.

Instead of specialist reporters covering their 'beat', much of the content is outsourced to investigative hubs, subject-

specific websites and hungry freelancers operating outside the safety net of health or pension benefits.

Interviews are often conducted via Q&A's on email. Computer keyboards produce a softer, more confidential sound. Story leads come from social media, in the form of a Twitter heads-up, or videos posted by citizens on Facebook or Tik Tok.

A huge TV screen, visible to all, looks down onto the newsroom, which now sports glassed-off meeting rooms on its flanks.

The few field journalists on staff are multi-tasking more than ever before, recording interviews (to be transcribed by AI software later), shooting back-up stills and videos on their smartphones, often working from home, researching on platforms like Google, posting blogs, vlogs and updates on their social media channels, moving content in faster, more diverse, segments than their predecessors of 1972 ever could.

The photographic department has shrivelled down to a couple of snappers who work with digital cameras and smartphones. Post-production software packages like Photoshop, Lightroom and ACDSee have dispensed with the need for a physical darkroom.

And nobody dares smoke in the building.

The Apartheid Era

For the first 22 years of its existence, the Rhodes School of Journalism and Media Studies (JMS) produced graduates who, if they were planning to enter the local mainstream media pool, had to play by the rules of the Nationalist government and the owners of the newspaper group that employed them.

The Afrikaans mainstreamers were owned by the Afrikaans business community and their more liberal English-language counterparts by mining interests.

The relationship between the government and the liberal press was often fractious. The press laws were plentiful, and newspapers like the *Rand Daily Mail* kept media lawyers very busy, trying to manoeuvre their content around the host of regulations that restricted their message at every turn. This led to tension between editorial staff (who wanted to get the story out) and management, who were trying to keep the enterprise afloat.

The national broadcaster, the SABC, was seen as little more than the mouthpiece of the government.

The Post-Apartheid Honeymoon

What followed after the 1994 elections and the ascendancy of the ANC was what pundits have termed the 'Mandela State'. At no stage before or after this six-year period was South Africa more internationally popular, and local buzzwords included terms like 'Rainbow Nation' and 'nation-building'.

There was no better time to be a Rhodes University JMS graduate. Employment options in the SA magazine and newspaper industries abounded, as newsrooms began to transform and become more diverse. The media, unshackled from a raft of apartheid-era laws, reflected a fresh national spirit of optimism and nation-building.

In an article entitled *Towards an Analysis of the South African Media and Transformation, 1994-1999*, Professor Guy Berger offers a nuanced appraisal in the form of three different perspectives:

"In the first, media performance post-apartheid would be assessed by the extent to which it became part of a new dispensation. Of course, the moot point here is whether the media helped produce, reproduce and deepen democratic institutions and thorough-going socio-economic transformation, or whether it inevitably ended up servicing a new ruling class alliance.

"...the underlying notion is that the media does not, and cannot, stand outside of the social relations within which it operates.

"Discussing the point within the second perspective, the assessment of media's role post-apartheid means interrogating whether the media after 1994 stayed true to liberal pluralist values - or whether it withered and bowed

under illiberal pressures of a new government and newly empowered society.

"The resulting assessment of media between 1994 and 1999, then, is of the extent to which the media holds the line against the predatory designs of the new power holders, versus transformative tendencies to align with them.

"The third perspective that can be identified in the discourse is the interpretation that the media, once happy to be part of a system of privilege under apartheid, discovered a profound and vigorous interest in the importance of being critical once that privilege was scrapped."

After the Honeymoon

In the past 22 years, massive change has swept over the South African media scene. 'Peak Print' is long-gone, to be replaced by the digital era, with its blessings and its curses.

Advertising spend on print has virtually disappeared and gone off to platforms that include Facebook, Amazon, Netflix and Google (FANG), editorial staff have been laid off in their hundreds and many publications have closed. This is not unique to South Africa, however.

"Advertisers have deserted newspapers for the Internet, where readers get their news, and a lot of misinformation, for free," says American author and media commentator Michael Shapiro.

"The newsroom is being depopulated by buyouts and layoffs. But a new model is emerging. It isn't the vast factory floor of the past, but it is still built for speed. A good reporter needs only a smartphone, a laptop and a digital recorder (a trust fund can also come in handy) to set up shop and start breaking news, a nanosecond or two ahead of the competition."

Connected to the world: young journalists, banks of PCs and access to the internet. Photo: Rhodes JMS



By Chris Marais



Mainstream Media vs Government in Apartheid era South Africa

School of Journalism and
Media Studies

TJ Lemon (left) Photojournalism Lecturer in the JMS 1988-90, and the late Steve Hilton-Barber, a graduate of the JMS in 1986.

Trying to speak truth to power in a time of repression.

As Grand Apartheid began to face mounting civil opposition between 1972 and 1994, the relationship between South Africa's mainstream media houses and the Nationalist government turned schizoid. Media owners were fearful of government-decreed closure, while many of their editorial employees came under immense official pressure in the field and in the newsroom.

In a 1997 report submitted to the Truth and Reconciliation Commission, the Freedom of Expression Institute (FXI) stated that agreements between the Newspaper Press Union (NPU) and police and military establishments led to collusion between media management and the apartheid-era government.

FXI executive member Clive Emdon said the NPU was "appeasing the government all the way down."

He levelled harsh criticism at the public broadcaster, in particular.

"There is no doubt that by manipulating the news, blandly denying allegations, suppressing here, adding there, disinforming and, one should say, lying and cheating, the SABC on both radio and TV managed to brainwash a substantial section of the white South African public into

believing the government's version of affairs and even supporting its policies," he told the *Mail & Guardian* newspaper.

However, in a separate TXI report to the TRC, researcher Karin Martin chronicled some of the conflicts between the authorities and journalists who dared take them on. Here are some extracts from her extensive document:

1972

John Jordi, editor of *The Star*, becomes the first newspaperman to be charged under the Defence Act of 1957 after *The Star* had reported that the Minister of Defence was in Lisbon, and repeated speculation on the purchase of naval frigates.

1973

Patrick Laurence of the *Rand Daily Mail* is sentenced under the Suppression of Communism Act to 18 months suspended for three years for sending an interview with banned PAC leader Robert Sobukwe to *The Observer* in London.

1974

John O'Malley, editor of *The Daily News* and Michael Green, assistant editor, are arrested and charged with contravening the Riotous Assemblies Act for publishing a report with the time and place of a pro-Frelimo rally.

Crusading journalists Marike Sboros and Patrick Laurence with Peter Magubane (back left). Photo: TJ Lemon

1975

Parents of the first South African soldier to die in the war are not allowed to announce the reasons for his death. Their funeral notice said that Chris Robins had died in a fatal accident.

Raymond Louw, editor of the *Rand Daily Mail*, places the classified advertisement on Page One, immediately below the SADF denial that South African soldiers are at war in Angola.

16 June 1976: Soweto uprisings

A group of black photographers including Peter Magubane of the *Rand Daily Mail* and Alf Khumalo of the *Sunday Times* run for their lives over fences and through backyards before an advancing column of angry school children.

September 1977

After Donald Woods, the *Daily Dispatch* editor, sees the body of Steve Biko in the mortuary and reports that he had a beaten up face, pressure on the government does not relent.

During this time, the *Rand Daily Mail*, the *Daily Dispatch*, and *The World*, continually make demands for Police, Prisons and Justice Minister Jimmy Kruger's resignation, a full judicial enquiry into the death of Steve Biko, and the abolition of detention without trial.





Abdul Shariff was killed on 9th January 1994, while covering an ANC delegation visit to Kattlehong.

1978

South Africa intensifies its bloody repression of the Namibian people throughout the 1970s and '80s, imperfectly concealing these actions from South Africa's privileged electorate by heavy-handed military censorship.

1979

The morning group newspapers publish the whole story of the Information Scandal, having traced Dr Eschel Rhoodie, Secretary for Information, and interviewed him in Ecuador.

Allister Sparks, editor of the *Rand Daily Mail* is convicted and fined for anticipating the findings of the commission of enquiry into the Information Scandal.

August 1980

Zubeida Jaffer, a journalist for the *Cape Times*, is arrested under the General Law Amendment Act, transferred to Port Elizabeth and detained under the Internal Security Act. She had written a report about riots near Cape Town where 30 people were killed and police were allegedly using firearms indiscriminately to quell the unrest.

Rhodes University Journalism student Guy Berger is arrested and later convicted of possessing banned literature.

December 1981

Michael Hornsby, correspondent for the *London Times*, and Julie Frederikse of the *American National Public Radio*, are arrested in the Ciskei for "going round the country asking people's opinions".

Early 1982

Afrapix, a collective agency of amateur and professional photographers who opposed apartheid in South Africa, is established.

For ten years until its closure in 1991, Afrapix work was used locally and internationally. Afrapix projects were generally termed 'struggle photography', and included work produced by some of SA's top news photographers.

November 1982

Rex Gibson, editor for the *Rand Daily Mail*; Tertius Myburgh, editor of the *Sunday Times*; Clive Kingsley, managing director of *South African Associated Newspaper*; and Eugene Hugo, investigations editor of the *Rand Daily Mail*, are all charged under the Protection of Information Act.

1983

Guy Berger is released after serving his prison sentence.

Bafana Mkefa and Sabelo Ngani, journalists for *Imvo Zabantsaudu* (Black Opinion), a Xhosa and Zulu newspaper in King William's Town, are detained by Ciskei Security police in connection with an article about official 'independence' anniversary celebrations held in Ciskei at the beginning of December.

1984

The South African ambassador to London, Dr Dennis Worrall, and banned exile Donald Woods, share a platform. Woods is unquotable in South Africa, but the *Cape Times* decides to publish some of his statements, given that Worrall had made a remark about the free press in South Africa.

"In a rather prudent and tactical move, we edited out some of Woods's remarks which could have run us foul of the Defence Act; we preferred to break one Act at a time," said editor, Tony Heard. A police prosecution was started, but never got to court.

April 1985

The *Rand Daily Mail* closes.

Stuttafords
Special offers for
Mother's Day during our
FRAGRANCE FAIR
30 April to 11 May.
Sandton City Cosmetics 783-5212

Rand DAILY MAIL

JOHANNESBURG, TUESDAY, APRIL 30, 1985

PRICE 27c + 3c tax
PRINTED IN SOUTH AFRICA

MORNING FINAL
WITH
Business Day

DAILY MAIL

Go in peace

THIS is the final issue of the Rand Daily Mail. Our coverage in brief and simple Go in peace.

Printed in South Africa, covered for more than a quarter of a century in peace and prosperity for all the people of this country, the Rand Daily Mail has been a constant presence in the lives of all South Africans. It has been a source of information, a source of comfort, a source of hope.

The paper's history is a story of struggle and triumph. It has been a witness to the best and the worst of South African society. It has been a voice for the oppressed, a voice for the voiceless.

The paper's closure is a sad day for all who have loved it. But it is also a day of hope. It is a day when we can look back on a long and fruitful journey.

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Machel to whites: You're Africans

By **BERNARD PHILLIPS**

JOHANNESBURG President Bhebe Machel has issued a passionate plea to white South Africans — and especially Afrikaners — to think of themselves as Africans.

He said this during an exclusive interview with the Rand Daily Mail in Maputo. "You are Africans," he said. "You are South Africans. Try to overcome past resentments and grudges."

President Machel said he was not a member of any political party, but he was a member of the African National Congress (ANC). He said he was a member of the ANC because he was a member of the African people.

But at the start of the hour-long meeting in the garden of his office he explained that he had decided to give this interview.

to a tribute to the Rand Daily Mail which he described as a newspaper with "a history of struggle in our region, a struggle for democracy, for equality and a newspaper that is at the very heart of the anti-apartheid struggle."

He added: "The problem is that the Rand Daily Mail is being closed at a crucial time of the struggle against apartheid. At a time when even the South Africans of all races are becoming conscious that apartheid must end."

President Machel spoke against apartheid and about his government's ability to eliminate the "systemic" apartheid of the South African Nationalist Government.

He referred to SA as "a society of terror, regardless of your colour or race. There is a climate of fear due to apartheid, because of racial discrimination... I think even the South African leaders themselves do not feel themselves free, they themselves are not free."

President Machel said he only regretted that the Rand Daily Mail was being closed at a crucial time of the struggle against apartheid. He said he was a member of the ANC because he was a member of the African people.

He added: "The problem is that the Rand Daily Mail is being closed at a crucial time of the struggle against apartheid. At a time when even the South Africans of all races are becoming conscious that apartheid must end."

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He referred to SA as "a society of terror, regardless of your colour or race. There is a climate of fear due to apartheid, because of racial discrimination... I think even the South African leaders themselves do not feel themselves free, they themselves are not free."

"So why will you?" "I was one of the men who made the statement. It was a statement of the South African Government who said it publicly."

Other points made by President Machel included:

• He did not believe the question was whether apartheid South Africa and President Machel could live side by side in peace, because the entire world was against apartheid, and so did his country.

• But a peaceful South Africa could and should co-exist, and have relations of good neighbourliness.

• With Mozambique approaching the 10th anniversary of independence from Portugal, Machel said he was proud to be a member of the African people.

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President Bhebe Machel in his interview with the Rand Daily Mail in the tropical gardens in Maputo.

The final deadline

World focus on Mail's closure

By **HAURITZ MOOLMAN**, **DAVID CAPEL**, **SEAN GAMES**

INTERNATIONAL media networks focused on the Rand Daily Mail yesterday as one of the best in the world — prepared its last editions after 53 years as South Africa's leading morning daily.

Numerous news teams, including the BBC and Independent Television News, converged on the Mail to witness its closure.

At the paper's annual end-of-year reception in Johannesburg, the Mail's closure was the main topic of conversation.

The International Federation of Journalists, representing 100,000 journalists in 28 countries, and the International Press Bureau in London, representing 1,000 journalists in Africa, Asia, Europe and South America, recorded their sorrow for the paper's passing.

Commenting on the Mail's closure, the IJF said it was a "great loss" to the world of journalism.

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British TV news cameraman filmed Rand Daily Mail staff at work last night before the newspaper's last edition. At the News Desk, News Editor Sean O'Connor, left, and Irene Gogel.

Unions plan action against giant Anglo

By **PHILIP VAN NIEKHE**

IT is an unprecedented display of international solidarity with South African workers, three of the leading unions in the world have announced plans to support the Anglo American strike.

The unions are the British Trade Union Congress (TUC), the International Union of Marine Workers (IUMW), and the International Union of Shipworkers (IUSW).

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International anger over mine firings

WIDESPREAD international anger and concern over the Anglo American strike, which has resulted in the firing of 10,000 workers, has been expressed by the ILO.

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Saspa paper banned
A MAJOR student publication, Saspa, has been banned for all future editions for the time being. The previous two editions were not published on campus.

Soccer treat on TV4
TV4 shows international soccer that is not shown on other South African television channels.

Iron Man Ed barred from comrades
By **BRYAN ROSS**
IRON MAN Ed Ross has been barred from the comradeship of the Iron Man.

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Irate maize farmers refuse to deliver
By **JOHN MILLER**
SOUTH AFRICA's maize farmers have refused to deliver their maize to the government.

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Vaal calls back Robbie
By **JOHN MILLER**
Vaal has called back Robbie.

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Top SA pop group Juluka is to break up
By **JOHN MILLER**
The top South African pop group Juluka is to break up.

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EUROPE'S LATEST FASHIONS

Pierre Cardin
enough said



Police action during a Section 205 protest. Photo: TJ Lemon

July 1986

Zandisile Mamona, freelance TV reporter and two reporters from the *Eastern Herald Tribune*, are detained. Also detained was Bridget Hilton-Barber of *Grocott's Mail* and Eric Mbulelo, black freelance journalist.

January 1987

The Commissioner of Police issues an order prohibiting advertisements or reports "calculated to improve the esteem of an unlawful organisation, or explain or defend the actions of such an organisation".

This is in response to advertisements which appear in *The Argus* and *Pretoria News* on that same day, calling for the unbanning of the ANC.

December 1988

The *Weekly Mail* publishes a double-page spread on Nelson Mandela who has been moved from hospital to a warder's house in the grounds of Victor Verster prison, arguing that he is no longer a prisoner and thus publication of his picture is no longer illegal.

July 1989

Tertius Myburgh, editor of *The Sunday Times* and Mandla Tyala, reporter for *The Sunday Times*, are charged under the Internal Security Act for quoting Harry Gwala.

January 1990

Max du Preez, editor of *Vrye Weekblad*, and Jacques Pauw, reporter, appear in court in Johannesburg to hand over evidence of alleged police force hit squads. They have been subpoenaed under Section 205.

March 1991

Patrick Laurence, journalist for *The Star* and correspondent for the *London Guardian*, is sentenced to 10 days in jail for refusing to reveal sources for an article about Winnie Mandela.

May 1992

Khabu Mkhize, deputy editor of *The Natal Witness*, is assaulted by soldiers of 32 Battalion in Imbali while trying to copy down their numbers. Meanwhile, freelance photographer Themba Mgobi is chased by 13 soldiers, one of whom hits him over the head while another empties his camera.

February 1993

Four photographers, Joao Silva from *The Star*, Herbert Mabuza from the *Sunday Times*, Nick van der Linde from *The Citizen*, and Steve Hilton-Barber from the *Saturday Star*, are attacked by a mob during a violent taxi protest against traffic authorities in Johannesburg.

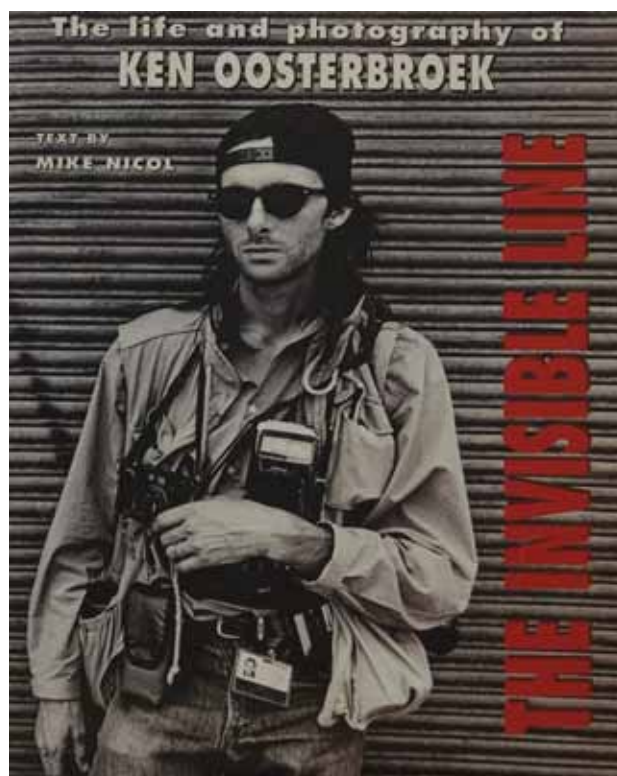
9 January 1994

Freelance photographer Abdul Shariff is shot and killed while covering an ANC delegation visit to Kattlehong outside Johannesburg. The gunshots were allegedly intended for delegation members Cyril Ramaphosa and Joe Slovo.

18 April 1994

Ken Oosterbroek, photographer for *The Star*, is killed when he and several other journalists were caught in the crossfire while covering a battle between the National Peacekeeping Force and pro-Inkatha hostel dwellers in Thokoza township. Juda Ngwenya, Reuters correspondent, and Greg Marinovich, a free-lance photographer on assignment for *Newsweek*, are also caught in the crossfire.

The late Ken Oosterbroek, as photographed by the late Steve Hilton-Barber, appearing on the cover of *The Life and Photography of Ken Oosterbroek* by Mike Nicol.





The Art of Ethical Lawyering

Associate Professor Helen Kruuse.
Photo: Dirk Pieters

Associate Professor Helen Kruuse is the 2022 Rhodes University Faculty of Law Researcher of the Year. Her landmark PhD thesis and ongoing research could have a resounding effect on legal behaviour in South Africa's courtrooms.

When Helen Kruuse arrived at Rhodes University in 1996 to study for a BA degree, her subjects were designed around her end goal: to join Foreign Affairs and travel the world. Her choice of studies included Politics, French, and her beloved English literature.

However, an uncle convinced her to take law as a 'back up'. Almost 30 years later, Helen Kruuse is one of South Africa's most respected legal academics, specialising in legal ethics and family law.

She has won the Rhodes University Faculty of Law Researcher of the Year award 2022, with a citation that reads thus:

"During the challenging two years of the Covid-19 pandemic, academic staff had to adjust to the changed circumstances, online teaching challenges, and limited time for research.

"Despite all of this, the recipient of this year's award still managed to excel on the research front through her research outputs and conference participation. She has written a number of articles and book chapters, with a specific focus on Legal Ethics and Professional Responsibility, lawyers and access to justice.

"Professor Kruuse has also presented a number of conference papers, often by invitation, ranging from issues of ethics, legal education, and customary marriage disputes. She is also the Review Editor for the *South African Law Journal*."

Gloomy London

Helen completed her Articles with the East London law firm of Bate, Chubb and Dixon in 2002. At the same time, she taught part-time at the then East London Rhodes campus. After being admitted as an attorney, Helen went north to the United Kingdom and a job with the London Borough of Brent, home of the famous Wembley football stadium. There she was responsible for the design and implementation of new legislation governing the conduct of local government councillors.

"The Standards Board had been set up to regulate the conduct of councillors," says Helen. "And we had some very naughty politicians in breach. My interest in legal ethics grew from that experience, at first trying to figure out how to govern the conduct of politicians, and then concentrating on how to govern the conduct of legal practitioners.

Jay, her now husband who had joined her in England after a year, convinced her to return to South Africa at the end of 2004. "By that time, my husband Jay, missed the outdoors South African life. On Saturday mornings, he would watch

three fishing channels on TV, in the gloom of London. So we came home."

Back in SA

Helen landed a job as a contract lecturer at the Rhodes University Faculty of Law and Jay went to work for the Public Service Accountability Monitor (PSAM), a Grahamstown (now Makhandha)-based NGO.

She completed her PGDHE and went on to study for a Masters degree, looking at a comparison of access to housing (in terms of Section 26 of the SA Constitution) in the former Cape Provincial Administration, the former Ciskei and the former Transkei. And then more change came her way.

"In 2010, we left Grahamstown and went south to Cape Town. Jay had a job with the Open Democracy Advice Centre (ODAC) and I got a contract position with the University of Cape Town and then a permanent job with University of the Western Cape. By now, we had a young son called Oliver."

The family spent a scant ten months in Cape Town before returning to Grahamstown. In that time, however, Helen made invaluable connections with colleagues who became her mentors, co-authors and life-long friends. At UCT, Chuma Himonga (the Chair of Customary Law) and Lesley Greenbaum took her under their wing, and then at UWC: Julia Sloth-Nielsen and Lea Mwambene. Julia was then the Dean and the chair of Children's Rights in the Developing World at the University of Leiden in the Netherlands.

"Julia was unrelenting in driving her staff to produce quality research. Even when I returned to Grahamstown and was on maternity leave, she made me a research assistant," says Helen. "So there was I, at three in the morning, sitting behind a laptop and researching, while breast-feeding a new baby boy called Adam."

Family Business

In 2013, Helen was back at Rhodes University and broadening her interest in family law. However, she had been inspired by a summer school in Hungary to pursue a passion for ethical issues in the legal profession. "I recall a fabulous Professor from Columbia - Philip Genty - pose some fundamental questions on the role of the lawyer in society."

However, her teaching and research on life partnerships has continued: "I was also now working on the laws of propriety consequences, the technicalities of the dissolution of partnerships, be they in Muslim, Christian or customary marriages. I'm currently the Chair of the Advisory Committee to the Law Reform Commission on the review of matrimonial property law.

"It's all about ensuring fairness for vulnerable parties."

She suggests that her research is somewhat eclectic, being the product of a small Faculty where, she reasons, one has to be "a jack of all trades". She has written on such varied topics as post-mortem gamete retrieval, fetal rights, and Ubuntu.

However, her work on customary marriages with Lea Mwambene of UWC has been important in the area given their empirical research in the former Transkei, former Ciskei and Khayelitsha.

One of their seminal articles is titled *The Thin Edge of the Wedge: Ukuthwala, Alienation and Consent*.

Ukuthwala is described as "a mock abduction of a girl for the purpose of a customary marriage", and in this paper a specific case was used, in terms of the abstract, to "highlight the disjuncture between communities' lived realities and the constitutional imperatives of the right to practice one's culture, as well as the rights to equality and dignity, specifically for women and the girl child in the context of *ukuthwala*."

"Based on field research conducted in September 2015 and April 2016 in Engcobo (where the *ukuthwala* was alleged to take place in the Jezile case), this article sets out the community's views in the aftermath of the case."

Helen adds:

"We were struck at how few women actually knew about the law's protection. They had not formally registered their marriages and many women were left destitute in instances where their marriage was not recognised or after their husband's death, the family took everything from them."

Helen is fascinated by the intersection of western law with African values and traditions. "In my Jurisprudence class, the students and I discuss Roman Dutch law, oral African traditions, the philosophies of both cultures and what's best for South Africa. I tell them, this Roman Dutch system has evolved over thousands of years, and the problems that the guys wearing togas in the Forum faced are not dissimilar to the ones we have now."

"We should take what's good, leave what's bad, but don't throw the baby out with the bathwater. We just do the best we can."

A Landmark Thesis

In 2021, Helen Kruuse successfully completed her PhD, titled *Legal ethics and the lawyer-client relationship in South Africa: A proposal for reform using local values*.

Her award citation describes this body of work as "long awaited".

One of the externals suggested in his examination report:

"There is no doubt that this thesis represents a significant contribution to knowledge in this discipline. It represents a more inclusive, community-based, and historically and culturally rooted conception of legal ethics than any of the major alternative theories currently on offer. I hope to see it published in book form, and would expect that it will attract many readers and be frequently cited."

In her own words, Helen describes the thesis as:

"It develops an approach to ethical decision-making for legal practitioners in South Africa that, it is argued, meets the ends and values of its relatively new constitutional democracy.

"The thesis starts by identifying that neutral partisanship was, and continues to be, the prevailing conception of role for legal practitioners in South Africa.

"The study focuses on how this approach is problematic for a number of reasons, the most important of which are: (1) because neutral partisanship allows lawyers to become ethically disengaged, and (2) the approach does not fit with the values of South Africa's Constitution.

"The study proceeds to consider alternatives to the neutral partisanship model, analysing their underlying premises and 'fit' with the South African context."

Ethics and Lawyering

"Legal ethics," says Helen Kruuse, "could, and frequently is, described as the code of conduct governing lawyers. The code sets out that practitioners have to balance their duty to the court, their duty to their client and their duty to justice. As professionals, they have a monopoly over legal services, because no one else is allowed to practise law. They are obliged to have a formative ethical base in their training.

"However, I am deeply interested in the concept of role morality: what would you do as a lawyer that you would not do as an ordinary person? What would you pursue in court that you would not pursue as an ordinary human being? It deals with, on the one hand, your effective representation of your client and, on the other, the fact that you cannot lie in court. That, to me, is the real question of our time."

She then refers to *The Enablers: The Bankers, Accountants and Lawyers that Cashed In on State Capture*, a report published by Open Secrets in February, 2020. This in-depth document compiled by Open Secrets and Shadow World Investigations was submitted to the Zondo Commission of Inquiry into Allegations of State Capture, Corruption and Fraud in the Public Sector, including Organs of State.

To quote:

"While many brave lawyers battled the apartheid regime, countless others made a mint by codifying and enabling oppression. This included many lawyers around the world who assisted the regime's state-owned arms company Armscor as it purchased weapons in violation of the arms embargo.

"Lawyers have played a similarly important role in the most recent phase of state capture, though their conduct remains one of the less-told stories of the enablers of these economic crimes."

Helen adds:

"Lawyers have enabled what we're seeing in our country right now, in terms of corruption. They are also taking advantage of weak institutions like the Road Accident Fund, the medical negligence in the Eastern Cape, the social grant system and the immigration process.

"I believe if law students and practitioners understand their role in a constitutional democracy better, we won't have the problems that we are seeing now - for example, enabling corruption will be more difficult. So it's about role morality, trying to understand what one does in a legal system that is not broken, but weak."

Helen Kruuse has been instrumental in pushing for a compulsory ethics course in the LLB degree across all law schools and faculties. She chaired a task team in 2016 for the South African Law Dean's Association to this end. The task team produced a report titled "A model for a legal ethics curriculum in the South African LLB" (2016).

She is also a Director of the International Association of Legal Ethics where she gets her inspiration. She says her colleagues there have done amazing work in theories of lawyering particularly in the US, but none that can deal with the unique context of Southern African countries.

"There is a certain irony though - that Trump era has seen lawyers doing things in the US that are highly questionable - and so you have Michael Cohen imprisoned, Rudy Giuliani suspended from practising law in New York, and John Eastman subject to disciplinary processes in his jurisdiction - as just a few examples.

"In my thesis, I wanted to look at whether we could use African values to change the kind of way in which we lawyer in South Africa. The current adversarial system encourages what we call neutral partisanship, which is a form of lawyering where you are both neutral and partisan to the interests of your client above all.

“My hypothesis was that, given our Constitution and African values, this approach to lawyering is not suitable in our context. Given our history and our present legal system, we need to temper that role in lawyering to take into account the other duties that lawyers have towards society, towards the courts and towards justice.”

The Good Lawyers

Helen Kruuse, quoting a US commentator, says wryly that one cannot judge the whole legal profession “by a few hundred thousand rotten apples”.

“There are some incredible lawyers in South Africa,” she says. “Some of my past students are now arguing in the highest courts of the land. Others have their own practices and are doing exceptional things, like working exclusively on issues of climate change.”

“And during the apartheid era, there was some very creative lawyering done to challenge the system. Then, as now, lawyers hold a very interesting space in South Africa.”

By Chris Marais



The Economics of Everything

Associate Professor Juniors Marire, Senior Lecturer, Rhodes University Department of Economics. Photo: Chris Marais

Associate Professor Juniors Marire of the Rhodes University Department of Economics teaches, researches and writes about institutions and long run development of sub-Saharan economies.

Some would think that working at the Zimbabwe National Treasury is a thankless job, given the current state of that country's beleaguered fiscal situation.

For one young man, however, 18 months at the Zimbabwe Department of Tax Revenue sparked his interest in the academic world of public finances, how governments tax their citizens and how those taxes are spent.

"It was actually a valuable period in my life," says the good-natured Juniors Marire, a Zimbabwean from Masvingo (formerly Fort Victoria), about 200km south of the capital, Harare.

"I often use lessons learnt from that time in my teaching. As an economist, one sometimes needs the experience of trying to apply economic theories in the midst of a dysfunctional economy."

A Budding Economist

After a split in the family, Juniours grew up with an uncle who saw the potential in the young man and encouraged him to sign on at the Midlands State University for an undergraduate degree in Economics.

"I then went on to the National Department of Tax Revenue and Administration in Harare," he says. "I worked there for about 18 months as an economist, focussing mainly on tax policy and revenue forecasting."

His next career opportunity came in the form of a scholarship awarded by the African Economic Research Consortium (AERC), based in Nairobi, Kenya, to pursue a Master of Arts Degree in Economics.

"The AERC's concern was that sub-African countries lack good economic advice when they make their policies," says Marire. "It was an initiative to produce a crop of economists at Masters and PhD level who would then deal with the region's policy-making and advisory infrastructure."

AERC was established in the late 1980s by a small group of African scholars and interested donors who saw there was a conceptual chasm between sound economic policy-making and good economic research in the region. Because the social and fiscal structures of sub-Saharan countries were different from most of the rest of the world, local research was essential.

"Today the Consortium reaches across sub-Saharan Africa, with research and training alumni serving in central banks, ministries of finance, economic departments of universities and policy research institutes," states the organisation.

"AERC has three primary components: research, training and policy outreach. The organization integrates economic policy research, Postgraduate training and policy outreach within a network of researchers, universities and policy makers in Africa and worldwide."

Juniours Marire adds:

"Most of the top universities in countries like Botswana, Zimbabwe, Malawi, Kenya, Mauritius and Namibia were involved with AERC. I went up to Malawi to complete my Masters, which consisted of a structured coursework programme. This included development economics, quantitative economics, public finance, and agricultural economics."

Lessons from Home

His Masters thesis was entitled *A General Equilibrium Analysis of the Transmission of Food*, examining food price shocks to Zimbabwean households:

"Studies examining the impact of food price shocks on households, especially in Africa, during the recent global food crisis look at the magnitude and incidence of the impact on either poverty prevalence or cost of living without attempting to decompose impact multipliers into transmission paths for the shocks. This study fills this gap, clearly identifying the paths, magnitude, and incidence of food price shocks to households.

"The study found that food price shocks were generally regressive and that cost of living increased by more in rural than in urban areas and for lower income than for higher income households following a shock.

"Of all household groups, smallholder households had the largest cost of living elasticities and that particularly with respect to their own-production cost shocks. Food processors had the greatest transmission effects on cost of living-inducing between 24 percent and 30 percent increase- especially in light of the increasing degree of urbanity in Zimbabwe.

"The study recommended policies that foster macro-economic stability and strengthen smallholder production through input subsidies and agricultural technology transfer."

A PhD at Rhodes University

After completing the Masters in Economics, Juniours worked for the National Association of Non-Governmental Organisations in Zimbabwe as an economic researcher, focusing on subjects like fiscal policy advocacy, issues about budgeting in relation to certain sectors of society and service delivery.

"I was also there for about 18 months when I was approached to join another NGO, the Jesuit Centre for Socio-Economic Justice in Harare," he says. He headed the Socio-Economic Research Division of the Centre.

"And then I learned about PhD scholarship opportunities at Rhodes University in my field," he says. "I applied and was successful."

In January, 2013, Juniours Marire arrived at Rhodes University to do his PhD. His project involved the economics of environmental governance, focussing in particular on alien and invasive species. To wit, trout fishing in South Africa.

The Trout Economy

"I looked at the economic impact of the trout fishing industry and its contribution to local economic development," he says. "I visited many of the well-known trout fishing areas, like Dullstroom in Mpumalanga. It was a good experience, but I was a bad fisherman."

In his abstract to his PhD paper, entitled *The Political Economy of South African Trout Fisheries*, Juniours Marire states:

"I analyze the evolution of trout recreational fisheries with the objective of identifying possible factors that might be driving current controversies in biodiversity policy reforms on the governance of alien and invasive species.

"Findings suggest that trout species have attained a cultural status, which makes it difficult to have them eradicated without facing stiff resistance from the trout-dependent sector.

"Results suggested that a process of leisure augmentation through environmental greed underpinned the introduction and continuance of spreading trout. With this process came also the development of a complex set of institutions that protected trout since they served an honorific role."

Marire sees environmental economics as an important field of the future.

"You have, for instance, a sensitive area where someone wants to convert it so they can establish some kind of business. There might be an opposing group that is prepared to pay to keep it in a pristine condition. Environmental economics allows you to work out the monetary value of both sides, and then perhaps thought can be given as to alternative ways of using that resource without destroying it. You're putting a money value on biodiversity."

Rhino Horn

Juniours Marire's research and application of various economic models stretches across a number of other fields like, for instance, the debate around the legalisation of domestic trade in rhino horn.

"This risks escalating the rhino-poaching crisis further," he says. "It is argued that institutional contradictions have been engendered by the South African High Court ruling in *Kruger and another v Minister of Water and Environmental Affairs and others*, whose assumptions are shown to be highly restrictive and seemingly poorly informed about the true nature of demand for rhino horn and the dynamics of poaching.

"The shortcoming in the legal decision-making pertains to not taking account of the absence of any evidence for the existence of domestic demand for rhino horns in South Africa."

Property Rights

After his PhD was completed, Juniours Marire was offered a job at the Rhodes University Department of Economics.

In his first few years of teaching at the university, Marire concentrated on environmental economics with regard to natural resources and the topic of property rights.

"I looked at how the major thinkers in the field of economics conceptualise property rights and their various effects on the national economy over time. Property rights shape the foundations of an economy and can promote its development.

"An important part of that is the issue of land value taxation. From the research I have done so far, it's clear that possession of land could be a big item on the national development agenda in years to come. Some economists even believe that land value taxes could provide enough income for a country to run on. Rents and taxes from urbanised land could be significant. Possible taxes on idle land could push the landowners into profitable utilization."

Public Finance

One of the courses he lectures in at Rhodes University is public finance, which links with his former job at Zimbabwe's National Treasury.

"It's all about studying the role of government in the economy, how the government affects the economy through its taxation decisions, spending decisions, borrowing decisions and other regulatory functions," says Juniours.

"I also like to study and teach institutional economics, the rules that govern our interaction in society, the constraints that institutions create and the opportunity spaces they also open up. Do they promote or undermine economic performance over time?

"It's a reasonably flexible programme because you can literally focus on anything and start looking at it from an institutional economics point of view."

He also has an interest in heterodox economics, the analysis and study of economic principles, like Institutional Economics, Evolutionary Political Economy and Evolutionary Economics, that fall outside mainstream schools of thought.

In the area of public finance, Juniours has researched on the relationship between fiscal deficits and household savings, fiscal deficits and unemployment, the structure of R&D spending and national productivity, as well as the link between house prices, repo rate and household debt.

Supervising postgraduates

Since 2016, Juniours has supervised 10 Masters theses and one PhD thesis. The theses covered topics such as bank competition, stability and efficiency, municipal debt and human development, foreign direct inflows and economic growth, foreign aid and manufacturing exports in sub-Saharan Africa, taxation and economic growth, stock market development and growth, and exploitative labour market institutions.

Going Home

Whenever possible, Juniours Marire visits his family up in Masvingo. Over the years, he has noted with alarm how the Zimbabwean economy has slumped.

“During the Covid-19 lockdown period in 2021, I was home in Zimbabwe,” he says. “We had long periods without electricity. As opposed to scheduled loadshedding in South Africa, power cuts in Zimbabwe happen without prior warning, and might go on for a week.

“I would say the economy has deteriorated almost back to the levels of 2008,” he says. “Inflation is now running to something like 200 percent. The ruling party is using the Central Bank to fund their political project, so whenever they want to do something, the Central Bank simply prints more money. That just causes the inflation rate to rise further, and a vibrant free parallel market system of currency speculation, a foreign exchange market outside the formal banking system.

“There is also governmental corruption in Zimbabwe as is the case with South Africa, but the big difference is that here the media is free to voice its concerns and opinions. Media freedom is crucial to the economic development of any society, because it introduces a layer of transparency and, hopefully, accountability.”

By Chris Marais



The Socialisation of Wealth

Dr Xolile Antoni, Senior Lecturer in Financial Literacy and Financial Planning at Rhodes University's Department of Management.
Photo: Chris Marais

Dr Xolile Antoni, Researcher of the Year in the Faculty of Commerce, is one of a small but growing number of academics trying to answer questions around two delicate subjects: Money and Family.

Why do some people save money, while others do not? Why are some people comfortable with debt? Why do some individuals show off the trappings of wealth, even while in deep overdraft? And why do others bargain-hunt, even if they have millions in the bank?

These behavioural issues around wealth are the subject of a recent and growing field of study called Financial Socialisation.

Dr Xolile Antoni, a Certified Financial Planning professional born and raised in Makhanda, had the very good luck of stumbling into the field near the beginning of his academic career. It started as a simple liking for the subject of Accountancy at school. From Sub A to Matric, Xolile attended PJ Olivier Laerskool and Hoerskool.

"I'm not sure why my mother (who was a teacher) enrolled me there in an Afrikaans-medium school, but I received a good education there."

After Matric, he headed off to Nelson Mandela University in Gqeberha, and completed a B.Comm in Financial Planning.

Then came Honours in Business Management.

Families have the Greatest Influence

Antoni's Masters focused on Financial Literacy of Black Africans, which broadly quantifies general knowledge of the financial world. According to a South African study published in 2021, those at the bottom of the list of financial literacy include the uneducated and elderly, and students, with the highest numbers in the Eastern Cape, especially among women and Black Africans.

"Financial literacy levels are generally quite low in South Africa and need to be improved. The first question was whether it would help if we taught financial education in schools and universities."

"There have been many studies that have looked at financial literacy of young adults in the USA, and the effect of financial literacy education. And these studies show whether there was an improvement in financial behaviours and other outcomes.

"What they saw, and what we have also seen, is that family remained the strongest influence and this generally trumps any later education. It also showed that over time, your spouse or partner takes over from your parents, and they become the most influential in terms of personal finances."

Xolile Antoni then completed a Postgraduate Financial Planning Diploma after that, a requirement for the board exam at Financial Planning Institution of Southern Africa.

Learning by Observation

When he registered for a doctorate in Financial Socialisation in 2015, it was still a very new field, one that examines human behaviour around money, and the ways people become financially literate - or not.

As indicated in his Financial Literacy studies, families have the greatest influence on this process, whether explicit or implicit, explains Dr Antoni.

"Even if no one in the family discusses or explains anything, we have found that behaviours like secrecy and transparency are learnt by observation more than by being spoken about. How you think about money and what you do when you have money, how happy or satisfied you are with your own financial situation, that is almost always down to your parents.

"So the parent might sit down and teach the child on some financial topics. Or the parent has a discussion around money, and this is how their people learn. But children also learn just by observing the behaviour of the parent. There is no real communication. It's not explicit, but it is implicit. Somehow they learn those behaviours."

Passing Down Wealth or Poverty

"In many households, they don't even talk about money. It's like a private issue. In my PhD, I found that if there is secrecy around money, it does influence financial knowledge. So if it's a private matter and you don't talk about it in a household, those children tend to know less about finances.

"Or they may see certain behaviours around money, not understand the reason behind it, but they'll copy it. If a mother makes a point of saving R5 a day, for example, the child will be more likely to save as well."

Positive or harmful financial behaviours that are mistakes are passed on, Dr Antoni explains. "So it can become a generational issue, passing down through families, unless there is some kind of intervention."

"The questions we are trying to answer are: If I come from a background of wealth, what is said to me? If I come from a background of poverty, how am I socialised around things? What is said to me? Am I able to escape poverty?"

Embedded Behaviour

"One Certified Financial Planner told us: 'I worked so hard to help this one guy reduce his debt. He finally paid it off, and the next day he went and bought an expensive car and went straight into debt again.'

"The planner said he was just going to give up on this guy. Clearly he loves debt. That's the norm for him. So you can show and tell someone that this is the route to wealth, but they don't take it. So mentally they might agree with advice, but they act viscerally.

"This kind of behaviour is difficult to change. There are certain patterns and belief that don't allow people to move out of poverty. Changing behaviour takes time. First the person needs to identify and see that really this is a negative financial behaviour that needs to change."

"And it's so crucial that we examine it at this stage in South Africa's economic history, when more and more black people are becoming professionals and earning more. A change in behaviour could create generational wealth that will uplift a family for decades. The path of wealth is changing.

"For the first time in many families, there is a possibility of wealth that can be passed onto following generations. But certain behaviours need to be set now. Particularly in Indian and White communities, we've seen how many are wealthy thanks to their parents and the money or assets they inherited.

"But things are often short-circuited in Black communities. One of our researchers found that Black family businesses are unlikely to pass to the third generation. The founder of

the business might pass it onto his children, but they very seldom pass it down.

“So these are the things we are learning about wealth creation, and wealth building. It’s a new conversation, and is so exciting.”

Single-Parent Households and Taboos

Dr Antoni recently published an article on the influence of family structure on financial socialisation and behaviour in single and two-parent households.

“Although there are exceptions, two-parent households are more likely to have more resources than a family headed by a single parent. That makes a difference, there is often more income, and also more time spent with the child if there are two parents instead of one.”

This has an effect on wealth planning. Other effects can be culturally linked.

“One of my students (Dr Jasmine Kinsman) who was doing her PhD, was looking at “A reconceptualised perspective of the six-step financial planning process”. She was arguing that Certified Financial Planners in South Africa can’t just apply the international six-step financial planning process without taking account of culture and local diversities in South Africa.

“Among the issues that emerged was that certain topics are taboo. One of those was death.

“It is not something people want to speak about. But that has an impact on estate planning, which is an important area of financial planning. That means that more complex issues of who you will leave your wealth to, cannot be easily discussed.

“The other thing was insurance. People become suspicious. They don’t want other people to know they have an insurance policy because they are scared they could be killed for their insurance.

“These differences and these elements where it might be interpreted as secrecy, but it’s certain topics that cannot be spoken about, or that ‘bring bad luck’ just by talking about it.”

Families and Financial Coaching

Dr Antoni graduated with his PhD from Nelson Mandela University in 2018, and shortly after that, saw a post for a Senior Lecturer position at Rhodes University, in the Department of Management.

“Also, my mother was retiring, so it seemed a good time to come back to my home town.”

At Rhodes University, Dr Antoni created a Personal Financial Management course at Honours level which is intensely practical and interacts with real world situations.

“It is a service-learning course, and we partner with the Vulindlela programme, which is a programme designed for Rhodes University support staff and is facilitated by the Rhodes University Community Engagement Division.

“Knowing what we do about the importance of families in wealth creation, we got the Honours students to offer a financial life skills course to parents in Vulindlela programme. I also taught them about the concept of financial coaching.

“I saw last year that financial coaching is something that could really help, if done correctly, because financial coaching is about empowering your clients. It is a one-on-one relationship. So the goal is to impart financial literacy and to guide behaviour.

“But, particularly in South Africa, you need a family approach when you are looking at someone’s personal finances because what they do is so linked to the family.

“One of the best things to do would be for the parent and child to come together, and the coach sits with both of them because then they go home and reinforce the idea to one another. Maybe the child understands some things quicker than the parent. They can help each other.”

Rewards of Academia

Knowing what he does about wealth creation, is Dr Antoni ever tempted to leave academia to make a fortune in business?

“I have no urge at all. I’m enjoying what I’m doing. We are teaching students about small businesses, financial concepts and financial coaching. I’ve written quite a few papers, but when I look at how broad the field could be, I think gosh, I must publish something new every year to continue the conversation. Because it has really started to click for me.”

By Julienne du Toit



Charismatic Megafauna

Dr Nokubonga Mgqatsa, Lecturer with the Department of Zoology.
Photo: Chris Marais

Africa's incredible wildlife serves as a cornerstone of its tourism industry. Many of these animals, notably elephants, possess the unique role of ecosystem engineers, actively sculpting the structure and dynamics of their habitats. Dr Nokubonga Mgqatsa has harboured a lifelong fascination with these facets of the continent's wild animals.

By the 1870s, warthogs had disappeared from the Eastern Cape. The records of them were scanty to start off with. There was no mention of them from the extensive journals of the 1820s settlers, nor was there a specific name for them in isiXhosa (*ingulube* can also mean bushpig).

While mentioned occasionally by explorers and European hunters, their distinctive appearance, their habit of running with tails up, and the way they reverse down burrows would surely have attracted the attention of observers. In fact, more than a century ago, warthog numbers plummeted over the entire country, for reasons not well understood.

Were they overhunted? Was there some kind of swine disease that wiped them out? At any rate, there remained enough anecdotal and archaeological record of their presence in the Eastern Cape to back a decision to reintroduce them to the Great Fish River Nature Reserve in the 1970s.

Two Kinds of Warthogs

It was only in the 1990s that it became clear that there were, in fact, two co-existing species in Africa: *Phacochoerus aethiopicus*, also known as the Cape warthog - and the



Warthogs were released in the Eastern Cape in the 1970s, and have spread rapidly since then. Dr Nokubonga Mggatsa focused on their presence in Addo Elephant National Park for her Masters. Photo: Chris Marais

common warthog (which taxonomists named *Phacochoerus africanus*).

The two species superficially resemble one another. The most notable morphological difference is that the Cape warthog has no functional incisors, leading to speculation that it may not graze as efficiently as its common counterpart. The Cape warthog's ears also curve backwards at the tip, and the 'warts' are a little different.

Records show that both species occurred in South Africa. But the Cape warthog went extinct in the Eastern Cape region and its range has shrunk dramatically. It is now found mostly in Somalia, and is sometimes referred to as the desert warthog or the Somalian warthog.

Efforts were made to re-introduce the extinct warthog in the Eastern Cape but it was only later recognised that the re-introduced warthog was the common warthog, not the historically occurring Cape warthog.

Rise of the Common Warthog

At any rate, the common warthog has thrived. This robust species, which easily burrows under fences and trots fearlessly across tarred roads, has long since spread to most parts of the Eastern Cape and is now considered an invasive species because of its population growth and impact on the environment.

The common warthog, specifically its dietary habits and population dynamics in the province, became the subject of Dr Nokubonga Mggatsa's Masters degree in 2008 and 2009. She compared the dietary habits and population dynamics of warthogs within the Addo Elephant National Park with their demographic trends in the Great Fish River Nature Reserve.

Her findings illuminated the discernible impact of warthogs on grazing resources, particularly in areas where agricultural practices and the presence of elephants have transformed the habitat from thicket to open grassland. Notably, her research revealed that a substantial 87% of the Addo warthogs' diet consists of grasses.

She also noted that predation by lions and hyenas in the National Park had no discernible effect on the warthog population at all. In fact, their numbers seem to be increasing everywhere.

The Scenic Splendour of Qumbu

When Nokubonga arrived at Rhodes University in 2017, a freshly graduated doctoral candidate from Nelson Mandela University, she credited the scenic splendour of her home in Qumbu in the Eastern Cape for her love of nature.

“We are situated at the top of a valley that is made up of open green fields, grassland, rivers and dams. It was hard not to fall in love with nature. I grew up herding livestock, ploughing the land, playing among rocks, birds and lizards.”

Biology was her favourite subject, from primary school to Matric. She went on to study Biological Sciences at Walter Sisulu University, where she completed her undergraduate degree and Honours in marine biology before embarking on a Masters degree at Nelson Mandela University's Centre for African Conservation Ecology (Department of Zoology).

Nature's Intricate Web

Nokubonga's first love has always been fieldwork.

“I love being in the bush, around wild animals. From my earliest days, I have been captivated by the behaviour of large mammals, their pivotal ecological importance and their intricate web of relationships with other species. My passion for research centres on the intricate tapestry of animal behaviour and the interwoven connections within terrestrial ecosystems.”

After graduating with her Masters, Nokubonga came for the first time to Makhanda, to do an internship with the Agricultural Research Council, working on water-use efficiency in rangeland areas.

“This was a pivotal career experience. It opened doors for me to become part of the Junior Scientist Programme in Kruger National Park, where I had the opportunity to engage in diverse research projects within the field of wildlife ecology.”

At the end of the programme, she returned to Addo Elephant National Park for her doctoral studies, which focused on investigating the impact of elephants toppling trees, specifically *Pappea capensis* (jacket plum), and the resultant implications for the surrounding biodiversity.

Tree Skittles

The reasons why elephants topple trees remain mysterious.

There are a number of hypotheses, says Nokubonga. One is that they do it to reach tastier leaves. But quite often, they just eat a negligible amount of the roots, bark or leaves, and move on. It is possible that they make food resources more accessible to their young. Another possibility is that males compete by showing off their strength. The problem with the above theories is that elephants often behave this way when they are alone.

What is clear is that elephants favour certain kinds of plants for toppling. The jacket plum (*Pappea capensis*) is often chosen, as is the cabbage tree (*Cussonia paniculata*), the Eastern Cape Shepherds Tree (*Boscia oleoides*) and the tall bitter aloes (*Aloe ferox*).

Nokubonga decided to focus on the jacket plum.

In her study, she compared the amount of toppled trees, broken stems and branches between a site with elephants (the Kuzuko section of Addo Elephant National Park) and a site without elephants (the adjacent Darlington area).

Elephants have the habit of knocking over trees. Does that benefit other, smaller mammals? Dr Nokubonga Mqatsa set out to find out for her PhD. Photo: Chris Marais



She found that the elephants are, in fact, creating micro-habitats that suit small mammals by toppling these trees. Their apparently destructive habit favours increased biodiversity.

The Lure of Large Mammals

Since starting as a Lecturer in Rhodes University's Department of Zoology and Entomology, most of Nokubonga's time has been taken up with teaching and supervising students, most of them also working on large mammals.

"In the few years of my research career, I dedicated most of my time to living and working closely with large mammals. However, when I first transitioned into teaching, I felt a sense of frustration as I had to divide my time between teaching responsibilities and supervising students, leaving only a fraction for my own research pursuits.

"But as time passed, I discovered that supervising students has been an incredibly enriching experience. Through their endeavours, I've had the privilege of studying a diverse range of animals, allowing me to engage with species such as lions, spotted hyenas, leopards, elephants (once again, with great enthusiasm), white rhinos, giraffes, porcupines, aardvarks, baboons, and even small vertebrates. This has been profoundly rewarding for me.

"In more recent times, I have successfully supervised a student working on long-term camera trap data, with a focus on pumas in New Mexico, United States. I was fortunate enough to catch a glimpse of a puma when I visited New Mexico recently".

Of late, she has co-authored articles on large carnivores in small reserves, the effects of goats browsing on *Vachellia* trees (formerly *Acacias*), and leopard population density in mixed farmland around the Baviaanskloof Mega Reserve in the Eastern Cape.

The dramatic growth in private game reserves and game farms across the Eastern Cape, specifically around Makhanda, has proven to be a great advantage in terms of study access to wild areas.

"Most of their managers are very open to research collaboration. We share our findings with them, usually in the form of a short report. I prefer working on research that will be helpful, which can possibly generate information that is useful in terms of wildlife management."

Dr Nokubonga Mgqatsa has been supervising a Masters student who has been monitoring the spatial ecology of white rhinos within an Eastern Cape game reserve. Photo: Chris Marais





Hippopotami introduce nutrients into freshwater systems. They fascinate Dr Nokubonga Mgqatsa, who aims to study their effects on biodiversity. Photo: Gavin Holmes

Camera Traps and DNA

Nokubonga emphasises that technology has made life much easier for zoology students studying animal behaviour and dietary habits while simultaneously reducing the intrusiveness and stress levels experienced by the study animals.

“Camera traps have proven to be invaluable in advancing our understanding of various aspects of animal behaviour, population dynamics, location and interspecies interactions as well as human-wildlife interactions. These advanced tools have the capability to transmit images and data to computers or mobile phones almost instantaneously.

“In addition, the use of sophisticated software and statistical modelling techniques, researchers can generate exceptionally high-quality information from the data collected.”

DNA testing of scat has also proven to be invaluable - and this is one of the techniques used by students supervised by Nokubonga.

Dreaming of Hippos

In time, Dr Mgqatsa dreams of doing more research about another, somewhat understudied megaherbivore with the capacity to alter ecosystems: the hippopotamus.

“Hippos are semi-aquatic, thus, they move nutrients between land, where they graze at night, and water bodies, where they remain and where they defecate during the day.

There have been some papers published on how they affect fish. But I think far more information is needed on how their presence benefits other, larger vertebrates, and how they respond to changes in the environment.”

By Julianne du Toit



Man of the People

Professor Sonwabile Mnwana with sheep shearers at the Karoo Winter Wool Festival outside Middelburg, Eastern Cape.

Photo: Chris Marais

Professor Sonwabile Mnwana, Professor of Development Studies in the Department of Sociology at Rhodes University, has dedicated most of his academic working life to the study and upliftment of South Africa's rural population. Professor Mnwana has spent several years researching and publishing on critical issues around land and rural inequality, mining, and local politics of distribution in rural South Africa. He is an Honorary Fellow at the Centre of African Studies, School of Social and Political Science, University of Edinburgh (UK).

When Sonwabile Mnwana begins to unfold the narrative of his upbringing in the rural part of the former Transkei, one begins to understand the academic direction he has chosen.

"I grew up in the village of Thoboyi in Ngqamakhwe in the Transkei homeland during the Apartheid era," he says. "We answered to the village headman, who answered to the local chief, who in turn answered to a white magistrate, who was presumed to know a lot about African customary law, how to resolve disputes, sanction punishments, impose taxes and facilitate migrant labour."

"My mother, Nolitha Matafeni, loved to write, and worked in East London, mainly as a domestic but also a part-time receptionist. She owned a typewriter. No one else had a typewriter in my village those days, except for the one that the local school owned.

"So I was basically raised by both my grandparents, until my grandfather, Paulos Matafeni, died when I was only seven years old.

"He had been a mineworker at Crown Mines in Johannesburg, and he died of tuberculosis."

Sonwabile's grandmother, Nomfusi Matafeni, became the guiding light in the young boy's life.

"She had a very strong character," he says. "She simply took obstacles in her stride and worked out a way to overcome them."

He grew up herding the family's growing stock of cattle and sheep, knowing little of the outside world and the social ravages of the Apartheid era.

The Giant Mandela

One day, while Sonwabile and his friends were playing in the river near the village, someone informed him about the existence of the legendary Nelson Mandela in a most unusual fashion.

"Have you heard about this big, big human being that was arrested by the whites and imprisoned?" he was asked.

"No, who is this person?" Sonwabile wanted to know.

"The whites felt threatened by him, so they arrested him, thinking he was going to destroy the world," the friend said. "He is a huge giant and they put him on an island surrounded by water, so no one can reach him. His name is Mandela."

So Sonwabile ran home and immediately asked his grandmother:

"Do you know anything about this huge guy who could cause trouble for the world, someone who is so big they had to put him on an island?"

"My goodness, is this what you children talk about when you're in the veld, supposed to be looking after the animals?" his grandmother replied, furious.

"But as the years passed," says Sonwabile, "I had teachers who were quite progressive and filled me in on the politics of the day."

Migrant Worker Family

Most of the men in Sonwabile Mnwana's family became migrant labourers who took the trains and buses up to the old Transvaal to work on the gold mines.

"My uncles and my mother, who were migrant labourers, invested in livestock which I looked after," he says. "Our family did not go hungry. We lived off the land, the crops we planted, the cattle and sheep we raised, and this was supplemented by my working uncles' wages.

"During the brief periods they were home on vacation, they would return with money and extend the homestead, adding buildings or installing water tanks."

On the northbound train journeys, the migrant labourers from his village would meet up with their Pondo counterparts, and they would learn about each other's lives and customs along the way.

"The Pondo men were very friendly, but you didn't want to mess with them," says Sonwabile. "They would sometimes bring along the pickled leg of a pig and some bread, and share it with everyone."

High School

When he was old enough, Sonwabile was sent to high school in a nearby village called Cegcuwana. He was installed, with some of his friends from home, in a flat.

"Before I even went to school, my grandmother had taught me basic self-sufficiency," he says.

"I would milk the cows and goats, cut firewood, boil water, make porridge and prepare a cup of tea for my grandmother. So by the time I went to high school, I knew how to cook for myself and do the necessary chores. It was not hardship at all - I had a fairly happy childhood."

He says his outdoor years with the livestock, time spent in open spaces and observing the family dynamics at home had stimulated both his interest in Nature and the study of human group behaviour.

He says his early years with the livestock were spent in open fields, in the muddy hot summers and dry cold, windy winters of the rural Transkei observing the daily behaviour of large flocks of birds and colonies of ants and various types of bugs. This stimulated both his curiosity and interest in Nature and later the study of human group behaviour.

"But I didn't start my professional life as a sociologist," he laughs.

Petrol Attendant Networks

The petrol station attendants of South Africa have long been famous for knowing all the ins and outs of their towns and neighbourhoods. And, shortly after leaving high school, Sonwabile briefly joined their ranks at a Shell garage in Oxford Street, East London.

“Petrol attendants know people’s patterns, how they move, where to find the best restaurants, overnight stops and, often, colourful information like who is cheating on whom, because they see in which directions they drive at night. They will tell you who goes to the local gym, and whether the priest down the road is really the priest you see in the daytime.

“As a petrol attendant, you interact with a lot of people and you learn many things. One time, a truck driver came running to the petrol station for refuge, after being chased by a sex worker he couldn’t pay.”

Sonwabile speaks about this stage of his life with a wry smile and the lens of an observant sociologist.

“But the wages were low and, because most of the clients were taxi drivers and truckers, the tips were also very small. So I went to work as a part-time waiter at the Windmill Roadhouse near the beachfront and I made good money while studying at the Rubusana College and at the Rhodes campus in East London to be a secondary school teacher.”

Fort Hare

In time, the East London campus of Rhodes University fell under the auspices of Fort Hare University. Sonwabile taught high school for some years and then decided to further his Postgraduate studies at Fort Hare University (East London).

“Then I registered to do a PhD in Sociology, as a full-time student and a part-time lecturer. My PhD focussed on examining mining expansion and social change in rural North West Province. I wanted to investigate the social impact that the platinum mines had on the land and the rural communities in the area.”

He continued his Postdoctoral studies at Fort Hare University and was then employed as a researcher at the Society, Work and Politics (SWOP) Institute, at the University of the Witwatersrand.

Extractive Industry and Community

“I later became a Senior Researcher and then the Deputy Director of the Institute,” he says. “We had major projects on the go, mainly to do with the social impact of mining in the North West Province.

“One of the reports we compiled and wrote became quite prominent. It traced the histories of land in the North West, and who their original purchasers were. Africans were not

Professor Mnwana in discussion with a farmer at the Karoo Winter Wool Festival outside Middelburg, Eastern Cape.
Photo: Chris Marais



allowed to enter the land market in the Transvaal in the late 1800s and early 1900s. This was a time when a lot of land was changing hands. The only way an African could become a land owner was through a white intermediary.

“Initially, they bought a lot of land through white missionaries and kept a lot of livestock. However, the land could not be registered under their names - as a colonial policy dictated at the time. After the Anglo-Boer War, the Ministry of Native Affairs took over that land from the missionaries, and that became part of Trust Land. Most of that is now under the jurisdiction of the Ministry of Rural Development and Land Affairs.

“The chiefs had the power to make land concessions, not the descendants of the first purchasers. And the chiefs signed agreements with the mining companies on behalf of their own so-called tribes - not the descendants, who were often of multi-ethnic backgrounds.

A Village Study

Much of Sonwabile Mnwana's research came from work done in Sefikile village, which lies within the Bakgatla-ba-Kgafela traditional authority area in the heart of the so-called Platinum Belt of the North West Province.

One of the most prominent papers he wrote, entitled *Mining and 'community' struggles on the Platinum Belt: A case of Sefikile village in the North West Province, South Africa*, states in abstract:

“The analysis illustrates how the post-apartheid mineral policy reform has failed to grasp the complex character of rural communities found on lands where platinum mining has expanded.

“The findings drawn from Sefikile - a village that hosts one of the oldest platinum mines in South Africa - reveal intense struggles over land, mining revenues and public services. Such struggles are fought mainly through distinct group identities as social markers to exclusive group rights. The current mineral policy is incapable of adequately addressing the escalating disputes and marginalisation at the village level.

“The impact of the mining operations is more visible in Sefikile than in any other village in the Bakgatla area. The loss of pastoral and agricultural land is among the most glaring consequences. Even more land has been lost as a result of the mushrooming informal settlements all around the village. The informal settlements provide home to thousands of migrant mine workers and job seekers mainly from the Eastern Cape, Mozambique, Lesotho and other labour sending areas.”

When he began working with the Sefikile villagers as a PhD candidate, Sonwabile used to fly up to Johannesburg, hire a car and take the three-hour drive west to the Platinum Belt.

“As a student in the village, I took lodgings in a backyard hut. As the years passed, I stayed in a more comfortable bed and breakfast establishment in one of the neighbouring towns like Mogwase, quite close to Sun City.”

The Bushveld Complex

“In post-apartheid South Africa, communal land which falls under the former ‘homeland’ areas has increasingly become a focal point of mineral development strategy,” Sonwabile writes.

“This emanates from the country's geological advantage: specifically, the existence of the Bushveld Complex, an enormous multi-layered, ore-bearing, underground rock formation. It spreads over more than 65,000 km², spanning two of the country's most rural provinces-North West and Limpopo.

“With over 80% of the world's known platinum reserves, South Africa's Bushveld Complex has contributed significantly to the massive platinum boom over the past two decades, and has overtaken gold as the major player in the country's mining sector.

“The growing concern is that the platinum mining industry in post-apartheid South Africa is characterised by fragmented and precarious work. As such, like gold mining, it relies on a massive African migrant labour force, low wages, and poor working and living conditions to bolster its profits.

“In South Africa, gold has fuelled the development of large urban industrial centres. But the increased attention paid to platinum post-apartheid has shifted the geographical focus to rural areas. The vast area spanned by the platinum-rich Bushveld Complex, often called ‘the platinum belt’, is overlaid by rural communal lands, which fall under the political jurisdiction of traditional - ‘tribal’ - authorities.

“The densely populated, poverty-stricken communal areas have become a new focus for the rapid expansion of the platinum mining industry, particularly in the North West and Limpopo provinces, over the past two decades. Like all former ‘homeland’ areas in South Africa, these rural communities bear the legacy of apartheid, having fallen under the ‘independent homelands’ of Bophuthatswana and Lebowa, respectively. These labour-sending areas are characterised by, among other things, extreme poverty, massive unemployment, poor education standards, and a shortage of basic services.”

Traditional Leaders

“Post-apartheid legislation attempted to redefine residents in the communal areas as ‘traditional communities’ under chiefs.

“These laws are criticised for fortifying the powers of local chiefs and tribal councils over communal property, particularly land and mining revenues, and making downward accountability impossible to realise.

“Chiefs have become the mediators of mineral-led development and mining deals. Local conflict has intensified over the past few years in communal areas on the Platinum Belt. Some scholars observe that the escalating conflict epitomises a resurgence of ethnic identities in post-apartheid South Africa.

“The recognition of customary land rights is just a starting point. It’s crucial for the law, courts, the state and mining capital to take into account the history of African land dispossession. This is not only rooted in the non-recognition of African land holding systems, but also perpetuates the continued disposition of poor communities by the new rural frontiers of mining expansion.”

In other papers, Sonwabile Mnwana writes about politicking in the land reform process and the importance of a community’s legal victory over an Australian mining company along the Wild Coast.

When asked about his general impression of the current state of extractive mining in South Africa, he said:

“It seems we’re in a mad rush to mine this country as fast as possible, and ship the raw commodities overseas to be processed. And although you sometimes encounter some tangible community benefits, the mines are obviously not here to stay - you see it in the temporary nature of their structures. I think that, when they depart, these communities will be left poorer than before, with a raft of new social ills they never had.

A New Direction

“In June 2022, I joined Rhodes University as a full Professor in the Sociology Department,” Sonwabile says. “My research focusses on social justice issues in the Global South. Of late, I have been concentrating on another subject: wool value chains in the Eastern Cape and patterns of accumulation from below.

“Wool production and processing in the informal market has the power to address poverty issues. If we had a system, for instance, where community-owned sheep were sheared and some of the clip was processed locally and fashioned into products, it would be a great local job creator.”

By Chris Marais



The Magic of Mycorrhizas

Professor Jo Dames, mycologist with Rhodes University's Department of Microbiology.
Photo: Chris Marais

Professor Jo Dames has spent most of her academic career uncovering the secrets of nearly invisible fungi, arguably the most useful lifeform on the planet.

When simple algae started washing onto land from the enormous oceans surrounding super-continent Gondwana and Laurasia about 500 million years ago, there was very little else that was green on this ancient Earth.

The largest growing structures on earth at the time were giant mushrooms (prototaxites), many of them towering to eight metres tall.

Meanwhile, at ground level, the thin green biological crust of algal protoplants struck up a relationship with equally frail strands of another kind of fungi under the soil: mycorrhizas. These were made up of a network of pale hair-like hyphae sprawling like a tangled mesh just under the surface of earth.

Eventually, the otherworldly giant mushrooms would vanish, but the relationship between these two species, algae and fungi, would live on and become a remarkable symbiotic partnership. This was how plants first came into being and then evolved into trees, shrubs, flowers, grasses and crops.

The partnership was simple but effective. The algal cells and seaweeds that washed up had hardly a rhizome between them. But mycorrhizal fungi connected plants with the soil, increasing access to nutrients and moisture. They became de facto root extensions, stretching further than plant roots could or can. In return, they received carbon-based sugars or lipids from the photosynthesising plants.

Around 90% of the planet's plants now depend on mycorrhizas. In addition to the simple flow of nutrients, the symbiosis helps plants resist droughts as well as pests or pathogens.

The mycorrhizas trap up to 36% of climate change-causing carbon underground. They could be the world's most useful lifeform, crucial in the battle against climate change. Yet comparatively few people have even heard of them.

Professor Joanna (Jo) Dames (nee Komar) remembers hearing about mycorrhizal fungi for the first time in the second year of her BSc at the then University of Natal in Pietermaritzburg.

"It was during my plant pathology course. Our lecturer chatted for maybe twenty minutes about mycorrhizal fungi but we didn't dwell on the subject because they are not pathogens. Funny how twenty minutes can sometimes change your life."

A Chance Encounter

Born in Zambia, Jo was a boarder at St Dominic's Convent in Boksburg. She had no clear idea about her future career but knew that she wanted to study science.

“One day at school, I stumbled across a flyer from the then University of Natal, about Microbiology and Plant Pathology, and thought, well, that sounds interesting. My friends were all going to study law, dentistry or accounting at big city universities, but that didn’t appeal to me.”

After her undergraduate degree at Pietermaritzburg campus, majoring in Plant Pathology and Microbiology, Jo did her Honours, then headed off for a job with the Department of Agriculture in what was then Nelspruit (now Mbombela). During her three years there, she remembers a chance encounter with a Scottish scientist, Dr Jim Deacon. She mentioned her interest in mycorrhizal fungi. He took her outside to the lawn to show her how to find them in situ.

“Then I decided, well, if I am going to study further, this is what I want to do. My husband and I soon moved to Johannesburg and I started doing my Masters part-time at the University of Witwatersrand (Wits). The rest of the time, I was earning an income from a variety of jobs, mostly in laboratories.”

“I did my Masters on the Nylsvley Nature Reserve, just looking at the naturally-occurring mycorrhizas - identifying them and their interaction with soil nutrients.”

A Win-Win Solution

Plant roots do the job of anchoring as well as absorbing and transporting minerals and water. But quite often, says Professor Dames, nutrients around the roots become depleted. Also, plants can invest only so much energy in their root system.

This problem is solved via the network of mycorrhizal fungi, their hyphae or filaments growing at a rate of one to three metres a year, spreading out, seeking the nutrients the plant needs, and bringing them back to the plant.

“So if the plants have got their mycorrhizas, as nature intended, they’re getting the nutrients they need, when they need it, not when we think they need it.”

“Now, of course, nothing in life is for free, so the fungus has to get something in exchange. The fungus cannot produce its own carbon compounds. It’s not like a plant that photosynthesises. And the fungus receives carbon transferred directly from the plant in the form of sugars and lipids and other compounds.”

Switched On Self-Defence

There is another benefit. When the fungi attach to the roots of the plants, the plants sense that this is something different. And plants have their own defence mechanisms.

“So this protection is switched on,” says Professor Dames. “But through genetic signalling and special symbiotic genes, the plants ‘realise’ that the mycorrhizal fungi are the good guys. Although the plant has switched on the defence

mechanisms, this remains at a very low level, allowing the mycorrhizal fungi to grow.

“When a pathogen comes along, the plant is already primed and able to defend itself. These defence mechanisms not only protect the roots. The molecules responsible are being transported through the plant systemically, so even an aerial pathogen would find it harder to attack the plant.”

Soil Superglue

Mycorrhizas (the name literally means ‘fungus root’) underpin the health of trees, shrubs, flowers and crops like pineapples, avocados, bananas, citrus, maize, wheat and most vegetables (fungus-averse exceptions are cabbage, mustard and canola).

“In general, they are not only useful for food production,” notes Professor Dames. “The arbuscular mycorrhizal fungi also produce a compound that we refer to as glomalin. It’s like a sticky substance, a kind of superglue of soil. Glomalin helps to build soil structure. Particularly when you’re looking at degraded land. You want to bind soil particles together so it doesn’t get washed away and eroded.”

“If you have the good mycorrhizas in the soil, you start building on those benefits.”

Pine Trees, Pollen and Propagules

Broadly speaking, there are two kinds of mycorrhizal fungi: ecto- and endo-mycorrhizas.

The first tend to grow around plant roots, forming a blanket.

“Their hyphal straws or filaments do penetrate into the root, but they don’t enter the plant cells. Hence they are called ‘ecto’ because they are mainly outside. And if you walk into a forest, like a pine plantation, and scratch in the litter, you can sometimes see them, as fluffy little ends of roots. Many of those more exotic types of trees, like pine, oaks, eucalyptus and poplar, are ecto-mycorrhizal.”

Jo did her PhD on the ecto-mycorrhizal fungi that grow under pine tree plantations in Mpumalanga.

“The problem in some pine plantations is that the pine needles don’t decompose, and they accumulate, so you’ve got this really spongy litter layer. But if you look closely, the majority of the ecto-mycorrhizal roots are within this litter layer. These roots along with the fungal filamentous network assist the pine trees in obtaining nutrients.”

One of her part time jobs while doing her doctoral research was working with a colleague (Dr Ann Cadman) doing pollen research.

"I had to sit and count the number of pollen grains and fungal spores that were captured from air samples and this data was used for allergy alerts on TV and radio. If there's one thing I know how to do under the microscope, it's to count hundreds of fungal spores and pollen grains."

Fungi Underpin Forestry

Few people realise how important mycorrhizas are to the economy and food security.

"What sustains our forestry industry, like our pine plantations, are these ecto-mycorrhizal fungi. When Dutch colonists brought in pine seeds around 400 years ago, they found that the seedlings would start to grow, and then they would die. It was only later when they brought seedlings with the soil from the forests, containing ecto-mycorrhizal propagules - spores and so on - that the pine trees began to grow. Our forestry industry is entirely dependent on these fungi."

"The majority of exotic types of trees, pine, oaks, eucalypts, poplars, are ecto-mycorrhizal, so the mycorrhizal species were introduced with them and have since become naturalised. They're not invasive because they need those specific host plants."

Professor Dames says there is far more interest in ecto-mycorrhizal fungi because most people are familiar with their fruiting bodies: mushrooms.

"I like to tell my second-year Microbiology students that all fungi are edible. But some are only edible once."

Hand in Glove

"Although I am interested in ecto-mycorrhizas, most of our indigenous vegetation is associated with endo-mycorrhizas."

"They don't form a blanket around the roots and are not visible to the naked eye. They penetrate into the roots and they grow between cells, like a highway. At certain points, they will enter the root cell, hence the name endo."

"The interesting thing about them is that although the fungus will penetrate the cellulose plant cell wall, and the filament will branch and grow, it will never break the plant cell membrane. As it branches, the plant cell membrane stretches, expanding up to 300 times. It's almost like a hand in a glove - the glove being the plant cell membrane which expands around the finely branching fungus."

"They form almost like a microscopic tree inside the root cell itself. These are the arbuscular mycorrhizas. Arbuscule means 'little tree'. The network of 'branches' interfaces with the plant cell membrane, and this is where the magic happens."

Coming to Rhodes University

Once Professor Dames had completed her PhD, she began working at Wits as a laboratory technical officer in the Biochemistry Department.

"I had a little group of friends interested in the mycorrhizas, and in 1997 we heard about the Science Festival in Grahamstown. We decided to do an exhibit of mycorrhizal fungi - a mole's eye view. We created a 'molehill' with plant roots coming through. With the aid of some eerie insect sounds and lights, we could explain to the children that this is what happens underground. We had microscopes and posters, and a mole soft toy inviting children to visit his home to explain what he sees while underground."

"I came to attend the Science Festival with my husband and children, and they went off to the coast to fish. The guesthouse owner mentioned that she knew of a vacancy in the Botany Department. When my husband came back from the coast, he said this is quite a nice place. So while I was down here, I filled in the forms and was interviewed for the post, a contract position, and was accepted. So we moved to Grahamstown."

"In 2003, there was a permanent post being advertised in Microbiology and that's where I've been for the last twenty years."

What the Plough Destroys

Miriam Horn of the Environmental Defense Fund and author of *Rancher, Farmer, Fisherman: Conservation Heroes of the American Heartland*, likens a plough to a tornado tearing through the soil.

"You scramble these symbiotic communities; you collapse the homes that they live in."

Professor Dames expands on how traditional agricultural practices can harm soil health.

"We like to clear off the vegetation and leave the land fallow. So whatever mycorrhizas you had there are trying to grow, but they're not finding any roots to partner with. They stop and start, stop and start, but eventually use up all their energy and die."

"I've had instances when analysing roots from agricultural, intensely cultivated soils where I haven't been able to find a single trace of mycorrhizal colonisation. That just shows you how affected they are by this year-in year-out cultivation and the constant use of various agrochemicals. They're just

not there anymore to do that magnificent job they do to help plants to grow.

“It’s when you start disturbing the soil and not looking after the soil, that you start experiencing problems. This is usually remedied by the application of more agrochemicals, and so the degradation process continues. Because you haven’t got the natural good microorganisms in the soil anymore.”

The Fix

The solution for such areas is to re-introduce mycorrhizal fungi. But this is not as easy as it sounds.

“Many fungi can be grown in the laboratory, on a medium. But the arbuscular mycorrhizal fungi, that associate with most of our crop plants, do not grow on artificial media. That makes working with them a little difficult.”

“You can only propagate or grow them when associated with a host plant and the correct conditions for establishing the symbiotic relationship are provided.”

“Spores can be extracted from soil samples and if the spores are viable, they must be associated with a suitable host plant in order for the fungus to grow. Otherwise, the spores will just sit there and not do anything. It is not easy to multiple and propagate arbuscular mycorrhizal fungi because they are so intimately associated with their plant partner.”

“Over the years, I developed a granular mycorrhizal product. This needs to be applied to the soil where the roots are found. Signalling molecules in root exudates attract the fungus, ensuring that contact is made, and the symbiotic relationship is established.”

“If you are planting fruit trees or seedlings, you dig a hole, put some of the mycorrhizas at the bottom, transfer the plant to the hole and cover. The fungi will associate with the roots, spreading over time to establish the relationship with new root material, provided you take care of the soil.”

Mycorrhizal Knowledge

How many people are studying mycorrhizas?

“Not very many in South Africa, unfortunately. As I explained, you can’t grow these fungi in culture, so that makes research challenging. Their network of filaments is one big cell as there are no compartments, and within this, there are millions of nuclei with slightly different genetic information.”

“The arbuscular mycorrhizal fungi have no known sexual stage. Nuclei can be swapped between different filaments and this allows for adaptations to specific environments. Even though the same species, for example, *Funneliformis mosseae* (formerly *Glomus mosseae*) is found worldwide, the ecotypes would be different.”

“It is precisely because mycorrhizal fungi are different to other fungi, that I find them interesting. My research group here at Rhodes University is the only dedicated mycorrhizal group in South Africa.”

Over the past 20 years there has been a growing interest in mycorrhizal fungi, particularly in the agricultural sector, says Professor Dames.

“I hope I’ve contributed to increasing that interest through public articles that I have written for various fora and presentations that I have delivered to growers.”

This contribution was recognised by the Fertiliser Association of South Africa (Fertasa), which awarded Professor Dames a silver research medal in 2020.

By Julianne du Toit

A Truffle in the Desert

Endomycorrhizas do not have visible fruiting bodies, whereas ecto-mycorrhizas typically do (mushrooms or toadstools). But there is an in-between: the truffles.

Highly prized for their intense flavour, they grow underground, out of sight, usually around oaks, pines, and other northern hemisphere trees.

Unlike normal mushrooms that boldly pop into view, truffles lurk, invisible, beneath the earth. But their irresistible scent rises through the soil. The best truffle hunters are pigs (which tend to devour them if not restrained in time) and dogs (preferred, since they don't eat truffles).

The Kalahari desert also has its own special kind of truffle. It is called t'Nabbas but its taxonomic name is *Kalaharituber pfeilii*.

It is not quite as popular as the European truffle, but has a delicious flavour. Some describe the taste as closest to a buttered potato. Meerkats, monkeys, baboons, hyenas and bat-eared foxes all consider this a delicacy.

If you know what you are looking for, a truffle hound is not needed. The Kalahari truffle reveals itself in late summer through telltale cracks in the sand.

Like all mycorrhizas, it has a plant partner, but this doesn't seem to be a tree. It turns out that this kind of truffle is associated with several plant species, including a few grasses. The mystery is what triggers the growth. Is it rain? Is it something else? Professor Dames has a theory, but she is not telling, as this still requires more research....

By Julianne du Toit



Karoo Truffle. Photo: Jo Dames



History, Activism and the Chem Lab that Blew Up

Associate Professor Alan Kirkaldy, Head of the History Department, Rhodes University. Photo: Chris Marais

If ever another Harry Potter film was made, the producers could do much worse than cast Rhodes University's Professor Alan Kirkaldy as the Head of Magic & History at Hogwarts School for Witchcraft & Wizardry.

Alan Kirkaldy, a man of many hobbies, has brought a certain theatrical style to his teaching as a Professor (and HOD) in the History Department of Rhodes University.

As many of us can attest, a colourful history teacher brings the past back to life for pupils who might otherwise fall under the sleeping spell of date after date, battle after battle, treaty after treaty and the drone of times badly recounted.

"I teach history by performance," he says. "You've got to grab people's attention, turn them on to the subject. I'm not the right teacher for everybody - some like my style, some don't. There are other lecturers in this department with their own styles of teaching. History is supposed to make you challenge the world and change it for the better."

An essential part of his 'history method' is the kind of deep, painstaking research and detailed, fast-paced writing that is the hallmark of New Journalism legends like Truman Capote and Tom Wolfe. The man treats his work like a fine craft.

While interviewing Kirkaldy in the History Department staff-room ("My office is a mess"), one is charmed by his self-deprecating sense of humour. The flowing silver beard would be a hit in the North Pole, the eyes twinkle and the words form a collection of ironies as he tells of his extraordinary life.

And then, just as one is drawn in by his entertaining delivery, Alan Kirkaldy begins to talk about the burning of witches, the practice of cannibalism, his three months in detention during the apartheid era at the hands of the Security Police, the complicated, often depressing, concept of environmental justice and the plight of the fisherfolk of Kalk Bay.

Ploughshares to Swords

This is followed by a short segue into the Japanese martial arts world of Kobudo, traditional techniques for the use of armour, blades, firearms, and techniques related to combat and horse riding.

"I've been into martial arts since my schooldays," he says. "I once tried to make a katana (a Samurai sword reputed to be one of the most effective cutting weapons in world military history) in my braai and failed spectacularly.

"Then I went up to Belfast in Mpumalanga, did a proper forging course, and now I have two forges at home."

These days, Alan Kirkaldy fashions knives and turns ancient farm implements into weapons of self-defence, in the Okinawan peasant style.

Early Interest in History

"At school, I was failing History, mainly because of a bad teacher who had fascist leanings," he says. "Then a new History teacher was appointed and he sold me on the subject. Oddly enough, he was a retired Jesuit monk and I was a converted Jew, but he had an approach that few History teachers had in those days. He got us to challenge things,

and even started a Parliamentary debating society, during which I was supposed to be the representative of the People's Republic of China.

"I went from failing History to winning the History Prize every year after that."

However, when he arrived at Rhodes University, Kirkaldy signed up for a BSc degree.

"I was very unsuccessful," he says. "I actually blew up my first year Chemistry exam in the lab, dropped out and returned a year later."

In that year before rejoining the student ranks at Rhodes University and doing a BA degree majoring in Anthropology and History, Alan Kirkaldy had what he describes as a "rude awakening".

"My father arranged for me to work at a construction site in Cape Town, and after about four months of very tough manual work, I decided to take my university studies seriously."

The Fishermen of Kalk Bay

After completing his History Honours, he went on to the University of Cape Town to study for his Masters degree. His thesis took him into the heart of the traditional fishing community at Kalk Bay.

"For two years, I went out to sea with the fishermen on an almost-daily basis," says Alan. "It was still back in the day when Kalk Bay Harbour was the only place you could still buy fresh-caught linefish off the boats. Kalk Bay had been

Fishing boats moored at Kalk Bay Harbour. Photo: Chris Marais



declared a white zone in terms of the Group Areas Act and the fishermen (then classified as 'coloured') were under threat. One of the aims of the research was to argue that you've got this historic fishing community that should not be deprived of their very old cultural and economic traditions."

Part of the abstract to his thesis states:

"Since the Second World War, the escalating political, social and economic subordination of the fisherfolk has progressively threatened the existence of the handline fishing industry and the fishing community of Kalk Bay.

"However, should racial ideologies and commitment to monopoly capitalisation of the industry be set aside by the State, the Kalk Bay fisherfolk could survive, albeit in altered and diminished circumstances."

A Period of Detention

Kirkaldy's painstakingly-gathered Masters thesis research on the Kalk Bay fishing community took him six years to complete, at which time his parents were quite keen for him to step out of academia and land a job.

"So I applied for and got a teaching post at a school in Gazankulu," he says. "And then I was detained for three months under the Suppression of Communism Act. I was an ANC activist charged with treason. That was the worst part of my life, which included being beaten up on Sundays by a certain anti-semitic policeman.

"When I heard the cops coming down the corridor towards my cell, I would throw on my Tallit (prayer shawl) and begin praying. They would stand outside, wait for me to finish my prayers and then come in and assault me.

"I don't know what I told them under interrogation. Obviously, I tried not to give them important information but, you know, they eventually break you down completely. Anyone who tells you they were a hero in detention is perhaps a liar."

The Berlin Missionary Society in Venda

Shortly after the release of Nelson Mandela, Alan Kirkaldy was freed and landed a post teaching History at the University of Venda in Thohoyandou, the capital.

"It was a new era, and time for new versions of history. I was personally very interested in the concept of studying history 'from below', the people's history. I worked with whatever texts I could lay my hands on at the time."

For his PhD, Alan Kirkaldy was initially going to focus only on the growing social phenomenon of witch-burnings in the Venda areas of Limpopo Province. But his initial investigations led to accounts of the Berlin Mission Society (BMS) work in the area.

"I became interested in the BMS not in the light of mission history, but as recorders of local culture, their motives and their interpretations."

During the 19th Century, the missionaries of the BMS in particular were bringing education and health benefits to the Venda communities of what is now called Limpopo Province. However, their main aims of converting the locals to Christianity were not as successful as they'd hoped.

In a paper titled *The Missionary Impact: The Northern Transvaal in the Late Nineteenth Century*, Alan Kirkaldy states:

"African rulers who allowed missionaries to operate did so for various reasons: they thought that the missionaries would provide them and their people with firearms, would act as intermediaries between them and the encroaching Boers and/or British, and would bring Western educational and health institutions to supplement the traditional ones already available, thus providing people with the skills necessary to operate in a changing world, and would provide access to useful western goods.

"These hopes were usually sadly misplaced. The missionaries shared to a large extent the worldview of the Boer and British administrations of the Transvaal and although they did not always agree with the methods employed by the civilian administrators, they believed that their firm presence in the area was essential.

"At a deeper level, faced with a disappointing lack of success in conversion, most missionaries also came to believe that Christianity would never triumph for as long as the area continued to be ruled by independent rulers - they were simply so powerful, and played such an important religious role that their people had no desire to convert to Christianity.

"Correspondingly, the rulers feared a diminution in their power, and even the loss of their thrones, should widespread conversions take place. With considerable justification, these rulers also believed that, should they themselves convert, they would rule under the ultimate authority of, and by the grace of, the white God - more particularly, the missionaries, his representatives on Earth."

The PhD Grows into a Book

Another crucial feature of Alan Kirkaldy's approach to history teaching and writing, besides a natural flamboyance and ease of narrative style, is the massive amount of research he puts into his published work.

Kirkaldy's PhD studies on the activities of the Berlin Mission Society and the Vhavenda people provided him with ample material for a number of academic papers and, in 2005, a well-received book titled *Capturing the Soul. The Vhavenda and the Missionaries, 1870-1900*.

"The book is not so much a history of a missionary society as it is an examination of the interaction between the Berlin missionaries and the Vhavenda," writes Bronwyn Strydom of the University of Pretoria.

"Kirkaldy's book is a contribution to the study of Venda history, and throughout one is aware of his familiarity with this field. For a book that would essentially fall into the category of missionary historiography, it is noteworthy that Kirkaldy has succeeded in making the voices of both the missionaries and the Vhavenda heard."

Cannibalism and Witchcraft in Venda

In his studies on the BMS work in Venda, Alan Kirkaldy came across accounts of conflicts between the clans, and specific cases where the bodies of slain enemies were abused, defiled and, sometimes, eaten by the victors.

In a paper titled *Consuming Christianity: Deconstructing Missionary Accounts of Cannibalism in Vendlan in the Late Nineteenth Century*, he writes:

"Based on my training in African history and social anthropology, my first reaction upon encountering these tales was to reject them. Stories about cannibalism were arguably the most extreme form of "othering" perpetuated by Europeans against Africans.

In their obsession with cultural evolutionism, they dichotomised what they saw as their own developed 'civilisations' and African 'savagery' or 'barbarism'; the 'light of civilisation' and the 'darkness of heathenism'.

"Over time, and after a number of differing readings, I have come to a different conclusion. By means of a case study of conflicts involving various factions among the Mphaphuli people during the late nineteenth century, I wish to argue that it does not really matter whether the events described in these accounts 'really' happened or not.

"Rather, what is important, is that the contending parties allowed, or even encouraged, the missionaries to believe that they did. From this starting point, I attempt to deconstruct some of their possible meanings and value for missionaries and Africans."

In recent history (from the mid-1980s to the mid-1990s), there has been a spike in witch-burning and muti (medicine) murders in the Venda region. The practice has mirrored the ancient European custom of witch-hunting, it has targeted mainly elderly women and many cases have had political origins, both of local or national nature.

Again, with his knowledge and insight into Venda cultural history, the influence of missionaries and the colonial conflicts that followed, Alan Kirkaldy succeeded in placing the recent witch hunts in Vendlan in clarifying perspective by comparing them with early missionaries' stories about the way Venda chiefs used to deal with witchcraft affairs in the late nineteenth century.

Environmental History

In 2006, Alan Kirkaldy took on a new challenge, that of teaching Environmental History at Rhodes University.

"These courses look at our interaction with the environment and how, unfortunately, we have messed it up."

Kirkaldy's love for Nature and the African bush has been with him since childhood.

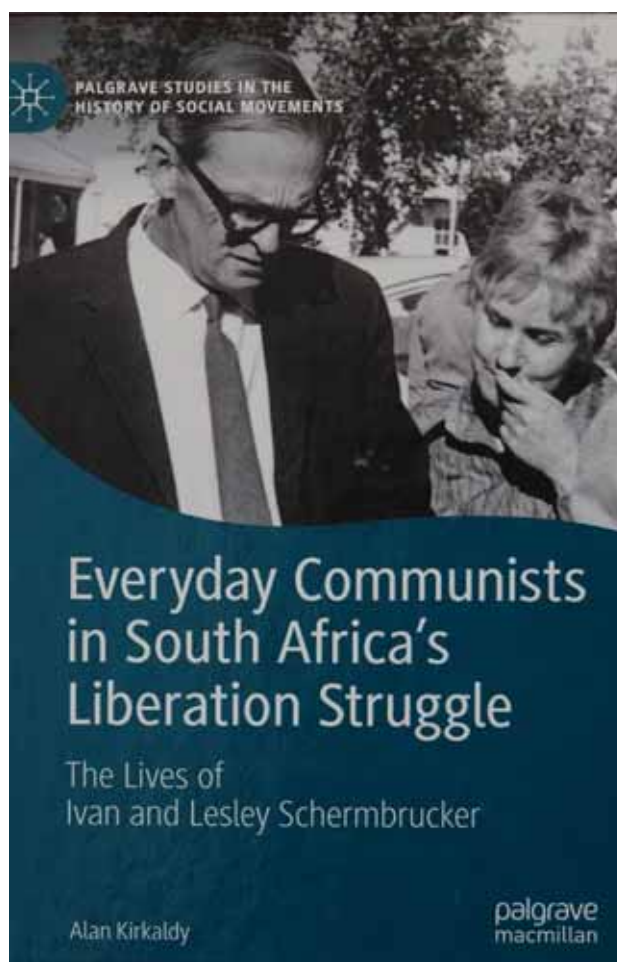
"We look at different approaches to conservation, for instance challenging the notion that you build a national park for the elite while keeping the poor out. Then you get a disgruntled local community resenting the natural resource over the fence.

"When I taught at a school in Gazankulu, my pupils would gaze over the fence at the wildlife in the Kruger National Park and say 'Look at all that meat.'"

Everyday Communists

Alan Kirkaldy is interested in every subject under the sun, but his latest book project was a labour of love.

Everyday Communists in South Africa's Liberation Struggle. The lives of Ivan and Lesley Schermbrucker by Alan Kirkaldy.
Photo: Chris Marais



"This is how it came about," he says. "I was with a group of my students here at the Old Jail in Makhanda back in 2010, when a young man asked me if I had ever heard of his grandfather, Ivan Schermbrucker, a Communist who had been jailed for five years by the apartheid government."

"And because he'd been forgotten in the historiography of the South African Communist Party, I had never heard of the man. Well, I read up on him and the grandson took me to meet his family. And that led to the book, which I called *Everyday Communists in South Africa's Liberation Struggle*. Ivan had died by then, but his wife Lesley is still alive. Ivan was larger than life, he swore, he was politically incorrect, he was a fisherman, a party animal and a dedicated Communist. He began a Christmas hamper business to raise funds for the SACP - there was no 'Moscow Gold' to be had - that was an apartheid government fiction."

"Lesley, who stayed by his side throughout, provided me with essential details, as did a number of his friends, family and associates still around."

Ivan had grown up in the-then Transkei homeland of the Eastern Cape and was fluent in isiXhosa, while Lesley spoke very good isiZulu, learned during her childhood days in KwaZulu. Their parents both managed trading stores, so both families had first-hand knowledge of African cultures - a rare attribute in the racial silo-society of the apartheid era.

Ivan was arrested in 1964 and Lesley a year later. He was sentenced to five years and she spent two in prison, one of which was in solitary confinement.

In his book, Alan Kirkaldy devotes a fair amount of space to the trials that followed the Schermbruckers' arrests.

"My earlier drafts contained twice the detail that the edited version has," he laughs. "But I must admit the edit improved the book's quality immensely."

Tom Lodge of the University of Limerick had this to say about *Everyday Communists*:

"Kirkaldy's moving biography is about 'everyday' lives in a different sense from the ordinary. It is about the private and the personal, not just the political and the public actions of his protagonists."

"Supported by his access to a generous family archive, Kirkaldy illuminates Lesley's and Ivan's everyday experience: their residences; their bill paying; their child rearing; the friendships they made and broke and kept; the ways they enjoyed themselves; and of course their love and confidence in each other, for it is very much a book about a marriage."

"His heroes may be ordinary enough people, but in the way they lived their lives, they achieved 'a triumph of the everyday.'"

By Chris Marais



The Edge of The Sea

Associate Professor Amber- Robyn Childs, Fisheries Ecologist at the Rhodes University Department of Ichthyology and Fisheries Studies. Photo: Chris Marais

A dusky kob nicknamed Walter opened the world of fish movements and inshore fish behaviour for Associate Professor Amber-Robyn Childs of Rhodes University's Department of Ichthyology and Fisheries Science.

Amber-Robyn Childs grew up along the shoreline, entranced by the rock pools near East London.

"I used to spend hours and hours trying to catch-and-release fish with little nets in the rock pools, and mullet in the surfzone with my cousin. I learnt to fish when I was about three or four. I learnt to scuba dive at the age of 12. When I was very young, I heard one of my fishing-mad brothers saying he wanted to become a marine biologist, and I decided that's what I also wanted to pursue."

But by the time she reached her Matric year at Clarendon High, she was no longer so sure.

Amber's mother brought her daughter to Rhodes University to seek some advice.

"The counsellor asked me what my passion was and I immediately said Marine Biology. 'What are you still doing in my office,' he exclaimed. 'Go and sign up at the Department of Ichthyology and Fisheries Sciences right now!'

"My mom had told me on numerous occasions to follow my passion, but we were uncertain of the availability of jobs in this field."

Nevertheless, Amber Childs signed on at DIFS and has never looked back.

Seasick and Desperate

By her Honours year, Amber had decided she would focus on Oceanography.

"I just thought understanding ocean currents and dynamics would tell you so much about all the resources in the ocean. I was quite passionate about that. I got a bursary to look at the oceanographic links with the Natal Sardine Run, and went on the vessel.

I got horribly seasick and thought that there was no ways I could have a career in Oceanography."

Eventually, on the SAS Afrikaaner, in the course of a six-week hake biomass survey, Childs finally found her sea legs.

"But oh, it was hectic."

Walter the Dusky Kob

In her Honours year in 2002, Childs helped a fellow student to track the movements of fish via tags and acoustic transmitters.

"It was a dusky kob, about 50cm long, and it was the first fish that we ever tagged with acoustic transmitters in South Africa. We tracked this one fish for seven days, the whole class doing six hours on and six hours off. This single dusky kob sparked my love for acoustic tracking and understanding fish movement ecology, which has provided so much insight into the impacts of exploitation and climate change throughout my career.

Amber won a study prize in 2008 at a South African Marine Science Symposium, and as a result was given the opportunity to present a talk at the Two Oceans Aquarium on 'The Life and Times of Walter the Dusky Kob'.

"So Walter the dusky kob started my interest in telemetry. I know we're not meant to name animals! But to me it was such an interesting story.

"After that I was just talking to Professor Paul Cowley about how amazing telemetry is, and how I'd love to get into the field. He approached me with this awesome bursary for Masters. So I studied one species in one estuary, and then that expanded to my PhD, which was multiple species in multiple estuaries."

Monitoring Fish Movements

Professor Cowley, who supervised her Masters and Doctoral studies, had initiated the acoustic tracking array platforms (ATAP) for the SA Institute for Aquatic Biodiversity (SAIAB). There are now more than 250 moored acoustic receivers moored off the coastline and up a few estuaries, spanning the coastline from False Bay to Ponta do Ouro in Mozambique. These help to monitor fish movements along the coasts and in estuaries, both teleosts (most finned fishes) and elasmobranchs (sharks and rays).

After her PhD, Amber was employed at the DIFS and joined Professor Warren Potts' Southern African Fisheries Ecology Research (SAFER) Lab. Here her research on movement ecology expanded into broader research interests on understanding fish life history, physiology, and ecology - the nursery habitats of important linefishery species as well as the human dimension of the linefishery.

This research, explains Amber, is guided towards the sustainability of our fish stocks in the Anthropocene (era where human activity has had a dominant impact on our climate and environment). As a result, she is well informed on the state of our inshore linefish stocks off South Africa's coastline - the ones targeted by recreational and subsistence fishers.



Associate Professor Amber-Robyn Childs inserting an acoustic transmitter into an Eagle Ray (*Myliobatis aquila*) at Kleinemonde, Eastern Cape. These transmitters allow researchers to track the movements of fishes in aquatic habitats.

Photo: Department of Ichthyology and Fisheries Studies

Real Trouble

"The status of most of our marine shore-based fishery species are in a state of decline. It is far from ideal, and the anthropogenic pressures of overexploitation and climate change are just getting worse, unfortunately.

"Most of our linefish stocks are overexploited with the stocks of many of our primary targeted species being collapsed (less than 6% of the spawner biomass).

"One or two are recovering, like the Seventy-Four, because a moratorium was put on that species for about twenty years. We've seen a recovery in that stock, which is amazing.

"The other thing that did wonders was the beach vehicle ban in 2002 which limited access to places furthest away from access points and in so doing created a series of little Marine Protected Areas (MPAs)."

The Estuaries

"But we did see a shift in fishing effort to the estuaries, which are critical habitats for our estuarine-dependant fishery species. They spawn at sea and use the more protected estuary as nurseries.

"The juveniles are vulnerable in these environments, but so are adult fish because they use these habitats pre- or post-spawning. They need to feed before mating, and afterwards, to replenish the energy lost. But coming into the estuary is high risk.

There are two types of overfishing, explains Professor Childs.

"One is growth overfishing, where you catch juveniles before they have a chance to reproduce. The other is recruitment overfishing, where too many of the big, older, most fertile fish are being removed from the ecosystem.

"There's an exponential relationship between fish length and fecundity - the number and quality of eggs. So that's why we should not catch too many of those big beautiful fish. They are the best at reproduction, and you need higher population numbers to allow species to adapt in our rapidly changing world."

South Africa has about 250 sheltered estuaries which fish use as nurseries.

"In KZN, the state of our estuaries is not good. St Lucia for example, provides nearly 50% of our estuarine service area and productivity, and it has been closed for years. So it's not just overfishing. Estuaries are also affected by the impacts of climate change such as floods and droughts.

"The over-extraction of freshwater and inadequate baseflows poses a serious threat to their ecosystem functioning. In Kariega Estuary in the Eastern Cape, for example, you have a reverse salinity gradient, where the salinity concentration is highest at the head of the estuary when compared to the estuary mouth. Our research has shown that in cases like that, a flood is good to reset the system to its normal function."

Hook, Line and Sinking

The linefishery (fishery where fish are captured with hook and line) consists of a commercial, small-scale and recreational sub-sector. The recreational sector is divided into those who fish from the shore and those who fish from a boat. This overlaps somewhat with commercial fisheries, which are usually from boats, but overlaps completely with the small-scale fishery which operates from boats and the shore.

There are thought to be 390 000 shore fishers along South Africa's 3 000km coastline who would fall into the recreational sector. In other words, they are fishing for recreation - for the enjoyment of time outdoors, a quiet hour on the beach, or for the pot.

"Unfortunately, the small-scale sector, previously called the subsistence fisheries sector, has fallen through the cracks, mostly because the small-scale fishery policy has still not been fully implemented. It has been in the process phase for years.

As a result, many small-scale fishers are participating as recreational fishers, but they are literally fishing for livelihoods, explains Professor Childs.

"They are in the worst situation. They don't have the capital for the good equipment or the money for travel when compared with recreational fishermen. They are completely outcompeted.

"Clearer, better policies for the recreational, small-scale and commercial linefish sectors need to be gazetted and implemented, but this is complex."

A Major, Unmanaged Fishery

If the 390 000 shore-based recreational fishermen around South Africa were each hauling out only one kilogram of fish per year (bearing in mind that they are allowed to take out up to ten fish a day), it would still amount to at least 400 tons annually, says Amber.

This is in the league of the commercial linefishery, yet the recreational catch is not measured or monitored, despite the R50 million per year income from the recreational fishing licences.

Together with poor compliance due to limited enforcement, poor awareness and a lack of education, this results in a poorly managed linefishery.



Associate Professor Amber Childs with her colleagues, PhD candidate, Dr Phakama Nodo, SANParks Marine Scientist, Kyle Smith and her MSc student Andrew Meiklejohn (from left to right) while on the Knysna Estuary, Eastern Cape, assessing the fish assemblage in the estuary as part of Andrew's MSc research. Photo: Department of Ichthyology and Fisheries Studies

"This must be addressed, because the massive economic activity generated by the recreational fishery can be harnessed for social development. And the commercial and small-scale sectors are critical for the livelihoods of the poor.

"What we're also trying to do through stakeholder engagement, is to formalise the recreational and subsistence sector, because at the moment, there's no real policy for them."

Associate Professor Childs says they have just taken on a project from the National Research Foundation (NRF) to fill the knowledge gaps (from an ecological, human dimensions and governance perspective), and to find ways to monitor the inshore marine fish because numbers are declining so quickly.

"Continuous long-term monitoring of the recreational fishery is absolutely necessary moving forward, as this information is critical to address the impacts of exploitation and our rapidly changing climate".

A Tragic Case of Misidentification

Species that are collapsing because of overexploitation in estuaries include white steenbras, spotted grunter and leervis (garrick).

But the species that has crashed fastest is the dusky kob - and this happened initially because of misidentification. It was thanks to a Rhodes University DIFS doctoral student back in 1997, Mark Griffiths, that the discovery was made. Mark was studying what was then called *Argyrosomus hololepidotus*, also known as the Silver Kob, Kabeljou and Kob.

Amber explains that during his research, Mark realised that he was studying two different fish that looked nearly identical. They are now known as silver kob and dusky kob. There are minor physical differences in pectoral fins, caudal peduncles and their odour (hence the new scientific name for silver kob *Argyrosomus inodorus*), but the two species are completely different when it comes to reproductive age and habits.

The silver kob matures sexually at around 30cm long, when it is nearly two and a half years old. The nearly identical dusky kob (*Argyrosomus japonicus*), on the other hand, only matures when it is one metre long, after around nine years, most of that time spent in estuaries.

"So you can imagine now, if everyone was legally allowed to catch ten fish per day, 40 centimetres long, how the dusky kob stock really declined before we even knew what it was. And then add the fact that they're so reliant on estuaries which are degraded, plus over-exploitation which just exacerbated the situation."

Based on this information, the government authorities (Marine & Coastal Management, now Dept of Forestry, Fisheries and

the Environment) were approached to change the inshore fishing regulations. Given what would be a significant change from 40cm to 100cm (as size limits are based on length at which 50% of the population is mature), the regulations were only changed from 40cm to a 60cm limit, still far short of the one metre limit needed to maintain a healthy population, says Amber.

The dusky kob (also called a Daga) recruits into estuaries, which they use as nursery habitats as larvae.

“Our research has shown that they are recognising these habitats by detecting the turbidity from river plumes in the nearshore zone. The dusky kob strongholds off South Africa are in the Breede, Gamtoos, Sundays, Great Fish, Mbashe and other turbid estuaries along the east coast. Recognising the multiple threats to all kob species, researchers have now put together a ‘Kob Conservation Strategy’ dedicated towards the sustainability and improved management of the *Argyrosomus* genus.”

Fishy Behaviour

“After my PhD, I realised that just knowing movement patterns was not enough. I needed to know the drivers - the mechanistic processes behind the movement patterns. That was the reason I began to delve into the field of fish physiology. How cold or warm must the temperature be to trigger a behavioural response? Or is it the salinity, or dissolved oxygen? Or something else? This information is so important in understanding the impacts of our climate change.

“They don’t always react in the same way, so that’s what is so amazing.

“That’s a real research interest. Another is the individual variability within a fish population, which for many years has been overlooked. It is where you get individuals within the same species behaving differently for various reasons - some fish move, some fish stay, some fish will have a behavioural response to temperature, some may not, all within the same species.

“That’s important for population resilience, because if they all behave in the same manner because of a threat or stressor, they might be wiped out.

“So it is an evolutionary adaptation that fish have developed. In the past, people have ignored the individual variability, thinking it was noise in the data. But it’s not necessarily so.”

Resilient Fish Populations

One of Professor Childs’ PhD candidates recently linked fish behaviour to physiology, and in so doing validated the importance of Marine Protected Areas (MPAs).

“So the idea is that passive fishing selectively targets fish that are more active, bold and aggressive as those are the fish more likely to take the bait. What happens over time, is that one fishes out the fitter, bolder individuals, leaving behind those that are less physiological fit or shyer and are more hesitant to take the bait, even when the water temperature is optimal for them, because they are less inclined towards risk.

“We need behavioural and physiological phenotypic diversity (in other words, both bold and shy, active and less active fish) for a healthy population to thrive, and you’ll only get that from having areas that are completely unexploited (such as Marine Protected Areas), so their numbers can increase.

“Also, we are now seeing an increase in ocean thermal variability, resulting in thermal extremes. The frequency and magnitude of coldwater upwelling events and marine heat waves is increasing as a result because of climate change.

“This means water temperatures will suddenly drop to extreme temperatures. And you’ll get ocean warming, very suddenly. Fish without adaptive capacity or the metabolic ability to cope with changing temperatures possibly will not feed or will not spawn in those temperatures. Or they may die.”

In the laboratory, Amber and her team have been testing the metabolic range of various linefish species to better understand the impacts of thermal extremes on our fishes.

A Mirror in the Tank

“The SAFER Lab recently had some amazing PhD candidates who did several physiological and behavioural laboratory experiments on fishes. One of which ran a series of behavioural tests such as putting a mirror in the tank to see how they’d respond, and a novel object, and then classify them as bold, intermediate or shy on the personality continuum.

“The same fish was then used for respirometry trials to link the high-performance fish with a broad metabolic range to boldness.

“What it has shown so far is that the Marine Protected Areas are harnessing those really fit, bold individuals very well. They are the ones with the adaptive capacity to cope with climate change.

“Those are the fish we need to conserve.”

By Julianne du Toit



The Nature of Chemistry

Rui Krause, Professor of Organic and Medicinal Chemistry at Rhodes University.
Photo: Chris Marais

Professor Rui Krause is an eclectic chemist and teacher at Rhodes University. His research interests have spanned alkaloids from poison dart frogs, Green Chemistry, new forms of antibiotics, and squishy smart drugs.

Some of the most effective cures for cancer, infection, pain, aging and more can be found in Nature. They are often found in the ordinary, but also within the oddest species and in the most exotic places. Think poison dart frogs, Pacific yew trees, poppies, tubeworms and sea sponges, to mention but a few.

In many of these species the molecules (called Natural Products) are bioactive ingredients, but are present in such minute quantities that humans cannot possibly harvest all that is needed from the species alone. In one famous example from the 1970s and 1990s, 13 tonnes of sea sponges were harvested because of a promising anti-cancer molecule, spongistatin. The active ingredient was isolated in a mere 50 milligrammes - the size of a grain of sugar.

There are other considerations.

“Take the Pacific yew tree,” says Professor Rui Krause, who works in Rhodes University’s Chemistry Department. “It produces a molecule called Taxol, which is a highly efficient

treatment for cancer. But the active ingredient is in the bark, and it's simply not sustainable or right to kill these 100-year-old trees by stripping away the bark. The first syntheses were made in the 1990s."

Rui Krause did not grow up surrounded by Nature. Mine dumps were a constant backdrop for him; his father managed slimes dams and tailings for various gold mines on the East and West Rand around Johannesburg, but was remarkable at fixing things. So Rui learned problem-solving from his dad, and at school became interested in chemistry, thanks to a teacher who encouraged experimentation.

"I was the sort of naughty child who took things apart and mixed things together."

The Weird Thing about Alkaloids

Rui first started working on the synthesising of natural compounds during his Applied Chemistry Honours year at the University of the Witwatersrand (Wits). The course took chemical principles and applied them to catalysis, polymer chemistry and biochemistry.

For his Masters degree, Rui Krause joined Professor Jo Michael's group at Wits under the supervision of Dr Ivor Mzwandile Zwane, doing total syntheses of natural products, specifically alkaloids.

"The weird thing about these alkaloids is that most are very toxic, but they can also be very useful in lower doses. So caffeine, nicotine, morphine, atropine, codeine, quinine, all of those are alkaloids. Most of those can also be poisons, but in the right doses, they're very useful."

Jimson weed, or *Datura*, is a common pioneer plant, growing prolifically in disturbed soil. It produces scopolamine, another alkaloid.

"Ingesting just five or six seeds from that plants can cause quite severe hallucinations and all sorts of long-term problems. It is also called the Zombie Drug, but it is useful because like atropine (another alkaloid from *Belladonna*), it causes the eye's pupil to dilate widely enough that an ophthalmologist can shine in a bright light right into the eye for examination, without the pupil narrowing immediately."

Poison Dart Frogs

When Krause converted from a Masters to a PhD, he stayed in the same working group at Wits. They focused on a particular group of alkaloids that could be harvested from poison dart frogs. These are brightly coloured and highly toxic amphibians from Central and South America. Indigenous tribes would transfer the poisons from the frog skins onto their arrowheads. The toxins would fell a hunted animal, but would not poison the meat.

The alkaloids from poison dart frogs are useful for anaesthetics, muscle relaxants and heart stimulants. Clearly, however, the

mass killing of these exotic amphibians for such active ingredients would be untenable.

His group was ultimately successful in their quest to synthesise the natural products, but it was not easy.

"Most natural products are chiral molecules, having either a left-handed or right-handed form. And just like our left and right hands, they interact differently with various substances. Some are toxic, some are not. For example, lemons and orange scents come from identical molecules, but one is the left-handed and the other is the right-handed form."

"My project was trying to find techniques that could selectively make the left- or the right-handed chiral molecule. Ultimately it was successful, but it took many, many days (and nights) in the lab."

After working at the University of Johannesburg, Rui Krause joined Rhodes in 2012, as a Professor of Chemistry. Since then, much of Professor Krause's work on synthesising natural compounds has been on marine species and on methods for synthesis in general.

"There's a vast diversity or richness in marine natural products along the South African coast. We've got the warm sea current on the one side and the cold sea current on the other, and they meet nicely in Algoa Bay. As a result, we have a real biodiversity hotspot there. We work together with Marine Natural Resources Research SARCHI, Professor Rosie Dorrington, on potential new antibiotics and other promising compounds."

Rust Never Sleeps

A more recent part of Professor Krause's research involves a group of molecules called siderophores. The name comes from the Greek words for 'iron carrier'.

When the Earth was formed, iron was one of its most abundant minerals. As life slowly evolved four billion years ago, iron was the primary source of energy. Hal Drakesmith, Professor of Iron Biology, and Jon Wade, Associate Professor of Planetary Materials, both of University of Oxford, explained why in a 2021 article published in *The Conversation*:

"The conditions of early Earth were very different to those now. In particular, there was almost no oxygen in the atmosphere, which meant that iron was easily soluble in water as 'ferrous iron'. The abundance of nutritious iron in Earth's early seas helped life to evolve."

"As well as contributing to planetary habitability, iron is fundamental for the biochemistry that allows life to happen. Iron has a unique combination of properties, including the

ability to form chemical bonds in multiple orientations and relative ease of gaining or losing one electron. As a result, iron mediates many biochemical processes in cells, especially by enabling catalysis - a process that speeds up chemical reactions. Metabolic processes that are vital to life, such as DNA synthesis and cellular energy generation, rely on iron."

But 2.43 billion years ago, cyanobacteria began to proliferate. Instead of iron, they used hydrogen as an energy source and released a highly toxic, reactive gas as a waste product: oxygen.

It was a disaster for this comfortable anaerobic world. Everything began to rust. Over tens of millions of years, gigatons of iron became non-soluble and dropped out of the seas. Red metal lay strewn in huge layers at the bottom of oceans.

The age of bio-available iron was over, but to this day, life craves it. If we don't have enough in our blood, our haemoglobin cannot carry oxygen.

Siderophores to the Rescue

The hunger for iron runs right through Nature. This is also why siderophores evolved to be so important. These are molecules that assimilate iron and in many species (not ours) helps everything from bacteria and fungi up to accumulate the iron needed to sustain life.

"Quite simply, siderophores are ring-like (or glove-like) structures that bind to iron. We are trying to use siderophores for two things. Firstly, we want to try using them as a sort of Trojan horse. We know that the bacteria need the siderophore, so they're going to take it in. If we combine the siderophore, or siderophore-like pieces with antibiotic, we can use that to deliver to the bacteria and kill it. Humans don't use siderophores, so it's the perfect weapon.

"There's also a major need to find new antibiotics. This ties in with Professor Dorrington's work. We're looking in marine organisms for new siderophores. In fact we are making pieces of the siderophores with what's called a Fragment-Based approach. Instead of trying to make the whole drug, we only want to make and test a piece. Does it bind to iron? Does it work as an antibiotic?"

There are other ways of using siderophores, adds Professor Krause, including using them to help relieve human anaemia, or using them in medical imaging to detect disease and trauma."

"We can also use it by taking out the iron and putting in another molecule, for example, gadolinium, which is similar to iron in size and properties. This can be useful for enhancing medical imaging, like MRI scans."

This is a BRICS project, in which Professor Krause and his team are working with researchers from Brazil and India.

"Their people come here, or our Postdocs go there. Each consortium is different. What we've done is to divide up the tasks. In India, they've got a very good molecular modelling using computational tools to identify things. In Brazil, they're working quite a lot on natural products. So they've been working on making the siderophore molecules."

Most of Professor Krause's Postgraduate students are from African countries, including Ghana, Nigeria, Ethiopia, the DRC and South Africa, along with a few from the USA or Germany.

Squishy yet Smart

Another of Professor Krause's research interests is in drug delivery.

"The biggest challenge is to make drugs that are targeted. Most common medicines are "systemic". For a headache, we take a pain pill and it goes everywhere in the system or body. Only a small amount of that is actually treating the headache.

"Another issue is taking medicine orally. It goes through the acidic stomach, the enzymes in the intestines, then runs the gauntlet of the immune system which tries to get rid of it. How can we find ways of releasing the drug cargo at certain times, or certain places, or under certain conditions?

"It would be better, for example, to find a way of releasing a drug slowly, so you don't have to take so many pills. Or something that will only target certain organs. The molecules we make are described as smart materials. They have properties that respond to the environment.

"We have good drugs for tuberculosis, but the delivery mechanisms are not great. It might be better to inhale the medication instead of swallowing it, since the bacilli for TB often sit in the lung, a humid environment that the drug would respond to."

Smart (or Stimuli-Responsive) drugs are increasingly created of soft nanomaterials, made from oils, organic molecules, or polymers.

"The nanomaterials I make are squishy. They tend not to accumulate and they biodegrade, so they don't become a problem in the environment or body. My philosophy, when making nanoparticles that are so small is: do we really know where they go? Can we really track them? No. So let's make them in such a way that even if they do get out into the environment, they're not going to last out there."

As a result, a big part of Professor Krause's focus includes drug delivery via substances like Polylactic Acid from maize waste, alginates from marine products, and chitosan from crayfish shells. They are all bio-materials, often recognised by the body, mostly non-toxic, and biodegradable.

Green Chemistry

Chemistry is a science that can generate enormous amounts of waste. According to Professor Krause, the synthesis of Taxol back in the 1990s was not without its difficulties.

"At first, there were pitiful yields of somewhere around a quarter of one percent over 20 steps, and so many, many kilograms of waste for every milligram of Taxol. We are now at a stage where Green Chemistry principles of sustainability and efficiency are coming in."

Professor Krause explains that Green Chemistry is a series of principles that try to limit waste, in particular toxic waste, and unnecessary use of energy.

"Researchers like John Warner and Paul Anastas came up with principles by which we could try to change everything we do, from teaching to industry - to make chemistry less harmful. The tagline is 'benign by design'. We can design things from the start to use less energy and produce less waste generally, less toxic waste especially.

"Rhodes University has been quite pioneering in that Professor Rosalyn Klein and I have developed some courses, so we teach Green Chemistry at undergraduate level. Rhodes was the first university in South Africa to sign a Green Chemistry pledge. Part of that has been to try to find tools we can use in synthesis that are more efficient, use less time and generate less waste."

In synthesis, things are created using smaller molecules, many of which come from petrochemicals.

"We have chemical reactions that can take two small pieces, almost like Lego, and put them together. But the way we're doing it is not as efficient as it should be. In the process we also make ten other things that we don't need, and throw away the waste, which might be quite toxic. This is what we are trying to prevent."

Petroleum Problems

There is the ever-present issue of unintended consequences.

"I heard a story about the guy who invented the plastic bag. His son said his dad would be horrified that we throw them away. His dad had invented them to replace paper bags that fell apart or tore when wet. So he thought, people could get this one plastic bag, and use it forever. But we've made them too cheap. So that created another problem."

Why are harmful petrochemicals still being used as base materials when other, more benign options are available? It comes down to logistics and finances.

"Firstly, petrochemicals are concentrated. So you dig a well, you've got all the resources right there in that well. Secondly, we've developed ways of processing them over many decades.

"If we want to use corn waste, or sugarcane waste, or shells of crayfish or whatever, there are two problems. One is that it's distributed. Think of getting enough corn waste. You'd have to collect from many farms. It's high volume but low density. So you spend a lot of money on transport, and it's not concentrated like oil. The number of chemicals per unit volume is very low. So we've got to find ways of concentrating those.

"We can grow algae and it gives us an oil similar to crude oil, but it also gives a kind of powder - like Spirulina. It doesn't behave quite like oil. It doesn't behave like coal. So we don't have the engineering tools to deal with a lot of it. It could be a really useful alternative for making plastic. But then for the whole process in between we don't have the existing tools, and to put those in place is costly. Who's going to invest?"

Working with Small Companies

On Professor Krause's desk lie two curious-looking packets. These are not lunchtime snacks.

"I try to work with smaller companies that need things analysed. For example, this is a seaweed company in Tanzania that needs its product analysed. We're also working with another company that is making powdered instant rooibos. Same thing.

"Quite often small companies need help to iron out some of their processes, or they need to analyse something. My colleagues Vincent Smith, Theodore Geswindt and I have just started working with a local brick company, analysing clays and all sorts of things. So the company has a need, we've got nice resources, plus access to knowledge and instrumentation. I have always tried to provide that kind of service. It helps them, and it helps our students.

"It's a win-win for all. We charge for materials and services, but usually we can help without it costing too much. And the students get exposure to real life issues, get to do some interesting research and also find out what companies are doing."

By Julianne du Toit



In the Flow

Associate Professor Nelson Odume, Director of Rhodes University's Institute for Water Research. Photo: Chris Marais

Associate Professor Nelson Odume, Director of Rhodes University's Institute for Water Research (IWR), explains why he is so passionate about safeguarding freshwater, and how the IWR works.

Associate Professor Nelson Odume was born and raised on the banks of the Niger Delta, a witness to what can happen when a foreign petrochemical company extracts oil or gas in an African country.

"I saw the pollution firsthand. It was one of the reasons that motivated me to take up this career.

"You would have a huge plot of land covered in thick crude, because from time to time you have spillage. An entire wetland would be covered in crude. There was constant gas flaring. And that smell, all the time. My granny and my granddad told me that before Royal Dutch Shell came in 1956, we used to catch huge fish. But now they are tiny."

When spills or pollution incidents happened after Shell arrived, "they would come and clean up, but the clean-ups were not thorough. Once that happened, you can't grow crops any more. You can't fish. And these are agrarian communities. So livelihoods and health have been seriously compromised, which is a huge problem."

The end result is that people have lost faith in government.

"These days people just build a house, dig an illegal borehole and forget about government. No one knows the water quality is. There are no studies. You just boil the water and hope for the best."

RISE, Young Man

Odume attended a village primary school and grammar school before heading off to Delta State University, Abraka, for his first degree, a BSc Zoology.

“Originally I had medicine in mind, when I was growing up. But as I became aware of environmental issues and the economic crisis that flows from environmental degradation, I became more interested in water and the ecology.”

Odume came to Rhodes University in 2009 for his Masters Degree, via a scholarship called Regional Initiatives in Science and Education (RISE). Funded by the Carnegie Corporation of New York, it aimed to attract some of the best brains in Africa for higher education in identified areas, of which water was one.

His Masters thesis focused on water quality and biotic response - which is how organisms living in the water react to, and record its quality.

“I graduated in 2011 with distinction. And then, due to my performance, I secured scholarship for my PhD under the same programme, also the Carnegie. It is actually quite rare that one person is funded by the Carnegie Corporation twice.

“My doctorate was on the same theme, the same broad area - water quality and ecology. I finished within three years and one of the external examiners, from Berkeley, University of California, commented that my thesis was one of the most ambitious pieces of work he had ever examined.”

Before completing his doctoral thesis, Odume started applying for Postdoctoral positions and was lucky enough to secure one at Rhodes University through the National Research Foundation.

In 2016, before his Postdoctoral fellowship was over, Nelson Odume was asked to join Rhodes University's Institute for Water Research as a Senior Researcher. He was also appointed the Director of the IWR's Unilever Centre for Environmental Water Quality (now Centre for Environmental Water Quality).

“The Institute for Water Research focuses on environmental water quality, ecology, hydrology and water governance. We do a lot of policy engagement, community engagement and we develop tools that are used by decision and policy makers.”

A Governance Issue

Issues caused by governance tend to sprawl into other areas, Professor Odume explains. Many municipalities, including Makana, struggle to provide safe, constant drinking water.

“In Makhanda, there is a belief that water supply and quality is problematic because of technical issues. That is not true.

It is purely a governance issue.

“In South Africa, one of the greatest polluters of our water resources is wastewater from municipalities. Wastewater Treatment Works (WTWs) are among the biggest, if not the biggest polluters of our water resources, again because they're not properly run. More than 70% of the WTWs in this country are dysfunctional. That is a common feature everywhere.

“Wastewater is a function of municipalities, and theoretically, National Government could enforce the rules via the courts. That is what would happen if a private entity pollutes.

“But because of this Intergovernmental Relations Framework Act of 2005, National Government very seldom takes on a local municipality, and the latter gets away with the consequences.”

The Push of Civil Society

A large percentage of the Institute for Water Research's work is done for the Water Research Commission, an agency of the Department of Water and Sanitation.

“The WRC is now increasingly investing research into the risk implicit in water governance issues. Historically, it was mainly technical, engineering and all of that. But now we know that governance is a major problem.

“The push comes from civil society. They are the ones questioning. I have found that the municipal space is a very challenging one to work in. It is probably one of the most complex areas to make meaningful changes. Just getting hold of the right officials in a room is quite difficult.

“You might go and meet the municipal manager, but because of political instability, when you come back in two week's time, there is a different one. Or there is an acting municipal manager. And in three month's time, there is another one. We've occasionally found two acting municipal managers. How can you deliver services in such environments?”

Leaking Money

Another governance issue is non-revenue water - which is purified and treated but lost in the supply process. This translates to a major leakage of municipal money.

“It happens through lack of maintenance, through improper metering, through vandalism and amounts to an unacceptably high 35% of water and revenue loss.”

Some of the problems correlate directly to the courting of the electorate. From 1994, the emphasis in South Africa was on extending and rolling out new infrastructure. This meant bringing services to grateful new voters who had never had these services, rather than just maintaining the existing infrastructure with its existing users.

“What our research is now showing that extending services to new users without maintaining existing infrastructure can cause serious problems. So you are building, but behind you, things are starting to fall apart.

“We are a water-scarce country, yet we are wasting our water.”

What Happens to Plastics in Water?

In the Institute's Water Quality research programme, there is a major focus on plastic pollution.

“We are trying to understand how plastic pollution affects water resources in terms of water quality, biodiversity, freshwater habitats and their integrity.

“One of the findings that is coming out is that plastics in water are capable of absorbing chemicals - including pharmaceuticals and hormones.

“Greenish-brown biofilms accumulate on the surface of plastic that is underwater for a long time, and they are chemically active. The biofilms contain antibiotics-resistant genes and bacteria that aggregate on these surfaces.”

Professor Odume said they were still trying to understand what the long-term ecological implications of this might be.

“But we have at least established that this is happening. We have empirical evidence.”

On the potentially positive side, all kinds of other lifeforms are also finding a home on plastics bobbing around in rivers, said Professor Odume.

“They tend to support some level of biodiversity. Organisms seem to regard these plastics as habitats and they are colonising it. These are macro invertebrates - ones you can see with your naked eye - insects and molluscs and so on. The bigger pieces of plastic serve as stable enough surfaces upon which they breed and live.”

Underground Water

“The IWR is very active in hydrological research and modelling, for both groundwater and surface water. We do a lot of work on estimating groundwater recharge. What kind of aquifers exist in a particular area? How much groundwater can you actually extract while not depleting the aquifer?

“Groundwater reserves vary according to geology. In dry landscapes like the Karoo, there are interconnected aquifers that are fractured and under geological pressure. So if there is groundwater pollution, it will travel and spread the pollution from one aquifer to another.

“We do a lot of surface water estimation where we assess

how much water flows in rivers, and how much of it can be used for irrigation and other uses. And in that regard we have developed platforms and models routinely used in the country for surface and groundwater. Quite a few of our students are focused on hydrological modelling and general hydrological work.”

The Ecological Reserve

In South Africa, the National Water Act specifies that only two entities have rights to water. One is called the human need reserve. This is water for drinking, cooking and hygiene.

The other is the ecological reserve. This is the amount, quality and predictability of supply needed for the basic functioning of the ecosystem.

It is quite remarkable, points out Professor Odume.

“South Africa is one of very few countries that actually has environmental rights embedded in the law. What that means is that, legally, before you use water for agriculture, industry, mining or whatever, you have to determine and set aside the amount of water needed for the ecological reserve and basic human needs. We at the Institute do a lot of work that supports this ecological reserve - river by river, and catchment by catchment.”

The Institute also works on landscape ecology, also known as rangeland research. This seeks to understand the ecosystem services supplied by rangelands, and how they support rural livelihoods, typically in terms of livestock farming.

Water Research for Africa

The Institute for Water Research offers Masters and PhD degrees in Water Resource Science or Hydrology.

“We place our students in our research projects or programmes in various areas. Some are working on governance issues, some of them are working on ecology, some of them are working on water quality, ecotoxicology, hydrology, computational and molecular microbiology, and landscape ecology.

“We have the Centre for Environmental Water Quality, which used to be the Unilever Centre for Environmental Water Quality. So that's focusing on water quality, ecology, and microbiology work.

“The Institute also has international programmes. The IWR is the home of the African Research University Alliance (ARUA) Water Centre of Excellence (CoE) which links research-intensive universities on the continent. In the CoE, the UK's Research and Innovation Fund (UKRI), is supporting a project dedicated to understanding and equitably harnessing the



Associate Professor Nelson Odume (far right) with some of the Postgraduate students and staff at the Institute for Water Research. From left to right, Peter Wasswa of Uganda, Sofia Lazar of Algeria, Andrew Ali of Nigeria, IWR Senior Technical Officer Khaya Mgaba and Havilah Nnadozie of Nigeria. Photo: Chris Marais

benefits of water resources on the continent, with a focus on Nigeria, Senegal, Ethiopia, Tanzania, South Africa and Rwanda.

“The IWR is also the home of the African Water Resources Mobility Network (AWaRMN). It supports capacity building and mobility of students and staff on the continent through the training of Masters and Doctoral students. AWaRMN supports about 35 students across the continent. The rule of this programme is that in order to benefit, you have to leave your home and go somewhere else in Africa to study. It facilitates intra-African mobility of students and staff.

“Two of our South African Masters students have just returned from Algeria in North Africa. We are preparing a bursary for more of our Rhodes students to go to Nigeria, Uganda or DRC. They will be registered with us at Rhodes University, but will then go to a partner country, either Nigeria or DRC or Uganda, to do research. Rhodes is the coordinating university. This is funded by the European Union.

“Some of our students are funded by the NRF, the National Research Foundation, the Water Research Commission, and other international grants such as the UKRI, EDCTP (European and Developing Countries Clinical Trials Partnership), and the EU.

Where does the Research Go?

The Institute of Water Research often does contract research for the Water Research Commission (WRC), established as an agency of the Department of Water and Sanitation. Every year, they put out calls for research funding. And various academic bodies, including the IWR, apply for them.

“Of course, we are an academic institution, so we do a lot of publications in academic journals. That is part of our science communication. And one of the vehicles we use for reaching the general public is *The Conversation*, where we have published extensively.

“From time to time we generate research products that we actually hand over to the Government, like decision-support systems for the Department of Water and Sanitation, for use in terms of water resource assessments and water quality.

“If we work in a community, we summarise their research in both local language and English and then go back and give feedback. We report on what we’ve done and what it means, our recommendations and feedback, both verbal and written.”

By Julienne du Toit



Rhodes University Research Report 2022

Departments

Chris Hani, much to the wonder of the township youth, arrives at the Grahamstown stadium, 1990.
Photo: TJ Lemon

Centre for Higher Education Research, Teaching and Learning (CHERTL)

INTRODUCTION

The Centre for Higher Education Research, Teaching and Learning (CHERTL) contributes to the academic project of Rhodes University through offering a range of staff and student development programmes. In addition, CHERTL staff supervise Postgraduate scholars whose projects focus on critical issues in the field of Higher Education. Centre staff conduct research in the fields of academic staff development, educational technologies, knowledge in the curriculum, social justice in higher education, and student access to knowledge practices in higher education.



Associate Professor Jo-Anne Vorster -
Head of Department

Postgraduates / Graduations

Doctoral graduations:

Dr Puleng Lorraine Motshoane: *The mechanisms conditioning doctoral supervision development in public universities across South Africa.*

Dr Nomathemba Faustinah Ngcobo: *The uptake of Educational Technology in South African Higher Education: A study of the context that conditioned emergency remote teaching in the pandemic.*

Dr Bella Phetheni Vilakazi: *An epistemic justice account of students' experiences of feedback.*

Postgraduate Diploma in Higher Education (PGDip (HE))

In 2022 thirty-eight (38) scholars completed the PGDip (HE) successfully. Twenty-one (21) academics completed the course for Lecturers, six (6) with distinction, while seventeen (17) candidates completed the course for academic developers, nine (9) with distinction.

Distinguished Visitors / International Visits

Dr Amanda Hlengwa presented a keynote address at the Higher Education Close Up 10 conference held at Lancaster University in the UK. The title of her presentation was *Is mentoring higher education's novice academics a safety mechanism against transformation?*

In July 2022, ten (10) scholars from the CHERTL *Social Justice and Quality in Higher Education* Doctoral group and seven (7) supervisors travelled to the UK to attend the Higher Education Close-Up conference at Lancaster University. After the conference, the scholars attended a writing retreat hosted by the Department of Educational Research at Lancaster University. This week included guest seminars by our hosts, Professor Paul Ashwin and Dr Jan McArthur.

Significant Research Aligned Events

Each year CHERTL hosts three (3) Doc Weeks. In the March Doc Week, the notion of *critical research* in (higher) education was under the spotlight. CHERTL Research Associate and Editor-in-Chief of the journal *Critical Studies in Teaching and Learning*, Emerita Professor Vivienne Bozalek, from the University of the Western Cape and Rhodes University Emerita Professor Chrissie Boughey shared insights from their own critical research on teaching and learning in higher education. The June Doc Week, held online, focused on the messiness of Doctoral research. In our August 2022 Doc week CHERTL hosted Professor Kevin Kinser (Penn State USA), Dr LaWanda W. M. Ward (Penn State, USA), Professor Jan McArthur (Lancaster University, UK), Patrick Onyango (Maseno University, Kenya) and Lynn Kitembe (Moi University, Kenya). We were also joined for this Doc Week by PhD candidates from Lancaster University.

Some Doc Week guests are part of the Phakamisa project, a joint PhD project between Rhodes University, the University of Zululand and Penn State University in the USA. The Kenyan guests are members of the Erasmus Plus-funded, Creating Postgraduate Collaborations (CPC) project. The Lancaster colleagues are part of the *Social Justice and Quality* PhD project. Professor Sioux McKenna, Director of the Centre for Postgraduate Studies is the South African Principal Investigator for the latter two projects.

Back: Dr Kirstin Wilmot, Dr Vince Ndou.

Front: Tisetso Mohloai, Anthea Adams, Professor Megan Campbell, Dr Zelalem Shibeshi, Dr Marcel Atemkeng and Kelly Solomon.

Photo: CHERTL



Centre for Higher Education Research,
Teaching and Learning (CHERTL)

PUBLICATIONS

Books/chapters/monographs

Chiappa, R.

Nerad, M. and Chiappa, R. *Why doctoral education is a place to be committed to social justice: From argument to practice.* (2022) *Global Higher Education during and beyond Covid-19*, 105 - 118.

Chiappa, R., Cantini, D., Karkagologlu, Y., Manathunga, C., Peter, C., Scholtz, B., and Yazar, B. (2022). Social, ethical and cultural responsibility as core values for doctoral researchers in the 21st century. In *Towards a Global Core Value System in Doctoral Education*, 201 - 240. UCL Press.

Mason, S., Lévesqyem M., Jinbe-Meki, C., Abel, S., Balaban, C., Chiappa, R., Grund, M., Joubert, B., Kuchumova, G., Mantai, L., Main, J., Motshoane, P., Qi, Jing, Steyn, R. and Zheng, G. (2022) Reflections from early-career researchers on the past, present and future of doctoral education. In *Towards a Global Core Value System in Doctoral Doctoral Education*, 241 - 256. UCL Press.

Concerts, Exhibitions, Performances, Workshops, Events

Blackie, M.A.L.

McKenna, S. and Blackie, M.A.L. News article. We must embrace new technology that challenges assumptions about higher education. *Daily Maverick*. Daily Maverick, Online. South Africa. 9 December - 1 January 2022.

Peer Reviewed Non-Subsidy-Earning Journal Research Publications

Blackie, M.A.L.

Case, J.M. and Blackie, M.A.L. (2022) Engineering Education Research for educational change: the possibilities of critical realism for conceptualising causal mechanisms in education. *Southern Journal of Engineering Education*. 1 (2022). p.61-74.

Blackie, M.A.L. (2022) Diversity Is an Asset to Science Not a Threat. *International Journal of Critical Diversity Studies*. 4 (2). p.1-10.

Peer Reviewed Subsidy-Earning Journal Research Publications

Blackie, M.A.L.

Lockett, K. and Blackie, M.A.L. (2022) Beyond epistemology: the challenge of reconceptualising knowledge in higher education. *Teaching in Higher Education*. 27 (8). p.1018-1026.

Ellery, K.

Ellery, W.N. and Ellery, K. (2022) The Okavango Delta Peatlands. *World Geomorphological Landscapes*. 2022 (2022). p.37-56.

Hlengwa, A., Quinn, L. and Vorster, J.A.

McKenna, S., Hlengwa, A., Quinn, L. and Vorster, J.A. (2022) From affirmative to transformative approaches to academic development. *Teaching in Higher Education*. 27 (8). p.1005-1017.

Matiwane, A.

Prevec, R., Nel, A., Day, M.O., Muir, R.A., Matiwane, A., Kirkaldy, A.P., Moyo, S., Staniczek, A., Cariglino, B., Maseko, Z., Kom, N., Rubidge, B.S., Garrouste, R., Holland, A. and Barber-James, H.M. (2022) South African Lagerstätte reveals middle Permian Gondwanan lakeshore ecosystem in exquisite detail. *Communications Biology* 5, 1154. <https://doi.org/10.1038/s42003-022-04132-y>.

Simbi, C.

Oyewo, B., Hussain, S.T. and Simbi, C. (2022). Challenges of implementing management accounting innovations. *Prometheus* 38 (4). 399 - 426.

Vorster, J.A., Quinn, L. and Blackie, M.A.L.

Parker, D., Vorster, J.A., Quinn, L. and Blackie, M.A.L. (2022) Hybrid approaches to teaching: Re-imagining the teaching of a foundational science course during a global pandemic. *Critical Studies in Teaching and Learning (CrisTal)*. 10 (2). p.1-10.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Booi, M.

Booi, M. and Solomon, K. The role of academic mentorship for staff and students in contributing to transformation and decolonisation at a South African University. *Higher Education Close Up* 10. 4 - 6 July 2022.

Chiappa, R.

Chiappa, R. In times of greater demands for justice, what is the role of academic mentors in higher education? A critical analysis from Chile. *Higher Education Close Up* 10. 4 - 6 July 2022.

Cyster, G.A.

Cyster, G.A. The necessity of and value in researching power dynamics in candidate-supervisor relationships in South African doctoral education. *Higher Education Close Up* 10. 4 - 6 July 2022.

Hlengwa, A.I.

Hlengwa, A.I. Is mentoring higher education's novice academics a safety mechanism against transformation? Keynote address. *Higher Education Close Up* 10. 4 - 6 July 2022.

Knoetze, R. and Clarence, S.

Knoetze, R., Clarence, S., van Heerden, M., Carver, A. and Sieborger, I. Axiology in action: tacit but noisy. *Legitimation Code Theory* 3.5 Conference. Online. January 2022.



From left to right: Professor Lynn Quinn, Professor Sioux McKenna, Professor Chrissie Boughey and Professor Jo-Anne Vorster.
Photo: CHERTL

Muthama, E.

Muthama, E. What does it mean for a university to have an academic project? *Higher Education Close Up 10*. 4 - 6 July 2022.

Quinn, L

Quinn, L. and Vorster, J. What close-up research is needed for responsive academic development practice? *Higher Education Close Up 10*. 4 - 6 July 2022.

Vorster, J.

Quinn, L. and Vorster, J. What close-up research is needed for responsive academic development practice? *Higher Education Close Up 10*. 4 - 6 July 2022.

Solomon, K.

Booi, M. and Solomon, K. The role of academic mentorship for staff and students in contributing to transformation and decolonisation at a South African University. *Higher Education Close Up 10*. 4 - 6 July 2022.

Centre for Postgraduate Studies (CPGS)

INTRODUCTION

The Centre for Postgraduate Studies (CPGS) works across all faculties to support Postgraduate scholars, supervisors, Postdoctoral Fellows, and emerging researchers. The centre's activities are largely funded through the Department of Higher Education and Training's University Capacity Development Grant (UCDG) and include workshops, accredited short courses, writing retreats and writing groups, and the annual Postgraduate Conference. The centre focuses on nurturing a research rich environment which takes seriously our commitment to transformation, sustainability, local relevance, and global impact.



Professor Sioux McKenna - Director

Postgraduate scholars and their knowledge creation are fundamental to the achievement of the university's institutional development plan and to the National Development Plan 2030. However, it is crucial that our focus on knowledge production and dissemination is always underpinned by a commitment to the public good and not simply to achieving output metrics. The centre provides a space for Postgraduate scholars and other stakeholders to come to understand their responsibilities as knowledge creators and to forge close networks that can sustain them in their studies and provide the basis for future collaborations.

Distinguished Visitors / International Visits

CPGS enjoyed a number of distinguished visitors during the year, many of whom visited as part of the ongoing EU funded project *Creating Postgraduate Collaborations (CPC)*. CPGS staff members, Professor Sioux McKenna visited Amsterdam and the Hague and Ms Siphokazi Mankayi attended a grant writing meeting in Naivasha, Kenya, along with Professor Emerita Chrissie Boughey, and colleagues, Professor Gladman Thondhlana from Environmental Science, Professor Kirstin Wilmot from CHERTL, and Sinazo Peter from the Research Office.

Professor Mamotena Mpeta, University of Venda, Professor Patrick Onyango from Maseno University in Kenya, Professor Kevin Kinser and Professor LaWanda Ward from Penn State University in the USA, and Dr Jan McArthur from Lancaster University in the UK all attended the Postgraduate Conference - and brought PhD scholars along with them for the event. The Postgraduate Conference is a highlight in the CPGS calendar and allows Postgraduate scholars from across the institution to share their work, and having so many international guests really added a global flavour to the event and perfectly reflected the conference theme of "Knowledge across borders."

Significant Research Aligned Events

In July, a group of twenty-two (22) PhD scholars and supervisors from Rhodes University and the University of Venda went to the United Kingdom to attend the *Higher Education Close Up* conference, followed by a writing retreat with Professors Paul Ashwin and Jan McArthur from the Department of Educational Research at Lancaster University. The team who enjoyed this trip are part of the DHET funded *Social Justice and Quality in Higher Education* project led by Sioux McKenna.



PhD candidate, Simbongile Ntwasa; Supervisor, Professor Sioux McKenna; and colleague, Dr Nathi Madondo having fun at the *Higher Education Close Up Conference* at Lancaster University.
Photo: CPGS

Centre for Postgraduate Studies (CPGS) PUBLICATIONS

Books/Chapters/Monographs

Boughey, C.

Boughey, C. (2022) Postgraduate education in a globalised world. In: Rule, P., Bitzer, E. and Frick, L. (eds.). *The Global Scholar*. Stellenbosch: SUN PRESS. p.1. ISBN: 9781991201226.

Boughey, C. (2022) Analysing the Impact of Extended Curriculum Programmes: Implications for Theory, Design and Practice. In: Mgutshini, T. (ed.). *Extended Curriculum Programmes: Challenges and opportunities*. South Africa: African Sun Media. p.1-20. ISBN: 9781991201737.

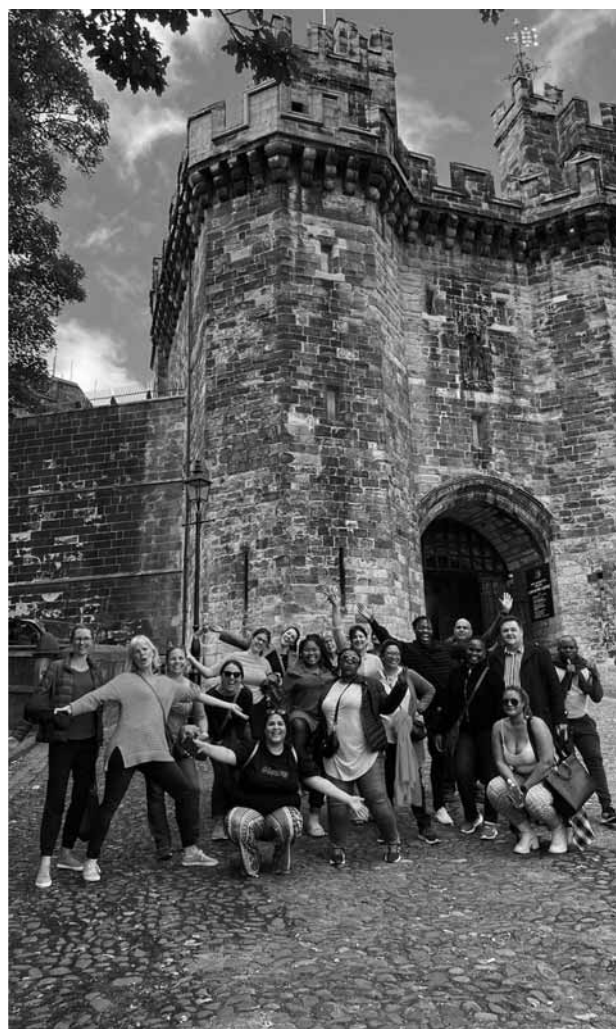
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McKenna, S. and De Bie, G.J.

McKenna, S. and De Bie, G.J. (2022) Interdisciplinarity requires careful stewardship of powerful knowledge. In: Blackie, M., Adendorff, H. and Mouton, M. (eds.). *Enhancing Science Education: Exploring Knowledge Practices with Legitimation Code Theory*. London: Routledge. p.70-82. ISBN: 9780367518707.



The *Social Justice and Quality in Higher Education* team of PhD researchers and supervisors with project PI, Sioux McKenna, enjoy a walking tour during their writing retreat at Lancaster University.
Photo: CPGS

Concerts, Exhibitions, Performances, Workshops, Events

McKenna, S.

McKenna, S. News article. Universities should not use software to monitor online exams: here's why. *The Conversation*. Online. South Africa. 12 August - 1 January 2022.

McKenna, S. News article. Backlash against Higher Education Departments draft university policy misses the point. *Daily Maverick*. Online. South Africa. 16 August - 1 January 2022.

McKenna, S. News article. The moral outrage about plagiarism belies our educative failure. *Times Higher Education*. Online. United Kingdom. 18 November - 1 January 2022.

McKenna, S. and Blackie, M.A.L. News article. We must embrace new technology that challenges assumptions about higher education. *Daily Maverick*. Daily Maverick, online. South Africa. 9 December - 1 January 2022.

McKenna, S. News article. University rankings are an unscientific and socially damaging billion-dollar game. *Daily Maverick*. Online. South Africa. 23 November - 1 January 2022.



The Social Justice and Quality in Higher Education team of PhD researchers and supervisors attend the *Higher Education Close Up Conference* at Lancaster University. Photo: CPGS



Professor Mamotena Mpeta, University of Venda, SA; Professor Patrick Onyango, Maseno University, Kenya; Professor LaWanda Ward, Penn State University, USA, and Professor Jan McArthur, Lancaster University, UK, participate in panel discussion at the Postgraduate Conference.

Photo: CPGS

Peer Reviewed Subsidy-Earning Journal Research Publications

Boughey, C.

Boughey, C. (2022) 'Not there yet: Knowledge building in educational development ten years on'. *Teaching in Higher Education*. 27 (8). p.992-104.

Bozalek, V.G.

Bozalek, V.G. and Hölischer, D. (2022) From Imperialism to Radical Hospitality: Propositions for Reconfiguring Social Work towards a Justice-To-Come. *Southern African Journal of Social Work and Social Development (Formerly Social Work Practitioner Researcher)*. 34 (1). p.1-17.

Shefer, T. and **Bozalek, V.G.** (2022) Wild Swimming Methodologies for Decolonial Feminist Justice-to-Come Scholarship. *Feminist Review*. 130 (1). p.26-43.

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McKenna, S.

McKenna, S. (2022) Plagiarism and the commodification of knowledge. *Higher Education*. 84 (4). p.1283-1298.

McKenna, S. (2022) Neoliberalism conditioning effects on the university and the example of proctoring during Covid-19 and since. *Journal of Critical Realism*. 5 (2022). p.502-515.

McKenna, S., Hlengwa, A., Quinn, L. and Vorster, J.A. (2022) From affirmative to transformative approaches to academic development. *Teaching in Higher Education*. 27 (8). p.1005-1017.

Moyo, M.T. and McKenna, S.

Moyo, M.T., McKenna, S. and Ndebele, C. (2022) How the Teaching Development Grant was used (and the problem of common-sense understandings of teaching and learning). *Journal of Education*. 86 (4). p.126-142.

Community Engagement

INTRODUCTION

Community Engagement is a core function of South African universities together with teaching and learning and research. Based on the premise of social change and social justice, community engagement promotes the developmental and transformative roles of universities by building community-university partnerships for the mutual benefit of all involved including university staff, students and the local communities. Healthy community-university partnership relationships based on the values of respect, participation and sustainability enable Rhodes University Community Engagement (RUCE) division to implement effectively its Engaged Research programme.



Ms Diana Hornby - Director

Postgraduates / Graduations

One (1) student, graduating with a PhD in Education in 2022, has shown dedication, commitment and passion for advancing research that engages with the integral connection between the core functions of the university. The student's PhD research sought to investigate: 1) second language English speaking students' experiences of language in Community Engagement learning within an English medium university in South Africa; and 2) what role Community Engagement plays for second language English speaking students, as they navigate complex questions of identity and belonging within universities. The study was informed by the challenges students may face in the process of acquiring knowledge in higher education institutions. Her study used an in-depth phenomenological approach to understand students' experiences of language from the point of view of second language English speaking students. The analysis and findings of these experiences could pave the way for greater epistemological access, justice and success for students in higher education institutions. The student's research and deep engagement with community engagement has demonstrated how this core function of a university should be integrated into all aspects.

Currently the academic staff in the division supervise four (4) PhD candidates and five (5) Masters students from the departments of Psychology, Pharmacy, and Environmental Science.

Engaged Research: Community-Based Participatory (CBPR) accredited short course and workshops

Funded by the University Capacity and Development Grant, (UCDG) the Engaged Research short course for academics and Postgraduate students was offered in semester 1 and 2. Eight (8) academic staff, two (2) support staff, two (2) Postgraduate students and two (2) community development practitioners successfully completed the course. In addition, fourteen (14) academics from the University of Zululand also completed the course.

The first CBPR workshop for community partners and community members took place on 17 - 18 August 2022 in Makhanda. The workshop was designed as a guide for professionals and practitioners in the development sector. Twenty-six (26) participants from government departments and non-governmental organisations took part in the workshop. Partners organisations represented included, Sophumelela Youth, Grahamstown Nurses Association, Center for Social Development, Mfuzo B. Camp, CM Vellem Primary School, Lebone Centre, St. Marys DCC, Grahamstown Retired Association, Child Welfare, GRANA and the Assumption Development Centre.



Participants in the Community-Based Participatory (CBPR) workshop.

Photo: Community Engagement

The focus of the workshop was on 1) understanding CBPR, 2) collaboration and participation in CBPR, 3) planning for and conducting CBPR. The workshop promoted collective contributions and insights on how CBPR can be used as a tool for change in community development. It also served to motivate practitioners to practice what they have learnt by working more closely with communities and academia in the planning and implementation of research projects.

Knowledge for Change (K4C) Partnership and Hub

The UN 2030 Agenda for Sustainable Development recognizes education as essential for the success of their plan to eradicate poverty, promote prosperity and well-being for all, and protect the planet. One important component in this context is the creation of new knowledge and action partnerships between Higher Education Institutions (HEIs) and community actors working on the front line. The K4C Consortium, established in 2016, is an international partnered education initiative that makes an important contribution to the development of the next generation of community-based participatory researchers and institutional research capacities at HEIs and community actors, for the solution of critical community issues within the framework of the UN SDGs. RUCE is one of the partners of the Southern Hub of the Knowledge for Change (K4C) Global Consortium in South Africa. Currently twenty-one (21) Hubs from fourteen (14) countries form part of the K4C CBPR Consortium. The K4C Consortium offers a Community Based Participatory Research (CBPR) Mentor Training Program (MTP) for co-creation of knowledge and research capacity building. The mentors focus on the co-construction of knowledge and its application to the solution of community issues linked to at least three (3) of the UN SDGs; and use their learning's further, to train university students, staff and community partners in CBPR. In 2021, three (3) RUCE

academics, Dr Bezerra, Dr Oosthuizen and Ms. Nqowana and one (1) community partner, Ms Canca, successfully completed the K4C Mentor Training Programme (MTP) hosted by the University of Victoria in Canada. The MTP was a 21-week course based on online learning activities, a two-week face-to-face learning component (postponed due to Covid-19 in 2021 but successfully hosted in Malaysia in 2022), and a field study component that was conducted locally. This team developed and piloted an Engaged Research short course for academics and Postgraduate students at the end of 2021 and the course was successfully offered twice to Rhodes staff and Postgraduate students in 2022. The course was also offered to academics from the University of Zululand in June 2022.

Dr Oosthuizen, the Engaged Research coordinator, attended the UNESCO World Higher Education Conference in Barcelona Spain from 14 - 21 May 2022 and presented on the Rhodes University Scholarship of Engagement. She was further invited to serve on a panel of the Faculty of Medicine of the University of Barcelona on People Centred Health Care. She was one (1) of three (3) international panellists invited to participate on the panel and she focussed on Rhodes University's collaboration with Makhanda stakeholders in the response to the Covid-19 pandemic. Her attendance, contribution, and deliberation at this conference, strengthened the K4C collaboration with the UNESCO CBPR Chairs as well as other K4C Hubs around the world. Discussions at the K4C sessions in Barcelona also focussed on the establishment of national and regional Hubs to increase structure and collaboration within the Consortium. In November 2022, Dr Oosthuizen, Ms. Nqowana and Ms. Canca attended the face-to-face residency in Malaysia, with the focus on practical application of CBPR.

RUCE Imbizo

The RU Community Engagement week Imbizo successfully took place on 11 May 2022 at Amazwi. The Imbizo provided a platform to community partners and students to reflect critically on their CE experiences. Eight (8) community partners and eight (8) students presented at the Imbizo. The presentations covered projects on food security, education, river rescue, tutoring and mentoring, reading and chess clubs and counselling services offered in Joza. Dr Peter Clayton, the DVC for Research, was the keynote speaker and he highlighted the importance of CE as one of the key foundational principles of the university. He officially launched the Rhodes University *African Journal for Higher Education Community Engagement (AJHECE)*. The last part of the Imbizo allowed community partners and students to reflect on *Power and Privilege Dynamic* in the CE space. Karabelo Ramosala, a Counselling Psychologist from the Psychology Department, facilitated this session.

African Journal of Community Engagement in Higher Education

RUCE launched the *African Journal of Higher Education Community Engagement (AJHECE)* at the May 2022 Imbizo. It is envisaged that the first publication of this research-focused journal on community engagement will be in 2023. In comparison to teaching, learning and research in higher education, community engagement is a recently introduced and less known core function of higher education in South

Africa and other parts of the African continent. For the continent of Africa, the engagement of higher education institutions with communities is an imperative if we are to address and challenge the problems of social injustice, poverty, corruption, unemployment and epistemic injustice as examples of some of the almost insurmountable struggles confronting Africa.

Building a Research Team

RUCE's nGAP lecturer, Thandiwe Nqowana has made great strides in her field of study for her PhD in Biotechnology. Through her water biotechnology research, she attempts to bring tangible benefits to South African communities using the community-based participatory research approach. Access to healthy drinking water has become one of the most valuable commodities for many South African communities. Through the incorporation of local insights and knowledge through the help of community researchers, it was found that continuous water testing is a critical need. The collected data serves as the foundation for designing water-monitoring prototype technology that will be accessible and empowering for community members. The case study was amongst the Top 6 cases chosen globally by Sockets Co Creation as a societal engagement project. Her research has received funding from the NRF's Research Chair in Biotechnology Innovation and Engagement, NRF's Research Chairs Initiative, Communities of Practice: Social Learning and Sustainable Development. Thandiwe has been selected to be part of the young female scientist programme in Japan hosted by Okayama University in February 2023.



Community-based water quality monitoring. One of the citizen scientists at the Amakhala Game Research explains the distribution of water sources at Kraaibos to RUCE's staff member and Engaged researcher, Thandiswa Nqowana. Photo: Community Engagement

Dr Bertha Sibhensana joined RUCE as a Postdoctoral Fellow and was appointed as a Lecturer towards the latter part of 2022. Her research areas of interest include social innovation and social entrepreneurship, public private partnerships, governance and policy in higher education. As a Lecturer, Dr Sibhensana will coordinate RUCE's service-learning programme.

Dr Margie Maistry and Dr Katy Pepper joined the RUCE team as Research Associates. They have both contributed widely to the research output of the RUCE division in 2022.

Research Output Summary

Dr Margie Maistry was one of the editors and chapter contributor of a book on Social Work that will be available from 2023. The RUCE team have been extensively involved in facilitating workshops and being guest panellists in digital storytelling, community engaged learning, engaged research and service learning locally and internationally. The RUCE team further presented at numerous local and international conferences focussing on university social responsibility, engaged scholarship, digital storytelling for cohesion and healing, social entrepreneurial development, disaster risk management and the making of diagnostic tests for monitoring health, water, and the environment. A number of research papers are being written for publication in 2023.

Community Engagement PUBLICATIONS

Concerts, Exhibitions, Performances, Workshops, Events

Carlos Bezerra, J.

Carlos Bezerra, J. Presenter. *The Scholarship of Engagement, Research and Service-Learning*. Webinar. Durban University of Technology. 17 August 2022.

Carlos Bezerra, J. and Nqowana, T.

Carlos Bezerra, J. and Nqowana, T. Facilitators. Service Learning. *Short course workshops. Academics. University of Zululand*. 20 - 24 June 2022.

Nqowana, T.

Limson, J., **Nqowana, T.**, Mfuku, A. Parnelist. *Webinar on Community Engaged-learning, student knowledge exchange and enterprise challenge approaches. Keele University and Rhodes University*. 7 October 2022.

Matyobeni, T.

Matyobeni, T. Facilitator. 3-day Digital Storytelling Workshop. *DST for Social Innovation*. Makhanda. South Africa. 22 - 24 January 2022.

Matyobeni, T. Facilitator. 3-day Digital Storytelling Workshop. *DST for Sustainability and Community Impact in Higher Education*. Potchefstroom, North-West. South Africa. 22 - 25 February 2022.

Matyobeni, T. Facilitator. 5-day Online Digital Storytelling Workshop. DST for Social Innovation. Makhanda. South Africa. 28 February - 3 March 2022.

Matyobeni, T. Facilitator. Digital Storytelling Exhibition. *Stories from Makhanda*. Makhanda South Africa. 30 March 2022.

Matyobeni, T. Facilitator and Skarr, L. Presenter. Business for Better

Workshop Series. *Ethical Entrepreneurship*. Makhanda. South Africa. 30 March 2022.

Matyobeni, T. Facilitator. 3-day Digital Storytelling Workshop. *DST for Social Innovation*. Makhanda. South Africa. 4 - 8 April 2022.

Matyobeni, T. Facilitator. Digital Storytelling Workshop. *DST with Social Psychology (201) students*. Makhanda. South Africa. 22 April - 20 May 2022.

Matyobeni, T. Facilitator. Digital Storytelling Workshop. *DST in Community Psychology*. Makhanda. South Africa. 9 May - 1 August 2022.

Matyobeni, T. Facilitator. 5-day Online Digital Storytelling Workshop. DST for Social Innovation. Makhanda. South Africa. 23 - 27 May 2022.

Matyobeni, T. Facilitator. 5-day Digital Storytelling Workshop. *DST for Social Innovation*. Makhanda. South Africa. 30 May - 2 June 2022.

Matyobeni, T. Facilitator. 2-day Digital Storytelling Workshop. *Storytelling and Mapping with Land Beneficiaries*. East London. South Africa. 7 - 8 June 2022.

Matyobeni, T. Facilitator and Moleko, T. Presenter. Business for Better Workshop Series 1. *Business Models*. Makhanda. South Africa. 15 June 2022.

Matyobeni, T. Facilitator and Moleko, T. Presenter. Business for Better Workshop Series 2. *Types of Enterprises*. Makhanda. South Africa. 23 June 2022.

Matyobeni, T. Facilitator. Digital Storytelling Exhibition. *National Arts Festival Exhibition*. Makhanda South Africa. 24 June 2022.

Matyobeni, T. Facilitator. 1-day Digital Storytelling Workshop. *Introduction to DST*. Makhanda. South Africa. 23 June - 1 July 2022.

Matyobeni, T. Facilitator. 4-day Digital Storytelling Workshop. *DST with Youth (High School Learners)*. Makhanda. South Africa. 4 - 7 July 2022.

Matyobeni, T. Facilitator. Digital Storytelling Workshop. *DST for Social Innovation*. Makhanda. South Africa. 1 - 8 August 2022.

Matyobeni, T. Facilitator. Digital Storytelling Workshop. *DST with South African Institute for Aquatic Biodiversity*. Makhanda. South Africa. 14 - 18 November 2022.

Matyobeni, T. Facilitator. Digital Storytelling Exhibition. *Heritage Day Stories*. Makhanda. South Africa. 23 September 2022.

Nqowana, T. and Oosthuizen, R.C.

Nqowana, T. and Oosthuizen, R.C. Facilitators. Engaged Research. *Short course workshops*. Academics. University of Zululand. 20 - 24 June 2022.

Oosthuizen, R.C.

Oosthuizen, R.C. Guest panellist. UNESCO World Higher Education Conference. Faculty of Medicine, University of Barcelona. People Centred Health Care. *The case of Rhodes University in the multi stakeholder response to the Covid 19 pandemic in Makhanda South*. International Conference. Barcelona, Spain. 15 - 20 May 2022.

Oosthuizen, R.C. Facilitator. K4C Southern Hub programme development. University of Brescia Summer School. *Community empowerment through participatory research: sustainable urban environment coping with climate change*. 11 - 22 July 2022.

Oosthuizen, R.C. Facilitator. Engaged Research. Research that is responsive to societal challenges. *Research Seminar*. Centre for Postgraduate Studies, Nine Tents Research group. April 2022.

Nkwinti, N.

Canca, M. Facilitator and **Nkwinti, N.** Community-Based Participatory Research. *CBPR as a Methodology*. Makhanda, South Africa. 16 - 17 August 2022.

Nkwinti, N. Facilitator and Maneya, P.M. Building sustainable Community-University Partnerships in Primary Education through Student Organisations. Rhodes University. 3 September 2022.

Peer Reviewed Subsidy-Earning Journal Research Publications

Carlos Bezerra, J.

Rouillard, T.K., Deponselle, K.N. and **Carlos Bezerra, J.** (2022) Whose sense of place? Catering for residents and tourists from an open-access protected area in South Africa. *Sustainability*. 14 (15525). p.1-16.

Hornby, D. and Maistry, S.

Hornby, D. and Maistry, S. (2022) Developing Relationships for

Community-Based Research at Rhodes University: Values, Principles and Challenges. *Palgrave Studies in Education Research Methods*. 2022 (2022). p.121-138.

Maistry, S.

Willmore, S.B., Day, R., Roby, J.L. and **Maistry, S.** (2022) Ubuntu among the 'born frees': Exploring the transmission of social values through community engagement in South Africa. *International Social Work*. 1 (1). p.1-13.

Paphitis, S.A.

Paphitis, S.A., Bentley, A., Asher, L., Osrin, D. and Oram, S. (2022) Improving the mental health of women intimate partner violence survivors: Findings from a realist review of psychosocial interventions. *PLoS ONE*. 17 (3). p.1-22.

Ahmad, A., Ahmad, L., Andrabi, S., Salem, L.B., Hughes, P., Mannell, J., **Paphitis, S.A.** and Senyurek, G. (2022) Traumatic Imagination in Traditional Stories of Gender-Based Violence. *AMA journal of ethics*. 24 (6). p.530-534.

Paphitis, S.A.

Macleod, C.I., Glover, J.M., Makuse, M.L., Kelland, L. and Paphitis, S.A. (2022) Male Peer Talk About Menstruation: Discursively Bolstering Hegemonic Masculinities Among Young Men in South Africa. *Women's reproductive health*. 0 (0). p.1-18.

Sibhensana, B.

Sibhensana, B. (2022). Conceptualising public private partnerships for social innovation through community engagement in higher education institutions. Accepted for publication in the *South African Journal for Higher Education*.

Pepper, K.

Pepper, K. 2022. 'If I don't take my treatment, I will die and who will take care of my child?': An investigation into an inclusive community-led approach to addressing the barriers to HIV treatment adherence by postpartum women living with HIV. DOI: 10.1371/journal.pone.0271294 PONE-D-21-37540R1.

Research Papers Presented at Academic /Scientific Conferences (Non-peer-reviewed Proceedings)

Carlos Bezerra, J. and Talbot, A.

Carlos Bezerra, J., Mokhatla, M., **Talbot, A.**, Matyobeni, T., Blaauw, K. and Mpapane, N. Cultural Heritage and Meaning of the Tsitiskamma for its Communities. *4th Garden Route Interface and Networking (GRIN) meeting*. Pine Lake Marina, Sedgfield, South Africa. 11 - 13 October 2022.

Hornby, D.S.

Hornby, D.S. SDG 17: University Social Responsibility through Partnerships for Student and Community Development. *PUAT International Conference, Greece*. 15 - 16 October 2022.

Matyobeni, T.

Matyobeni, T. Bonding and belonging: Digital storytelling for social cohesion and healing at Rhodes University Community Engagement's Social Innovation Hub. *Rise Up 10th International Digital Storytelling Conference*. Loughborough, UK. 20 June 2022.

Matyobeni, T. Building Cohesive Communities: Reflecting on Digital Social Innovation for Engaged Scholarship. *International University Social Responsibility Summit*. Hong Kong. 16 November 2022.

Nkwinti, N.

Nkwinti, N. Developing Transformative Community-University Partnerships: A Participatory assessment of Rhodes University Community Engagement monitoring and evaluation system. *Post-graduate Conference, Crossing the borders of knowledge. Rhodes University*. 2 September 2022.

Nqowana, T.

Nqowana, T., Limson, J., and **Madikiza, L.** The journey to making diagnostic tests for monitoring health, water, and the environment. *STEAM Conference*. 4 October 2022.

Oosthuizen, R.C.

Oosthuizen, R.C. Scholarship of Engagement. The case of Rhodes University in South Africa. UNESCO World Higher Education Conference, Knowledge for Change. *International Conference*. Barcelona, Spain. 15 - 20 May 2022.

Oosthuizen, R.C. Community Based Research: Various Institutional Approaches to Engaged Scholarship. Plenary Panel: Engaged Scholarship at Rhodes University: Engaged Research. *3rd International Comber Conference*. North West University, The Roots Potchefstroom. 24 - 25 November 2022.

Oosthuizen, R.C. Epistemic Justice. Journey from traditional researcher to engaged researcher. *University Social Responsibility Network (USR) virtual Summit 2022*. 16 - 18 November 2022.

Oosthuizen, R.C., Canca, M. and Nkwinti, N. 2022 Community-Based Participatory Research: An Engaged Research Approach for Social Change. *3rd International Comber Conference*. North West University, The Roots Potchefstroom. 24 - 25 November 2022.

Chapman, E.D., **Oosthuizen, R.C.**, Ristvej, J., Tandlich, T. and Tandlich, R. (2022). What is a crisis, an emergency or a disaster? Theoretical analysis of three recent examples and the lessons going forward. *The International Emergency Management Society (TIEMS) Conference*. Kennesaw State University in Atlanta, USA. TIEMS 2022 Hybrid Annual Conference. 17 - 21 October 2022.

Andlich, R., Shwababa, S., **Oosthuizen, R.C.**, Pyle, D., Brazer, P.J., Tau, M., Srinivas, S. and Dick-Sagoe, C. (2022). Strategic plan for the 2023 TIEMS Annual Conference in South Africa. *The International Emergency Management Society (TIEMS) Conference*. Kennesaw State University in Atlanta, USA. TIEMS 2022 Hybrid Annual Conference. 17 - 21 October 2022.

Bayne, R.J., Maguire, K., **Oosthuizen, R.C.** and Tandlich, R. Quality of the shipped drinking water in a drought-stricken country. *The International Emergency Management Society (TIEMS) Conference*. Kennesaw State University in Atlanta, USA. TIEMS 2022 Hybrid Annual Conference. 17 - 21 October 2022.

Sibhensana, B.

Sibhensana, B. Social Entrepreneurial development: The key to promoting active participation of smallholder farmers in local, national and global value chains. *International Conference. Connecting Worlds on Food and Water*. Vrije University, Netherlands. 30 June - 1 July 2022.

Talbot, A.

Talbot, A. Reviving Schooling in Makhanda, South Africa: digital stories and perspectives from student leaders. *10th International Digital Storytelling Conference 2022*. Loughborough, UK. 20 - 22 June 2022.



African Journal of Higher Education Community Engagement.

Photo: Community Engagement

Library Services

INTRODUCTION

2022 marked the end of our current strategic planning and implementation cycle. The Lekgotla for the IDP Review took place at Mpekwani from Friday, 12 - 14 August 2022. The draft summary of Lekgotla deliberations will be used to review the library strategy for 2023 to 2027.

The Rhodes University Library Services (LIS) report presents highlights from our research activities. The LIS is a critical partner in the research endeavours at Rhodes University. This report covers the following strategic objectives:

- Rhodes Research Outputs Management
- Researcher Visibility and Reputation Management
- Knowledge Repository Development
- Open Science Advocacy
- Research Support



Ms Nomawethu Danster - Director

Rhodes Research Outputs Management Digital Repositories

One of the strategic objectives of the Rhodes Library is to ensure the accessibility and preservation of scholarly communication for optimal discoverability and visibility. The philosophy of Open Science and Open Scholarship underpins this objective. In partnership with other research support functions, namely the Research Office, CHERTL, and the Centre for Postgraduate Studies, the LIS strives to deliver a wide range of research activities that are also enhanced via representation at the Library Committee and Research Committee meetings.

The Library hosts and manages the institutional Rhodes Digital Commons, the University's official repository system. The repository is multifaceted, with the following specific facets of core value in making Rhodes University's research visible:

- **Rhodes Digital Commons (Repository)** for articles and conference papers, occasional papers, inaugural lectures, theses & dissertations, etc.
- **Rhodes Digital Commons (Research Data)** for research datasets and Open Education Resources (OERs)
- **Rhodes Digital Commons (Journals)** for Rhodes hosted journals

The uploading of articles to the Institutional Repository, **Rhodes Digital Commons (Repository)** for research articles, and **Rhodes Digital Commons (Research Data)** (FigShare) for research data remain core projects. These are critical projects as they work towards increasing the visibility of our Researchers and their research output and raising the visibility of our institutional research output. This visibility is promoted via the deep-linking technologies shared between the Repositories and search engines such as Google Scholar.

Rhodes Digital Commons (Repository)

Table 1: Rhodes research output on the Institutional Repository platforms at the end of 2022

System Application	Project/Notes Quantities	Type	Term 1	Term 2	Term 3	Term 4	YTD	TOTAL (Snapshot)
Rhodes Digital Commons	Titles Loaded incl. articles, conference papers, theses & dissertations	RU Main	0	372	339	66	777	14 574
		RU Cory	0	0	0	0	0	6 874
		RU ILAM	0	6 093	6 093	2 895	15 081	19 283
		RU SAIAB	0	1	0	0	1	164
Rhodes Hosted Journals	Articles loaded of Hosted Journals	African Music	0	0	0	11	11	1 051
		Coelecanth	0	0	0	0	0	30
		Toposcope	0	0	0	1	1	34
		SAJOG	0	0	0	-	0	146
Rhodes Research Data	Objects and Collections Loaded		0	0	5	0	11	117

Rhodes Digital Commons (Research Data Management)

Usage Statistics

Views and Downloads:

Total Views: **341 325** Downloads: **6 209**



LEGEND

● 0.0 - 3 637.4 ■ 3 637.4 - 7 273.8 ▲ 7 273.8 - 10 910.2 ◆ 10 910.2 - 14 546.6 ● 14 546.6 - 18 183.0

Downloads per Country

Country	Count
United States	19 729
United Kingdom	3 920
France	2 006
South Africa	1 981
Germany	962
China	731
Netherlands	453
Russia	355
Finland	180
Singapore	146
Ireland	132
Denmark	85
India	62
Japan	62
Latvia	49
Canada	45
Sweden	39
Unknown	36
South Korea	27
Switzerland	20
Italy	16
Ukraine	16
Australia	15
Spain	15
Nigeria	14

Researcher Visibility & Reputation Management

Researcher Visibility & Reputation Management

Registering for an ORCID and managing ORCID profiles is a global research practice to build comprehensive, discoverable and accessible online researcher identities. The Librarians continue to advocate ORCID as an essential research platform to researchers as a means to raise their own visibility and that of their research globally.

The status of **ORCID registrations** by Rhodes academic staff by 30 December 2022 were:

■ 192 not registered their ORCID

■ 227 registered their ORCID

ORCID

Citation Analysis

During this period, the Digital Scholarship Unit collated the information required by:

- **Professor William Froneman** for his NRF academic ranking application
- **Professor Martin Hill** for the renewal application of the DST/NRF SARCHi for Insects in Sustainable Agricultural Ecosystems to the National Research Foundation.
- **Professor Rosemary Dorrington** for the review of her DST/NRF SARCHi for Marine Natural Products Research by the National Research Foundation.

Knowledge Repositories

The unique skillset coupled with relevant services places the Library as a key collaborator and partner in the development of knowledge repositories.

Environmental Learning Research Centre (ELRC)

The ELRC 30 Years of Scholarship project is an exciting collaborative project between the Environmental Learning Research Centre (ELRC) and the Library. The purpose of the project is to:

- Build and sustain a central archive for all research outputs in all formats for the ELRC since 1990.
- Raise the visibility of research outputs and individual researchers.
- Facilitate easy discoverability and access to the research.

Librarians are currently archiving this research output onto the University's institutional repository, Rhodes Digital Commons (Repository), which the Library manages. Librarians assign metadata to each research object, enhancing discoverability and access opportunities. This is exciting because we are also creating a South African-centric controlled vocabulary for the field of Environmental Learning.

Once the retrospective research outputs have been uploaded into the repository, the archive will continue to grow when new research is published.

Sustainable Development Goals (SDGs) Portal

The University's **Environmental Sustainability** page states that:

"Rhodes University is committed to playing a leading role in the Eastern Cape and South Africa with respect to environmental responsibility, in order to promote practices that support a safe, healthy and sustainable environment for all who live in it - a socioecological perspective of sustainability. To this end, Rhodes seeks to pursue a policy of environmental best practice, and include social and ecological justice considerations in decisions relating to the University's curricula, research and management policies."

The Library's SDG project is aligned with the University's sustainability goals. We have taken a multidisciplinary approach to developing a University SDG webpage. We aim to achieve the following:

- **Provide access to information** for each of the seventeen (17) United Nations Sustainable Development Goals.
- Advance the **awareness** of the SDGs.
- **Promote** Rhodes University's multi-disciplinary SDG research Institutes/Centres and programmes.
- Enhance the **visibility and discoverability** of the discipline-specific programmes and researchers.
- Promote the **publishers and partnerships** who are committed to the SDGs.

Open Science Advocacy

Transformative Agreements and Article Processing Charges (APCs)

"Transformative agreement" is an umbrella term describing those agreements negotiated between institutions (libraries, national and regional consortia) and publishers in which former subscription expenditures are repurposed to support open-access publishing of the negotiating institutions' authors, thus transforming the business model underlying scholarly journal publishing, gradually and definitively shifting from one based on toll access (subscription) to one in which publishers have remunerated a fair price for their open access publishing services.

These agreements are a significant departure from the previous standard in subscription license agreements, as they bring the two transactional sides of subscription-based journals, reading access (subscription fees paid by libraries) and open access publishing ("hybrid" APCs predominantly paid by authors), under one centrally negotiated agreement. The dual aim of the negotiations is to bring institutional investments in scholarly journal publishing under oversight and control, with an eye to cost reduction, and to drive a transition of scholarly journal publishing to open access. (*Source: ESAC*).

Transformative Agreements grant corresponding authors, Author Processing Charge (APC) discounts for Open Access (OA) publishing or a set of vouchers (tokens) for OA publication of a limited set of articles. Transformative agreements are designed for the **transition period** from journal subscription licenses towards OA publication. Of the twelve (12) Transformative Agreements in place currently, ten (10) of these are negotiated via the South African National Licencing Consortium (SANLiC) and more information regarding these licencing agreements can be found on the site under the heading "For Researchers" APC's remain at the core of Transformative Agreements and the current deals that Rhodes University participates in, are:

- ACM Digital Library (Association of Computer Machinery) / ACM Open Read & Publish Agreement (TIERD BAND OA MODEL)

- Cambridge University Press/Cambridge Journal Full Package
- Emerald
- Royal Society of Chemistry/RSC Gold
- Sage Publishing/Sage Premier Journals Collection
- Wiley
- Oxford Journals Read & Publish Agreement 2023
- Springer Nature Transformative Agreement
- American Chemical Society
- Science Direct Read & Publish
- Microbiology Society
- SCOAP3 (Sponsoring Consortium for Open Access Publishing in Particle Physics)

Collaborations, Partnerships and Community Engagement

S.E.K Mqhayi project

This collaboration is between the Archive and Public Culture (APC), a research institute based at the University of Cape Town and RUL (Cory). A memorandum of agreement (MOA) has been reached between the parties whereby Rhodes library will make the digital materials (digitised by the Cory Library) from collections about S.E.K Mqhayi available and, where mutually agreed on, material from other collections including relevant meta-data, searchable and accessible as part of the Five Hundred Year Archive (FHYA) portal. The MOA was signed between Rhodes University and the APC in 2022. Plans to launch the project were in place by the end of 2022.

Communications and Advancement - Publishing Library Projects

A working relationship between the Library and the Division of Communications and Advancement culminated in some positive publicity for the Library projects. The two (2) Divisions identified six (6) library stories to be written and published. Writers were allocated to each story by Comms and Advancement. Two (2) stories have been published: the **SEK Mqhayi and the SDGs portal**. The **SEK Mqhayi storyline** marked the heritage month celebrations and was published and posted on other media. Other stories in the pipeline are the **JoVE project** storyline and the **Cradock/Zietsman 4 Inquest**.

The SDG portal storyline.

Historical Collections Development

Albany Horticultural Society

The process of sorting and cleaning the records has now been completed, and a record has been created on the Sierra Library System.

Africana/Rare Books

Several Africana books have been added to the Cory collections. As a preservation and conservation measure, acid-free protective enclosures will be sought for their storage.

Cory Library / AMO Digitised Collections

The Library metadata specialists entered into discussions with Africa Media Online (AMO) regarding the need for templates to complete the metadata of the objects that were digitised in December of 2022. AMO digitised the following material housed in Cory Library:

- Hundred (100) maps, relating to the Eastern Cape and Cape Colony.
- Seven hundred and forty-four (744) Glass Negatives showing views in the Eastern Cape and Western Cape. The negatives include scenes from the Lovedale Institution, as well as rural and missionary life in the area.
- Microfilms nine (9) reels. State versus Abraham Fisher & Others.
- Microfiches thirty-four (34) sheets. Papers relating to Walter Benson Rubusana and the Native Congregational Church in East London, including minute books and correspondence, dated 1887-1941.

Labour Research Service Project - Status Report August 2022

Based on a feasibility study undertaken in 2016 (Rhodes Library Services, 2016), in 2017 Rhodes University Library, together with the Institute of Social and Economic Research (ISER), entered into an agreement with the Labour Research Service (LRS) to establish and integrate the LRS Archive into the Rhodes Digital Commons.

A total of fifty-eight (58) boxes of materials were received from the Labour Research Service (LRS) in August of 2017. The Labour Research Service's collections consist of five (5) separate collections. These collections are:

- Fisher & Others
- Microfiches thirty-four (34) sheets. Papers relating to Walter Benson Rubusana and the Native Congregational Church in East London, including minute books and correspondence, dated 1887-1941

Publications and Outputs

Publications and research output from the Faculties of Science and Pharmacy are available through the Rhodes Library Science & Pharmacy blog - <http://rulscipharm.blogspot.com/>. As follows:

- February 2023:
<http://rulscipharm.blogspot.com/2023/03/science-pharmacy-research-output.html>
- December 2022:
<http://rulscipharm.blogspot.com/2022/12/science-pharmacy-research-output.html>
- November 2022:
<http://rulscipharm.blogspot.com/2022/11/science-pharmacy-research-output.html>
- October 2022:
http://rulscipharm.blogspot.com/2022/10/science-pharmacy-research-output_28.html
- September 2022:
<http://rulscipharm.blogspot.com/2022/10/science-pharmacy-research-output.html>

Peer Reviewed Subsidy-Earning Journal Research Publications

Shell, S.R.

Shell, S.R. (2022) South Africa's Legislative Buildings. *Bulletin of the National Library of South Africa (Former Quarterly Bulletin of the National Library of South Africa)*. 76 (1). p.17-32.

No. of Archive Boxes / Items	Collection Title	Process	Access/Placement
17	South African Labour History Archive - Trade Unions	Digitise (Scan, OCR, Metadata, upload)	LRS Online & Physical Archive
9	South African Labour History Archive - Communities & Politics	Digitise (Scan, OCR, Metadata, upload)	LRS Online & Physical Archive
8 + 1 large wrapped album	Barry Streek Collection	Collection Management	Neil Aggett Labour Studies Unit (NALSU)
24	Bendix Collection	Collection Management	Neil Aggett Labour Studies Unit (NALSU)
2 625	Labour Union Agreements	Digitise (OCR, Metadata, upload)	LRS Online Archive & Physical Archive

Department of Accounting

INTRODUCTION

Research activity in the Department continued at a modest pace due to the focus on the delivery of the SAICA-accredited professional program.

Professor Lilla Stack continued her stellar record of supervising Postgraduate students, and one of her Masters students graduated in April 2022, co-supervised by Mr Sazi Mabaso.

Ms Sone Pretorius, Senior Lecturer in the department obtained her MCom (Financial Reporting and Governance) from UCT. Her thesis was titled "Students' perception of the use of role-plays to facilitate learning ethics in accounting education in a South African University."



Mr Edward Horn - Head of Department

Department of Accounting

PUBLICATIONS

Peer Reviewed Subsidy-Earning Journal Research Publications

Arendse, J.

Simbi, C., Arendse, J. and Khumalo, S.A. (2022) IFRS and FPI nexus: does the quality of the institutional framework matter for African countries? *Journal of Accounting in Emerging Economies*. 13 (1). p.195-215.

Simbi, C.

Oyewo, B., Hussain, S.T. and Simbi, C. (2022) Challenges of implementing management accounting innovations. *Prometheus*. 38(4), pp.399-426.

Department of Anthropology

INTRODUCTION

The Department of Anthropology had a productive year producing one (1) monograph, three (3) book chapters and seven (7) peer reviewed subsidy-earning papers. Current research was presented at three (3) local and three (3) international conferences.

Staff and students are currently involved in a number of interesting research projects. Two (2) new fields of focus have been introduced to the Department through the appointment of Dr Pascall Taruvinga as heritage specialist and Dr Gabriel Darong as medical pluralism specialist.



Associate Professor Michelle Cocks
- Head of Department

Dr Pascall Taruvinga coordinated the cultural components on the implementation of "Rehabilitation and Development of Great Zimbabwe World Heritage Site project" funded by French Development Agency (AFD) and managed by UNOPS with UNESCO as implementing partner. Components focussed on included: documentation and conservation, interpretation and visitor facilities; activation of tourism products and marketing and promotion of the destination and community-based and territorial level management at Great Zimbabwe World Heritage Site project in Zimbabwe. The project seeks to adequately interpret and present the site and its associated intangible cultural heritage elements, support the development of sustainable tourism practices and, develop community-based cultural programming and tourism offers and facilitate the conservation and management of the GZWHS in a sustainable manner.

Dr Gabriel Darong initiated a service-learning research project which was funded by a grant from the Research Office. The project entitled: *ANT101 M2 2022 Introduction to Social Anthropology: Families and households project*, was a new module developed to expose students to the differences between families and households. The words "families" and "households" are often used interchangeably. However, research has shown that there are differences between them. As such, ANT 101 students were involved in visiting thirty-nine (39) households in Makhandia, from whom they learned about the differences in how the notions of family and household are conceived and lived. The second in-service learning project initiated by Dr Darong included a Medical Pluralism project, titled: *Medical Pluralism in Makhandia: exploring collaborative opportunities amongst healthcare providers in understanding and approaching health and illness*. The study aims to explore the potential of medical pluralism in Makhandia by identifying collaborative opportunities amongst healthcare providers in understanding and approaching health and illness. It will create a platform where proponents and practitioners of multiple health care approaches in the community can engage. The study is nested within the Medical Anthropology module, offered to third-year Anthropology students at Rhodes University using a service-learning approach. Current community partners comprise biomedical healthcare practitioners, traditional health practitioners, religious/faith healers, and NGOs involved in health promotion and delivery in the community.

Professor Shankar Aswani was involved in the Belmont Forum project on Transdisciplinary Research for Ocean Sustainability entitled "Negotiating Ocean Conflicts among Rivals for Sustainable and Equitable Solutions". As co-project leader Professor Aswani seeks to better understand conflict around marine resource use and access in Canary and Seychelles Islands. The goal of this project is for ocean management that simultaneously achieves economic wellbeing, economic development, environmental sustainability, social equity, and social inclusion across space and time in a changing climate.

Dr Dominique Santos, assisted by a Masters student Emma Dickson-Bow, undertook research funded by the One Ocean Hub at Kenton-on-Sea, collecting narrative accounts of historical and contemporary social-cultural relationships and memories of this coastal region of South Africa. Utilising interviews and participant observation, the research aims to map the entanglements, tensions and synergies of diverse coastal societies shaped by colonial and apartheid social engineering, and their aftermaths. Dr Santos also conducted research in collaboration with traditional healer Rev Thebe Shale, to examine archival accounts of Portuguese slave shipwreck survivors on the Eastern Cape from the perspective of indigenous cosmologies. The research is supported by the Africa Studies Centre.

Postgraduates / Graduations

Nineteen (19) Postgraduate students were registered in the Department of Anthropology in 2022. These included five (5) PhD, four (4) Masters, 6 (six) Honours and four (4) Postgraduate Diploma in Heritage Management students (PG Dip HM).

Significant Research Aligned Events

Staff members presented papers at numerous conferences, both national and international, throughout the year, including the Museum International Conference, University of Fudan, China and at the Australian Anthropological Society Conference, Deakin University, Geelong, Australia.

One of our former Masters students, Joshua Matanzima, published research from his Masters in two (2) peer-reviewed journals.



Dr Pascali Taruvinga's new book, *Stakeholder Perspectives on World Heritage and Development in Africa*.
Photo: Department of Anthropology

Interviewees, One Ocean Hub Project



Ma Jackmont. Elder in Ekuphumleni, Kenton-On-Sea.



Elder Otto Gosh, Khoe Korana Nation, at Kariega River.



Mrs Daphne McNeil - Retiree and Wave Warrior, Kenton-On-Sea.
Photos: Emma Dickson-Bow

Department of Anthropology

PUBLICATIONS

Books/Chapters/Monographs

Aswani, S.

Pineiro-Corbeira, C., Barrientos, S., Barreiro, R., **Aswani, S.**, Pascual-Fernández, J.J. and De la Cruz-Modino, R. (2022) Can Local Knowledge of Small-Scale Fishers Be Used to Monitor and Assess Changes in Marine Ecosystems in a European Context? In: Misiune, I., Vigl, L.E. and Depellegrin, D. (eds.). *Human-Nature Interactions: Exploring Nature's Values Across Landscapes*. New York: Springer. p.299-314. ISBN: 9783031019807.

De la Cruz-Modino, R., Piñero-Corbeira, C., **Aswani, S.**, González-Cruz, C., Domínguez, D., Ordóñez García, P., Santana-Talavera, A. and Pascual-Fernández, J.J. (2022) Cultural Seascapes in the "Sea of Calms" and La Restinga Coast. In: Dóniz-Páez, J. and Pérez, N.M. (eds.). *El Hierro Island Global Geopark: Diversity of Volcanic Heritage for Geotourism*. London: Springer. p.105-113. ISBN: 9783031072895.

Santos, D.

Santos, D., Shale, R.T. (2022). Speaking with the Sea: Divination and Identity in South Africa. In: Boswell, R., O'Kane, D., Hills, J. (eds) *The Palgrave Handbook of Blue Heritage*. Palgrave Macmillan, Cham.

Taruvunga, P.

Taruvunga, P. (2022) *Stakeholder Perspectives on World Heritage and Development in Africa*. London: Routledge. ISBN: 9781003149361.

Taruvunga, P. and Ziva, D. (2022). Liberation heritage typology and World Heritage: From local dimensions to "universalism". In Abungu, G.O & Ndoro, W (eds). *Cultural heritage management in Africa: the heritage of the colonized*. Routledge. Routledge, UK.

Peer Reviewed Subsidy-Earning Journal Research Publications

Aswani, S.

De la Cruz-Modino, R., Pineiro-Corbeira, C., Gutiérrez-Barroso, J., Gonzalez-Cruz, C., Barreiro, R., Batista-Medina, J., Pascual-Fernandez, J., Gonzalez, J., Santana-Talavera, A. and Aswani, S. (2022) Small but strong: Socioeconomic and ecological resilience of a small European fishing community affected by a submarine volcanic eruption. *Ocean and Coastal Management*. 223 (2022). p.1-17.

Karcher, D.B., Cvitanovic, C., van Putten, I.E., Colvin, R.M., Armitage, C.R.M., **Aswani, S.** and *et al*, (2022) Lessons from bright-spots for advancing knowledge exchange at the interface of marine science and policy. *Journal of Environmental Management*. 314 (2022). p.1-12.

Bova, C., Stephens, J., **Aswani, S.** and Potts, W. 2022. Is the instrumental approach a 'silver bullet' for addressing non-compliance in recreational fisheries: A South African case study. *Fisheries Research*. 255, 106439.

Cocks, M.

Moller, V., Cocks, M. and Vetter, S. (2022) Nature-Connectedness and well-being experienced during best and worst times of life: A case for safeguarding biocultural diversity. *Social Indicators Research*. 165 (2023). p.1053-1089.

Matanzima, J.

Matanzima, J. (2022) Exploring the Origins and Expansion of the Nyaminyami (Water Spirit) Belief Systems Among the Batonga People of North Western Zimbabwe. *Journal of Religion in Africa*. 28 (1). p.1-33.

Matanzima, J. (2022) Stereotyping, Exploitation, and Appropriation of African Traditional Religious Beliefs: The Case of Nyaminyami, Water Spirit, among the Batonga People of North Western Zimbabwe, 1860s-1960s. *Journal of Africana Religions*. 10 (1). p.72-99.

Taruvunga, P.

Taruvunga, P. 2022. Multivocality, Contestations and Social Memory: Interpretation of Sites Associated with Liberation Heritage in Africa. In Lee Sojeong (ed), *Research on the World Heritage Convention and Interpretation Policy Heritage Interpretation for Sustainable Development*. UNESCO WHIPIC (International Centre for the Interpretation and Presentation of World Heritage Sites, Cultural Heritage Administration. Hannuridaero, Sejong, Republic of Korea; Yejin Print. ISBN: 979-11-980698-9-4(93300): 98-104.

Taruvunga, P. 2022. Reconnecting Local Communities to their Heritage. *Inaugural Periodical: Interpreting World Heritage, Road to Inclusiveness*. WHIPIC, Su-hee Chae publishers, Republic of Korea: 16-19.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Cocks, M.

Njwaxu, A., Shackleton, C.M. and **Cocks, M.** Assessing the prevalence of cultural keystone species in the Wild Coast, South Africa. *Indigenous Plant Use Forum*. Virtual, virtual. South Africa. July 2022.

Darong, G.G.

Darong, G.G. Bringing your light to ignite their light: using light/fire in classroom settings to ignite students' passion for learning at a South African University. *2022 HELTASA (Un)conference: #HELTASAFEST22*. Hybrid (Online/Rhodes University), Makhanda. South Africa. December 2022.

Darong, G.G. Creating safe spaces for peer grading at a South African university: case studies of online peer assessments in two undergraduate modules. *2022 HELTASA (Un)conference: #HELTASA FEST22*. Hybrid (Online/Rhodes University), Makhanda. South Africa. December 2022.

Dlamini, M.A.C.

Dlamini, M.A.C. Love is a doing word: Young black men and the doings of love in a South African township. *Australian Anthropological Society Conference*. Deakin University, Geelong. Australia. November 2022.

Taruvunga, P.

Taruvunga, P. Past in the present: emerging heritage management trends in Africa in community development. *Museum International Conference*. University of Fudan, China, Zoom, November 2022.

Taruvunga, P. Museums and Sustainable Development: African Perspective. *International Museums Day 2022*. University of Fudan, China, Zoom, November 2022.

Taruvunga, P. Role of promoting, protecting, and preserving Heritage Resource. *Heritage Month Celebrations 2022*. Sundays River Valley Municipality, Eastern Cape, South Africa: 22 September 2022.

Taruvunga, P. Heritage Management in Africa. *Public Lecture*. University of Fudan, China: May 2022.

Taruvunga, P. Interpretation and presentation: Africa view. *WHIPIC International Seminar on Interpretation and Presentation of World Heritage*. Korea: World Heritage Interpretation. August 2022.

Taruvunga, P. Rethinking Heritage Management in Africa. *Regional meeting of African National Commission For UNESCO*. Tang Palace Hotel, Accra, 11 - 14 September 2022, Accra, Ghana.

Department of Biochemistry and Microbiology

INTRODUCTION

The department is home to ten (10) academic staff members and seventy-one (71) Postgraduate students carrying out research in three (3) disciplines, namely Biochemistry, Microbiology and Bioinformatics. Included in this are two (2) DST/NRF SARCHI Chairs, in the Molecular and Cellular Biology of the Eukaryotic Stress Response (Professor Adrienne Edkins) and Marine Natural Products Research (Professor Rosemary Dorrington). In addition, the department hosts two research units, the Research Unit in Bioinformatics (RUBi), under the directorship of Professor Özlem Tastan Bishop, and the Biomedical Biotechnology Research Unit (BioBRU), led by Professor Adrienne Edkins.



Dr Jo De La Mare - Head of Department

All staff members are actively engaged in research as evidenced by the number of research outputs outlined below, in terms of prestigious grants awarded, publications, conference presentations and student graduations. Research conducted by individual research groups spans a wide range of topics and sub-disciplines. Basic biomedical research projects include natural product and synthetic chemistry drug discovery programmes using computational and laboratory-based methods aimed at pathogenic bacteria, cancer, malaria, trypanosomiasis, tuberculosis, HIV, SARS coronavirus, diabetes and obesity. It further includes research into the stress response machinery of cancer and cancer stem cells, as well its role in Kaposi's sarcoma-associated herpesvirus biology, the interaction of picornaviruses, TB bacteria and *Salmonella* bacteria with host cells, and the identification of viruses associated with gastroenteritis in water sources. Research into biotechnological applications includes the investigation of mycorrhizal fungi for application as biofertilizers in horticulture, agriculture and forestry, the use of enzymes to generate prebiotics, foods/feeds and products of biomedical significance, the exploitation of insect viruses for agricultural pest control, and studying microbiome contributions to aquaponic crop production. The department contributed a book chapter, forty-four (44) authored or co-authored peer-reviewed journal articles and forty-five (45) conference presentations in 2022.

Postgraduates / Graduations

The department graduated nine (9) Honours, twelve (12) Masters and fourteen (14) PhD candidates in the April and October ceremonies. A large contingent of Masters and PhD candidates from the department attended the H3D conference, *A Spectrum of Opportunities in Infectious Disease Drug Discovery to Enhance Global Health*, in Stellenbosch in October 2022. PhD candidates Ruth Omoti John, Michael Okpara, Ronald Tonui and Nnenna Robert won fellowships to support their attendance at the conference, where Nnenna Robert received a prize for her poster presentation (Student Category, Runner Up). Master of Science student, Ariana Watkins, was selected for a studentship at the Francis Crick Institute through University College London.

Distinguished Visitors / International Visits

Professor Matt Upton of the University of Plymouth, who is the UK lead investigator of the SA/UK Antimicrobial Drug Discovery Hub led by Professor Dorrington, was hosted by the department in July 2022 and his Postdoctoral fellow, Dr Grant January, visited the department for two (2) weeks in November/December 2022. Professor Edkins and BioBRU hosted a two-day mini symposium on Proteostasis and Drug Discovery. This event saw presentations from researchers and Postgraduate students at Rhodes University and included visits by leading researchers in protein homeostasis biology, including Professor Greg Blatch (Dean, Higher Colleges of Technology, UAE), Professor Clinton Veale (UCT), Professor



Delegates at the Proteostasis and Drug Discovery symposium hosted by Professor Adrienne Edkins and BioBRU.
Photo: Department of Biochemistry and Microbiology

Addmore Shonhai (UNIVEN) and Dr Fortunate Mokoena (NWU).

Significant Research Aligned Events

As the travel restrictions of the Covid-19 era were removed, academics of the department were once again able to attend research events locally and abroad. Professor Tastan Bishop was invited to attend the Grand Challenges Annual Meeting 2022 in Brussels in October. This meeting is organised by the Bill and Melinda Gates Foundation and brings together funding and research partners throughout the Grand Challenges network. Professor Tastan Bishop was also invited to give a keynote address in the Keystone Symposia dedicated to research on Covid-19 in Brussels. Professor Edkins was invited to present a talk at the 10th International Conference on the Hsp90 chaperone machine in Switzerland.

An unanticipated benefit to arise from the Covid-19 pandemic was a renewed appreciation of how online events, including conferences and workshops, can create additional opportunities for engagement between researchers from around the globe. In this regard, Professor Edkins co-hosted the online ICBS Digital Forum: Chemical Biology and Stem Cells with Shuibing Chen from Weill Cornell Medicine in which featured discussions from leaders in stem cell technology, including Dr Hans Clevers. Professor Edkins also participated as part of the online discussion panel for the iCANX Talk by Kelly Chibale (UCT) entitled 'Translational Medicine Based on Drug Discovery: Malaria case study'.

iCANX is a global science and innovation platform supporting innovation, collaboration and training in global research.

In terms of professional recognition, Professor Tastan Bishop was awarded the Silver Medal from the South African Society for Bioinformatics (SASBi) on its 10th anniversary during the annual conference (April 2022). Professor Tastan Bishop was one of the co-founders and the first President of the society. She was also appointed to the distinguished adjunct Professor position at Saveetha University, Chennai, India.

The staff in the department attracted a number of prestigious local and international grants. In particular, Professor Edkins was one of only four (4) African scientists to be awarded an African Research Leader (ARL) grant from the UK Research and Innovation Medical Research Council to study the most prevalent HIV-associated cancers and supported by collaboration with Leeds University. The ARL is a prestigious 5-year research award of over R15 million made to develop the next generation of leading African researchers. Professor Edkins was also successful in securing R10 million from the National Equipment Programme, which, with co-funding from Rhodes University, will be used to purchase a new cutting-edge confocal microscope. Professor Tastan Bishop received the Project Africa GRADIENT (Genomic Research Approach for Diversity and Optimizing Therapeutics) award funded by GlaxoSmithKline (GSK) and Novartis (NVS) and administered by the South African Medical Research Council (SAMRC). The project, aimed at advancing pharmacogenomics studies in Africa, began in June 2022 and the award is for R3 million over two (2) years.

Books/Chapters/Monographs

Mausse Siteo, S.N.D. and Dames, J.F.
Mausse Siteo, S.N.D. and Dames, J.F. (2022) Mitigating Climate Change: The Influence of Arbuscular Mycorrhizal Fungi on Maize Production and Food Security. In: *Arbuscular Mycorrhizal Fungi in Agriculture - New Insights*. Croatia: InTech. p.1-34. ISBN: 9781837680900.

Peer Reviewed Subsidy-Earning Journal Research Publications

Abrahams, G.L.

Nwahara, N., Motaung, M.B., Abrahams, G.L., Mashazi, P.N., Mack, J., Prinsloo, E. and Nyokong, T. (2022) Dual singlet oxygen and nitric oxide-releasing silicon phthalocyanine for augmented photodynamic therapy. *Materials Today Chemistry*. 26 (2022). p.1-14.

Amusengeri, A. and Tastan Bishop, O.

Amusengeri, A., Khan, A. and Tastan Bishop, O. (2022) The Structural Basis of *Mycobacterium tuberculosis* RpoB Drug-Resistant Clinical Mutations on Rifampicin Drug Binding. *Molecules*. 27 (3). p.1-22.

Anderson, A., Mkabayi, L. and Pletschke, B.I.

Anderson, A., Mkabayi, L., Malgas, S., Kango, N. and Pletschke, B.I. (2022) Covalent Immobilisation of an *Aspergillus Niger* Derived Endo-1,4 Mannanase, Man26A, on Glutaraldehyde Activated Chitosan Nanoparticles for the Effective Production of Prebiotic MOS from Soybean Meal. *Agronomy*. 12 (12). p.1-16.

Barozi, V., Musyoka, T.M., Sheik Amamuddy, O.S.A. and Tastan Bishop, O.

Barozi, V., Musyoka, T.M., Sheik Amamuddy, O.S.A. and Tastan Bishop, O. (2022) Deciphering Isoniazid Drug Resistance Mechanisms on Dimeric *Mycobacterium tuberculosis* KatG via Post-molecular Dynamics Analyses Including Combined Dynamic Residue Network Metrics. *ACS Omega*. 7 (15). p.13313-13332.

Blatch, G.L.

Blatch, G.L. (2022) Plasmodium falciparum Molecular Chaperones: Guardians of the Malaria Parasite Proteome and Renovators of the Host Proteome. *Frontiers in Cell and Developmental Biology*. 10 (2022). p.1-6.

Mutorwa, M.K., Lobb, K.A., Klein, R., Blatch, G.L. and Kaye, P.T. (2022) Synthesis of 2,3-dihydroxy-3-(N-substituted carbamoyl) propylphosphonic acid derivatives as hybrid DOXP-fosmidomycin analogues. *Journal of Molecular Structure*. 1256 (2022). p.1-6.

Almaazmi, S.Y., Singh, H., Dutta, T. and Blatch, G.L. (2022) Exported J domain proteins of the human malaria parasite. *Frontiers in Molecular Biosciences*. 9 (2022). p.1-9.

Dames, J.F.

Agnihotri, R., Sharma, M.P., Buecking, H., Dames, J.F. and Bagyaraj, D.J. (2022) Methods for assessing the quality of AM fungal bio-fertilizer: Retrospect and future directions. *World Journal of Microbiology & Biotechnology*. 38 (97). p.1-14.

Davison, C., Smit, C.J. and de La Mare, J.A.

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Edkins, A.L.

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Nnenna Robert with her poster presentation prize (Student Category, Runner Up) at the H3D symposium.

Photo: Department of Biochemistry and Microbiology

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Members of the Biomedical Biotechnology Research Unit (BioBRU) at the H3D symposium in Stellenbosch (from left to right): Michael Okpara, Elisa Kirigin, Professor Adrienne Edkins, Nnenna Robert, Ruth Omoti John and Ronald Tonui.

Photo: Department of Biochemistry and Microbiology



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Pietschke, B.I. Enzyme synergism for the bio-economy: bioproducts and biomedicine (Plenary talk). *27th South African Society for Biochemistry and Molecular Biology congress - SASBMB 2022 - Biochemistry Matters*. Virtual, Pretoria. South Africa. January 2022.

Pietschke B.I., Ramatsui L., Mabate B. and Malgas S.

Pietschke B.I., Ramatsui L., Mabate B. and Malgas S. Using enzyme biotechnology to improve animal feeds and treat diabetes. *Applied Microbial and Health Biotechnology Institute (AMBHI) Biotechnology Research Symposium (Hybrid Format)*. CPUT Hotel School, Granger Bay Campus; 7 September 2022.

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Polyzois, A.P., Isaacs, M., Kalinski, J.C.J., Marwarwa, S.Z., Njanje, I., Parker-Nance, S., Potts, T. and Dorrington, R.A. Antimicrobial Drug Discovery from *Psammodinia* and *Sarcotragus* *Sponge* spp. *H3D Symposium 2022*. Webersburg Estate, Stellenbosch. South Africa. October 2022.

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Roberts, N., Edkins, A.L. and Abrahams, G.L. Investigating the role of inorganic polyphosphate in *Mycobacteria* as a promising drug target. *4th H3D Symposium 2022*. Webersburg Estate, Stellenbosch. South Africa. October 2022.

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Solomons, G.M., Waterworth, S.C., Kalinski, J.C.J. and Dorrington, R.A. Integrating genomics and metabolomics for the elucidation of secondary metabolite biosynthetic gene clusters by sponge microbiomes. *H3D Symposium 2022*. Webersburg Estate, Stellenbosch. South Africa. October 2022.

Swart, T., Seshoeshe, T.K., Kalinski, J.C.J., Keneni, D.A. and Dorrington, R.A.

Swart, T., Seshoeshe, T.K., Kalinski, J.C.J., Keneni, D.A. and Dorrington, R.A. Establishment of anti-microbial in vitro screening assays to identify potential inhibitors of a Marine Natural Product library. *H3D Symposium 2023*. Webersburg Estate, Stellenbosch. South Africa. October 2022.

Tastan Bishop, O.

Tastan Bishop, O. How do we Design Effective Drugs against Continually Evolving Protein Targets? *Keystone Symposia on Molecular and Cellular Biology COVID and Beyond: Novel Approaches to Global Infectious Diseases (H5)*. Bruxelles, Belgium, 26 - 29 October, 2022.

Tastan Bishop, O. Role of variations in modern drug development and research - Way forward via dynamic residue networks, Bioscience, Big Data and the 4th Industrial Revolution. *Bio2022 Conference*. Stellenbosch, South Africa, April 2022.

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Members of the Antimicrobial Drug Discovery (ADD) hub at the H3D symposium in Stellenbosch (from left to right): Idris Njanje, Tarryn Swart, Tarryn Potts, Gabriella Solomons, Professor Rosie Dorrington, Professor Mathew Upton, Tumi Tsele, Jarmo-Charles Kalinski, Wakisa Kipandula, Dele Kenei and Roxanne Higgitt. Photo: Department of Biochemistry and Microbiology



Tonui, R., Abrahams, G.L. and Edkins, A.L.

Tonui, R., Abrahams, G.L. and Edkins, A.L. Identification of *Mycobacterium tuberculosis* DnaK substrates - towards inhibiting MtbDnaK as a novel drug target for the treatment of tuberculosis. *4th H3D Symposium 2022*. Webersburg Estate, Stellenbosch. South Africa. October 2022.

Tonui, R., Abrahams, G.L. and Edkins, A.L. Protein stability analysis by Molecular dynamic simulations. *Centre for High-Performance Computing (CHPC) National Conference*. Pretoria, November 2022.

Tonui, R., Abrahams, G.L. and Edkins, A.L. Identification of *Mycobacterium tuberculosis* DnaK substrates - towards inhibiting MtbDnaK as a novel drug target for the treatment of tuberculosis. *Proteostasis and Drug Discovery Mini-Symposium*. Rhodes University, Makhanda, Eastern Cape, South Africa. November 2022.

Tsele, T., Njanje, I., Kalinski, J.C.J., Potts, T. and Dorrington, R.A.

Tsele, T., Njanje, I., Kalinski, J.C.J., Conway, J., Potts, T., Waterworth, S.C., Upton, M. and Dorrington, R.A. Exploring the potential of stromatolite and sponge actinobacteria as a source of antibiotics. *H3D Symposium 2022*. Webersburg Estate, Stellenbosch. South Africa. October 2022.

Wilhelmi, B.

Dube, C.S., Wilhelmi, B. and Tandlich, R. Microbial quality of clay minerals from a local municipality in South Africa. *24th International Scientific Conference Solutions for crisis situations in specific environments*. University of Ilina, Ilina. Slovakia. May 2022.

Department of Biotechnology and the Biotechnology Innovation Centre (RUBIC)

INTRODUCTION

Aiming to bridge academia and industry, the Rhodes University Biotechnology Innovation Centre conducts basic and applied research for translation into practical applications for societal impact. The centre actively engages in science outreach, nurturing a passion for biotechnology and inspiring future scientists. Committed to academic excellence and innovation, RUBIC continues to shape the frontiers of biotechnology in South Africa but with global impact.



Professor Earl Prinsloo - Head of Department

Postgraduates / Graduations

RUBIC hosted twenty-four (24) Honours, Masters and PhD candidates in 2022. The Centre graduated five (5) Honours (including one (1) distinction) and two (2) Masters candidates across two (2) graduation ceremonies.

Significant Research Aligned Events

In the field of aptamer and paper-based diagnostics, the BioSens Research Group, led by Professor Janice Limson and Dr Ronen Fogel made remarkable strides with their groundbreaking patents filed in 2022. Their continued innovative work on CD4 and human chorionic gonadotropin (hCG) binding aptamers has the potential to address real societal challenges, revolutionizing the detection and management associated with HIV and early pregnancy complications, respectively. The work is conducted in partnership with the UNICEF Global Innovation Centre.

Professor Boshoff's research program in parasite molecular biology and drug discovery continues to contribute significantly to RUBIC's accomplishments. Her labs scholarly contributions to human and animal chaperone protein biology exemplifies the group's commitment to unraveling complex cellular processes using *in vitro* and *in silico* artificial intelligence-



Professor Janice L Limson - Director



Professor Janice Limson and MSc student Tutsirayi Zimuwandei look on as Jialin Yu operates the Biodot reagent dispenser in the DSI NanoMicro Manufacturing Facility in RUBIC. The facility is being funded through the DSI to serve as a hub for manufacturing of paper-based rapid diagnostic tests.

Photo: Department of Biotechnology and the Biotechnology Innovation Centre (RUBIC)



UNICEF's Senior Advisor on Innovation, Tanya Accone, DVC Dr Peter Clayton and SARCHI Chair in Biotechnology Innovation and Engagement, Professor Janice Limson, share a light hearted moment with Lumie, a mascot for UNICEF's Innovation focus. Accone visited Rhodes University to finalize plans for Rhodes University's Biotechnology Innovation Centre to serve as the Unicef Innovation Node on Biotechnology.

Photo: Department of Biotechnology and the Biotechnology Innovation Centre (RUBIC)

Department of Biotechnology and the
Biotechnology Innovation Centre (RUBIC)

PUBLICATIONS

based systems, laying the groundwork for further understanding these parasitic diseases but also may lead to potential therapeutic interventions.

The Prinsloo Lab lead by Professor Earl Prinsloo continues to explore diverse biotechnological frontiers in the fields of cellular differentiation, drug discovery and tissue engineering. The work on organ-on-a-chip models has the potential to revolutionize drug testing, making it more efficient and reliable.

The BioSens Research Group's patents and research, combined with the drive of the Boshoff and Prinsloo Lab's demonstrate a commitment to practical and impactful biotechnological advancements. With each step forward, the students, researchers and faculty drive transformative progress in multiple cross cutting fields.

Other Publications

Limson, J.L.
Nqowana, T. and Limson, J.L. (2022) Scientists and communities in a remote nature reserve pave the way for new research partnerships to address societal challenges. In: *SocKETs-Cocreation: EU*. n/a: Sockets.

Patents

Fellows, T.D., Fogel, R. and Limson, J.L.
Fellows, T.D., Fogel, R. and Limson, J.L. (2022) *Cd4 binding aptamers and applications thereof*. USA. 2022. PCT/IB2021/054857.

Fellows, T.D., Fogel, R. and Limson, J.L. (2022) *CD4 binding aptamers and applications thereof*. ARIPO. 2022. ARIPO - National Phase Patent based on PCT/IB2021/054857.

Shaw, L., Fogel, R. and Limson, J.L.
Shaw, L., Fogel, R. and Limson, J.L. (2022) *Epitope-specific hCG binding aptamers and applications thereof*. USA. 2022. Provisional Application Number 63/348,17.

Peer Reviewed Non-Subsidy-Earning Journal Research Publications

Limson, J.L.

McKeague, M., Calzada, V., Cerchia, L., DeRosa, M., Heemstra, J.M., Janjic, N., Johnson, P.E., Kraus, L., **Limson, J.L.** and *et al*, (2022) The minimum aptamer publication standards (MAPS guidelines) for de novo aptamer selection. *Aptamers*. 6 (2022). p.10-18.

Peer Reviewed Subsidy-Earning Journal Research Publications

Boshoff, A.

Boshoff, A. (2022) Chaperonin: Co-chaperonin Interactions. *Sub-Cellular Biochemistry*. 101 (2022). p.213-246.

Buthelezi, K.T.F. and Prinsloo, E.

Nene, L.C., Buthelezi, K.T.F., Prinsloo, E. and Nyokong, T. (2022) The in vitro photo-sonodynamic combinatorial therapy activity of cationic and zwitterionic phthalocyanines on MCF-7 and HeLa cancer cell lines. *Journal of Photochemistry and Photobiology A Chemistry*. 432 (2022). p.1-14.

Govindaraj, D.B.T.

Giliberto, M., **Govindaraj, D.B.T.**, Cremaschi, A., Skanland, S.S., Gade, A., Tjonnfjord, G.E., Schjesvold, F., Munthe, L.A. and Tasken, K. (2022) Ex vivo drug sensitivity screening in multiple myeloma identifies drug combinations that act synergistically. *Molecular Oncology*. 16 (1). p.1241-1258.

Mathekga, B.S.P., Nxumalo, Z. and **Govindaraj, D.B.T.** (2022) Micro and nano fluidics for high throughput drug screening. *Progress in Molecular Biology and Translational Science*. 187 (1). p.93-120.

Sari-Ak, D., Alomari, O., Al Shomali, R., Lim, J. and **Govindaraj, D.B.T.** (2022) Advances in CRISPR-Cas9 for the Baculovirus Vector System: A Systematic Review. *Viruses*. 15 (54). p.1-17.

Iheanetu, C.U.

Iheanetu, C.U. and Tandlich, R. (2022) Between science, science-fiction and COVID19 as a way to interpret the ontological realm of COVID19. Humanity in the post-COVID19 and re-application of knowledge. *Academicus International Scientific Journal*. 13 (26). p.27-46.

Iheanetu, C.U., Maguire, K.A., Moricova, V., Tandlich, R. and Alloggio, S. (2022) Utilitarian Qubit, Human Geography, and Pandemic Preparedness in the 21st Century. *Sustainability*. 15 (321). p.1-27.

Jamabo, M., Bentley, S.J., Macucule-Tinga, P., Tembo, P. and Boshoff, A.

Jamabo, M., Bentley, S.J., Macucule-Tinga, P., Tembo, P., Edkins, A.L. and Boshoff, A. (2022) In silico analysis of the HSP90 chaperone system from the African trypanosome, *Trypanosoma brucei*. *Frontiers in Molecular Biosciences*. 9 (2022). p.108-129.

Ogunmolasuyi, A.M., Fogel, R. and Limson, J.L.

Ogunmolasuyi, A.M., Fogel, R., Hoppe, H.C., Goldring, D. and Limson, J.L. (2022) A microfluidic paper analytical device using capture aptamers for the detection of PFLDH in blood matrices. *Malaria Journal*. 21 (174). p.1-15.

Prinsloo, E.

Nwahara, N., Motaung, M.B., Abrahams, G.L., Mashazi, P.N., Mack, J., Prinsloo, E. and Nyokong, T. (2022) Dual singlet oxygen and nitric oxide-releasing silicon phthalocyanine for augmented photodynamic therapy. *Materials Today Chemistry*. 26 (2022). p.1-14.

Malgas, S., Thoresen, M., Moses, V., Prinsloo, E., Van Dyk, S. and Pletschke, B.I. (2022) Analysis of the galactomannan binding ability of b-mannosidases, BtMan2A and CmMan5A, regarding their activity and synergism with a b-mannanase. *Computational and Structural Biotechnology Journal*. 20 (1). p.3140-3150.

Research Papers Presented at Academic/ Scientific Conferences (Non-peer-reviewed Proceedings)

Limson, J.L., Fogel, R., Kruid, J., Lipali, M.J., Madikiza, L., Mfuku, A., Mpofu, T.L. and Smith, G.G.

Limson, J.L., Fogel, R., Kruid, J., Lipali, M.J., Madikiza, L., Mfuku, A., Mpofu, T.L. and Smith, G.G. Microbial fuel cells: partnering with established approaches for water and wastewater treatment. *73rd Annual Meeting of the International Society of Electrochemistry*. Online. September 2022.

Prinsloo, E.

Nwahara, N., Abrahams, G.L., Prinsloo, E. and Nyokong, T. Prodrug-modified Phthalocyanine for Photodynamic Therapy. *12th International Conference on Porphyrins & Phthalocyanines (ICPP-12)*. Riu Plaza España Hotel and Conference Center, Madrid. Spain. July 2022.

RUBIC's BIOSENS research group welcoming new visiting researchers and new Postdoctoral Research Fellows to the group in 2022. Photo: RUBIC



Department of Botany

INTRODUCTION

Undoubtedly the highlight for 2022 was the “Harvest”. This marked the intensive final data collection phase of a National Ecological Research Council (NERC, UK) funded project. The project was designed to determine the traits that make certain Acacias to behave as “encroaching” species under conditions of increasing atmospheric concentration and to determine how these traits are modified by water availability and grass competition. Encroachment is the phenomenon of increasing woody plant cover, with savanna trees dominating C4 grasslands. The experiment had been running for nearly two years at the RUECF (Rhodes University Elevated CO₂ Facility).



Associate Professor Craig Peter -
Head of Department

In November and December of 2022, plants had final measurements made and were then harvested for a final set of quantifications. This was a complex process involving Rhodes University academics (Brad Ripley, Susi Vetter, Tiffany Pillay), students (Edith Singini, Rhys Nel, Liam Reynolds, AJ Marais, Nozuku Ngqiyaza), and research assistants (Russel Dixon, Emma Jones and Richard Carkeek).

National collaborators from the University of Cape Town as well as international researchers from Universities of Sheffield and Edinburgh, along with local harvest assistants (Zolani Mali, Siyuyile Nobebe, Nongwe Mbulelo, Andile Ncula, Sinethemba Soxujwa) all contributed to this substantial effort. Results are showing that at elevated atmospheric CO₂ concentrations, encroaching tree seedlings have photosynthetic and growth traits that make them more competitive than non-encroaching species and better able to cope with grass competition.

Susi Vetter and Tiffany Pillay started a research project on fire ecology and management at Tswalu Game reserve in the Kalahari in collaboration with Michelle Greve from the University of Pretoria. In August 2022, Susi was invited to present an online seminar to the Institute of Ecology, National University of Mexico on “The UN Decade for Restoration and the Bonn Challenge - a win-win-win for climate, ecosystems and society?” In December 2022 Susi was invited to the University of Bayreuth, Germany, to organize a workshop on “the social life of models in global climate restoration”.

In October of 2022, Ethan Newman attended SCAPE (the Scandinavian Association for Pollination Ecologists) conference in Gimo, Sweden which resulted in a collaboration with Nina Sletvold and Jon Agren (Department of Ecology and Genetics, Uppsala University) focusing on phenotypic selection on flower colour in *Cyrtanthus obliquus* in Makhanda.

In November, Craig Peter was invited to serve as a specialist (orchids, pollination and Lepidoptera) on an expedition to the south east highlands of Angola by the National Geographic Okavango Wilderness Project. This saw him travelling by air to Huambo and then by “road” for two (2) days to the source of the Cuanavale river. Together with four (4) other specialists, a large number of butterflies, moths, termites, flies and ants were collected with a number of new species expected. On the plant front, the team increased the orchid species list threefold - an impressive achievement considering four (4) previous botanical expeditions have visited the same area. The most exciting plant discovery was an impressively large, showy orchid which is likely to be only the sixth (6) species on mainland Africa of a large group of mostly Asian orchids. They also found living examples of two (2) other species only known from very old type material, and made a number of exciting discoveries of pollinators visiting various orchid species.

Postgraduates / Graduations

Lauren James was voted the best young scientist, an award presented by the organisers of the 2022 SAAB (South African Association of Botanists) conference. This is an outstanding achievement for someone presenting their Honours research and being considered against MSc and PhD candidates! Lauren examined the flowering times of plants pollinated by specialist flower visiting birds (sunbirds and sugar birds) and how this differed to plants visited by "generalist" flower visiting birds (weavers, starling, orioles and other).

In 2022, and on the back of her outstanding Honours achievements and subsequent internship at Kirstenbosch Botanical Gardens, Jacqui James was awarded a Skye foundation scholarship to go to Imperial College, London where she will investigate the responses of plants and bumble bees to climate change in Lapland.

Marina Khoza who graduated with an MSc (with distinction) in 2022, was part of a team that was awarded a \$5000 prize at the Business of Conservation Conference (BCC) in Rwanda. Their project, Africa THINKS, is a teaching hub for indigenous nature knowledge systems, with additional funding awarded to build a minimum viable product.

Distinguished Visitors / International Visits

As part of the NERC harvest outlined above, a number of research collaborators visited the department and participated in the final processing of the experiment. These included Michael Cramer, Heidi Hawkins and Adam West (University of Cape Town); Colin Osborne and Katy Field (University of Sheffield, UK); Caroline Lehmann (University of Edinburgh, UK) and Lizzy Telford (an international student from University of Edinburgh).

Department of Botany

PUBLICATIONS

Peer Reviewed Subsidy-Earning Journal Research Publications

Adebowale, A.

Mwabvu, T. and **Adebowale, A.** (2022) Geometric morphometric analysis of gonopods in *Bicoidens flavicollis* populations (Diplopoda, Spirostreptida, Spirostreptidae). *African Invertebrates*. 63 (1). p.77-88.

Baso, N.C.

Misteli, B., Pannard, A., Labat, F., Fosso, L.K., **Baso, N.C.**, Harpenslager, S.F., **Motitsoe, S.N.**, Thiebaut, G. and Piscart, C. (2022) How invasive macrophytes affect macroinvertebrate assemblages and sampling efficiency: Results from a multinational survey. *Limnological*. 96 (Sep 2022). p.1-11.

Coetzee, J.A.

Motitsoe, S.N., Hill, J.M., **Coetzee, J.A.** and Hill, M.P. (2022) Invasive alien aquatic plant species management drives aquatic ecosystem community recovery: An exploration using stable isotope analysis. *Biological Control*. 173 (2022). p.1-12.

Coetzee, J.A., **Goddard, M.K.**, **Owen, C.A.** and **Martin, G.D.** (2022) The thermal physiology of *Lysathia* sp. (Coleoptera: Chrysomelidae), a biocontrol agent of parrot's feather in South Africa, supports its success. *Biocontrol Science and Technology*. 32 (7). p.837-846.

Coetzee, J.A., **Paper, M.K.**, **Miller, B.E.**, **Kinsler, D.L.**, **Cilliers, C.** and **Hill, M.P.** (2022) Into Africa: *Salvinia minima* Baker (Salviniaceae) invades South Africa. *Rapid Communications in Mass Spectrometry*. 11 (4). p.1011-1018.

Coetzee, J.A., **Miller, B.E.**, **Kinsler, D.L.**, **Sebola, K.M.** and **Hill, M.P.** (2022) It's a numbers game: inundative biological control of water hyacinth (*Pontederia crassipes*), using *Megamelus scutellaris* (Hemiptera: Delphacidae) yields success at a high elevation, hypertrophic reservoir in South Africa. *Biocontrol Science and Technology*. 32 (11). p.1302-1311.

Minuti, G.M., **Stiers, I.** and **Coetzee, J.A.** (2022) Climatic suitability and compatibility of the invasive *Iris pseudacorus* L. (Iridaceae) in the Southern Hemisphere: considerations for biocontrol. *Biological Control*. 169 (2022). p.1-9.

International and national collaborators and Rhodes staff and students pose for a team photograph during the harvest of a large National Ecological Research Council (NERC, UK) experiment that investigated why some savanna tree seedlings are implicated in bush-encroachment while others are not. This six-hundred and thirty pot experiment took a month and a half to harvest and process the plant material. Photo: Department of Botany



Smith, R., Coetzee, J.A. and Hill, M.P. (2022) Best of both worlds: The thermal physiology of *Hydrellia egeriae*, a biological control agent for the submerged aquatic weed, *Egeria densa* in South Africa. *Biocontrol*. 67 (2022). p.365-374.

Dold, A.P.

Martinez-Azorin, M., Crespo, M.B., Alonso-Vargas, M.A., Pinter, M., Crouch, N.R., **Dold, A.P.**, Mucina, L., Pfosser, M. and Wetschnig, W. (2022) Molecular phylogenetics of subfamily *Urgineoideae* (Hyacinthaceae): Toward a coherent generic circumscription informed by molecular, morphological, and distributional data. *Journal of Systematics and Evolution*. 61 (1). p.42-63.

Junkuhn, K.P.

Parker, D.M., Junkuhn, K.P. and Barker, N.P. (2022) Note on the small mammals of small, isolated forest patches in the Eastern Cape, South Africa. *African Journal of Ecology*. 60 (2022). p.784-787.

Lubke, R.

Lubke, R. (2022) Current State of *Ammophila arenaria* (Marram Grass) Distribution in the Eastern Cape, South Africa, and the possible effect of the Frass on the Dune System Dynamics. *Plants*. 11 (1). p.2260-2265.

Mgwali, N. and Vetter, S.

Hawkins, H.J., **Mgwali, N.** and **Vetter, S.** (2022) Effects of short-duration kraaling depend on initial conditions in a mesic grassland. *African Journal of Range and Forage Science*. 1 (1). p.1-13.

Newman, E.L., Khoury, K.L., Van Niekerk, S. and Peter, C.I.

Newman, E.L., Khoury, K.L., Van Niekerk, S. and Peter, C.I. (2022) Structural anther mimics improve reproductive success through dishonest signalling that enhances both attraction and the morphological fit of pollinators with flowers. *Evolution; international journal of organic evolution*. 76 (8). p.1749-1761.

Pillay, T.

Pillay, T., Ward, D., Mbongwa, S. and Kirkman, K. (2022) Spatial analysis reveals facilitation in young clonal trees and competition in older trees during re-invasion of encroaching trees in an African savanna. *Plant Ecology*. 223 (2). p.1167-1180.

Ward, D., **Pillay, T.**, Mbongwa, S., Kirkman, K., Hansen, E. and Van Achterbergh, M. (2022) Reinvasion of Native Invasive Trees After a Tree-Thinning Experiment in an African Savanna. *Rangeland Ecology & Management*. 81 (10). p.69-77.

Pillay, T. and Ward, D. (2022) Experimental drought suppresses grass productivity and passive warming promotes tree sapling performance: Insights from African savanna species. *Acta Oecologica*. 114 (22). p.1-6.

Prevec, R.

Garrouste, R., Nel, A.P. and **Prevec, R.** (2022) The first Permian Gondwanan damselfly-like Protozoptera (Insecta, Odonoptera). *Historical Biology*. 5 (5). p.1-5.

Prevec, R., Cariglino, B., Lara, M. and Zavattieri, A.M. (2022) Evidence of insect leaf mining on Late Triassic (Carnian) gymnosperms from Argentina. *Review of Palaeobotany and Palynology*. 305 (5). p.1-13.

Cawood, R., Nel, A.P., Garrouste, R., Moyo, S., Villet, M.H. and Prevec, R. (2022) The first 'Grylloblattida' of the family Liomopteridae from the Middle Permian in the Onder Karoo, South Africa (Insecta: Polyneoptera). *Comptes Rendus Palevol*. 21 (22). p.451-461.

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Prevec, R., Nel, R., Day, M.O., Muir, R.A., Matiwane, A., Kirkaldy, A., Moyo, S., Staniczek, A., Cariglino, B., Maseko, Z., Kom, N., Rubidge, B.S., Holland, A.J., James, H. and Garrouste, R. (2022) South African Lagerstätte reveals middle Permian Gondwanan lakeshore ecosystem in exquisite detail. *Communications Biology*. 5 (1154). p.1-13.

Ripley, B.S.

Ripley, B.S., Cramer, M.D., Hedding, D.W., Greve, M. and Midgley, G.F. (2022) Plant specialisation may limit climate-induced vegetation change to within topographic and edaphic niches on a sub-Antarctic Island. *Functional Ecology*. 36 (10). p.2636-2648.



Susi Vetter and Tiffany Pillay tagging and measuring acacias for a long-term study on the effects of rainfall variation and fire on tree demography in the Kalahari. Photo: Michelle Greve

Ripley, B.S. and Raubenheimer, S.L.

Ripley, B.S. and Raubenheimer, S.L. (2022) CO₂-stimulation of savanna tree seedling growth depends on interactions with local drivers. *Journal of Ecology*. 110 (5). p.1090-1101.

Ripley, B.S., Raubenheimer, S.L., Perumal, L., Anderson, M.B., Mostert, E.C. and Simpson, K.

Ripley, B.S., Raubenheimer, S.L., Perumal, L., Anderson, M.B., Mostert, E.C., Kgope, B., Midgley, G.F. and Simpson, K. (2022) CO₂-fertilisation enhances resilience to browsing in the recruitment phase of an encroaching savanna tree. *Functional Biology*. 36 (12). p.3223-3233.

Ripley, B.S., Vetter, S. and Bopape, T.M.

Ripley, B.S., Vetter, S. and Bopape, T.M. (2022) A doubling of atmospheric CO₂ mitigates the effects of severe drought on maize through the preservation of soil water. *Annals of Botany*. 129 (5). p.607-618.

Sebola, K.M.

Harpenslager, S.F., Thiemer, K., Levertz, C., Misteli, B., **Sebola, K.M.**, Schneider, S., Hilt, S. and Kohler, J. (2022) Short-term effects of macrophyte removal on emission of CO₂ and CH₄ in shallow lakes. *Aquatic Botany*. 182 (2022). p.1-12.

Simpson, K.

Simpson, K., Archibald, S. and Osborne, C.P. (2022) Savanna fire regimes depend on grass trait diversity. *Trends in Ecology and Evolution*. 37 (9). p.749-758.

Liu, H., Ye Qing, Q., **Simpson, K.**, Cui, E. and Xia, J. (2022) Can evolutionary history predict plant plastic responses to climate change? *New Phytologist*. 235 (2022). p.1260-1271.

Simpson, J., Freeth, M., **Simpson, K.** and Thwaites, D. (2022) Street edge subdivision: Structuring ground floor interfaces to stimulate pedestrian visual engagement. *Environment and Planning B-Urban Analytics and City Science*. 49 (6). p.1775-1791.

Vetter, S.

Moller, V., Cocks, M. and Vetter, S. (2022) Nature-Connectedness and well-being experienced during best and worst times of life: A case for safeguarding biocultural diversity. *Social Indicators Research*. 165 (2023). p.1053-1089.

Wansell, S.N.L. and Coetzee, J.A.

Wansell, S.N.L., Geerts, S. and Coetzee, J.A. (2022) Where are the seeds? Lack of floral morphs prevent seed production by the tristylous *Pontederia cordata* in South Africa. *Ecology and Evolution*. 12 (e9366). p.1-13.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

James, L.M.C. and Peter, C.I.

James, L.M.C. and Peter, C.I. Contrasting patterns in flowering phenology between species adapted for pollination by generalist compared to specialist flower-visiting birds. Prize for the best young scientist at the conference. *47th annual conference of the South African Association of Botanists*. North West University, online. South Africa. January 2022.

Marais, A., Newman, E.L. and Peter, C.I.

Marais, A., Newman, E.L. and Peter, C.I. The use of trapping structures for the housing of mutualistic microbial communities in the carnivorous aquatic plant *Utricularia stellaris* (Lentibulariaceae). *47th annual conference of the South African Association of Botanists*. North West University, online. South Africa. January 2022.

Newman, E.L., Khoury, K.L., Van Niekerk, S. and Peter, C.I.

Newman, E.L., Khoury, K.L., Van Niekerk, S. and Peter, C.I. (2022) Structural anther mimics improve reproductive success through dishonest signalling that enhances both attraction and the morphological fit of pollinators with flowers. *SCAPE (Scandinavian Association for Pollination Ecologists)*. Gimo, Sweden. October 2022.

Prevec, R.

Prevec, R., James, H. and Staniczek, A. The past meets the present: examining the biogeography and evolution of the plecoptera with reference to their ancient forms. *2022 XVIth International Conference on Ephemeroptera and XXIst International Symposium on Plecoptera*. Virtual, Illinois. USA. July 2022.

Prevec, R., Price, B. and James, H. Integrating African Natural History specimen data; current progress and future needs. *Society for the Preservation of Natural History Collections (SPNHC) 2022*. University of Edinburgh, Edinburgh. UK. June 2022.

Vetter, S.

Vetter, S. and Muasya, M. Ecological and evolutionary relationships between thicket, savanna, and other biomes in South Africa. *Savanna Science Network Meeting*. Kruger National Park, Skukuza. South Africa. March 2022.

Vetter, S., Rosell, J.A. and Olson, M.E.

Vetter, S., Rosell, J.A., Olson, M.E. and Greve, M. Size-specific bark investment and growth allometries in thicket pioneer, savanna, and forest species. *Savanna Science Network Meeting*. Kruger National Park, Skukuza. South Africa. March 2022.



The full team of the National Geographic Okavango Wilderness Project November 2022 expedition to south east Angola. The team includes Craig Peter (extreme left, graduate of Rhodes University and current HoD of the Department of Botany, orchids and pollination); Dr Terence Bellingan (third from the left, graduate of Rhodes University based at the Albany Museum and expert on flower visiting flies); Peter Hawkes (center left, graduate of Rhodes University and the expedition expert focussing on ants); and Professor Alan Gardiner (center right, graduate of Rhodes University and the expedition expert focussing on lepidoptera).

Photo: Department of Botany



Main camp along the banks of the Lungwebungu River. National Geographic Okavango Wilderness Project November 2022 expedition to the highlands of south-east Angola.

Photo: Department of Botany

Department of Chemistry

INTRODUCTION

There are a range of research areas active in the department that match the broad areas of expertise of staff, but which also reflect collaborations between researchers. This is supported by the state-of-the-art instrumentation within the department.

The general research areas, together with associated staff, are as follows:

Biosensors and Nanostructures

(Professor Philani Mashazi)

This research (led by the Deputy Director of the Rhodes/DSI Institute for Nanotechnology Innovation) focuses on integrating biological molecules with nanostructures for novel sensor applications, particularly for the early detection and diagnosis of diseases.

Supramolecular Materials Laboratory

(Professor Rui Krause, Dr Vincent Smith, and Dr Theodore Geswindt)

This group studies all aspects of solid and liquid states, including interactions, using a range of analyses such as XRD, NMR and MS. The focus is on drug development, quantitation, analysis and delivery in the context of TB and other microbial diseases.

Green Chemistry in Drug Discovery

(Professor Rosa Klein)

This research focuses on new green synthetic procedures which are then used to produce biologically active compounds as potential therapeutics for a range of diseases.



Associate Professor Rosa Klein
- Head of Department



Associate Professor Kevin Lobb
- Deputy Head of Department

Computational Mechanistic Chemistry and Drug Discovery

(Dr Tendamudzimu Tshiwawa and Professor Kevin Lobb)

The work in this group focuses on computational chemistry (with calculations being performed on the CHPC Iengau Supercomputer) in areas such as computation mechanistic chemistry, and the energetics of reactions, and drug discovery where new strategies are studied for the potential treatment of a range of diseases.

Functional Liquid Crystalline materials for energy applications

(Dr Mpondi Molefe)

This group focuses on organic-inorganic liquid crystalline ligands, metal-containing liquid crystals and metallomesogens for solar energy applications.

T&L and CE Research

(Mrs Joyce Sewry)

Through Mrs Joyce Sewry the department has several research initiatives both in Teaching and Learning, and in Community Engagement research.

Postgraduates / Graduations

Sodeeq Salami who completed his PhD in two years, won the poster prize at the 3rd Green Chemistry Conference in Poznań, Poland. Bienfait Isamura (winner of the previous year's S23A award for his MSc thesis) has in 2022 published nine (9) peer-reviewed subsidy earning publications both within his research group and through collaborations both internationally and internally with other groups such as with the Supramolecular Materials Laboratory. He is now studying for a PhD at the University of Manchester.

Significant Research Aligned Events

This year has seen expansion in research activity on many fronts. Professor Philani Mashazi gave a public lecture on his research (in line with his VC's Distinguished Research Award in the previous year) with title "Finding a needle in a haystack: A quest for ultra-sensitive and affordable diagnostic systems". In this lecture he highlighted his work in the detection and diagnosis of a range of diseases. We have seen several invited lectures from the department including, Professor Kevin Lobb who gave a public lecture for the Center for High Performance Computing, Ms Joyce Sewry,

with an invited lecture at the International Conference of Chemical Education (ICCE), and a student, Sodeeq Salami who gave an invited lecture at the Adam Mickiewicz University, Poznań, Poland. Professor Rosalyn Klein also gave a lecture at ICCE about undergraduate research in the Chemistry Department as a means for attracting students into research.

Connections have also been made with local industry (Makana Brick) that is leading to applied research (Supramolecular Materials Laboratory).

Research Activities related to the Rhodes/DSI Institute for Nanotechnology Innovation (INI)

In addition to extremely high research productivity, 2022 was a busy year for the INI directed by Distinguished Professor Tebello Nyokong. Professor Nyokong as a researcher and leader in 2022 was highlighted in books and media articles including a publication by the United Nations Economic Commission for Africa, aiming to inspire young scientists on the continent.

Dr Lucky Sikhwivhilu and Dr Teboho Mokena from Mintek were among the distinguished visitors present for the launch of the building of the new R90 million state-of-the-art Institute for Nanotechnology Innovation. The INI also hosted a two-day workshop, led by Deputy Director Professor Philani Mashazi, which was attended by many delegates from far afield. In July a strong delegation from the INI attended the 12th international Conference on Porphyrins and Phthalocyanines (ICPP-12) in Madrid, Spain. At this conference two (2) of the fifteen (15) INI delegates, Distinguished Professor Tebello Nyokong, and Professor John Mack, were both invited speakers. On the student front, Kristen Burgess (an MSc student studying under the supervision of Professor John Mack and Distinguished Professor Tebello Nyokong) was awarded the Gates Cambridge Scholarship, to study for a PhD focussing on developing new treatments for Glioblastoma Multiforme (malignant brain tumours) at Cambridge University.

Department of Chemistry

PUBLICATIONS

Books/Chapters/Monographs

Nyokong, T.

Nyokong, T. and Magadla, S. (2022) The Wisdom of Practice: An Intergenerational Conversation. In: Jansen, J. and Visser, D. (eds.). *On Becoming A Scholar, What Every New Academic Needs to Know*. Cape Town: African Minds. p.220-228. ISBN: 9781928502616.

Siwe Noundou, X.

Ekuh Ewane, B., Ozumba, B.C., Osadebe, P.O., Uzor, P.F. and **Siwe Noundou, X.** (2022) Medicinal Plants from Cameroon for Obstetric and Gynecological Uses. In: Siwe-Noundou, X. (ed.). *Natural Products Chemistry of Botanical Medicines from Cameroonian Plants*. USA: CRC Press. p.123-140. ISBN: 9781032064765.

Siwe Noundou, X. (ed.) (2022) *Natural Products Chemistry of Botanical Medicines from Cameroonian Plants*. USA: CRC Press. ISBN: 9781032064765.

Siwe Noundou, X. and Krause, R.W.M.

Agbo, M.O., Osadebe, P.O., **Siwe Noundou, X.** and **Krause, R.W.M.** (2022) Antioxidant and Immunomodulatory Activities of Cameroonian Medicinal Plants. In: Siwe-Noundou, X. (ed.). *Natural Products Chemistry of Botanical Medicines from Cameroonian Plants*. USA: CRC Press. p.83-98. ISBN: 9781032064765.

Siwe Noundou, X., Krause, R.W.M. and *et al*, (2022) The Genus Olax: Traditional Uses, Phytochemistry and Biological Activities. In: Siwe-Noundou, X. (ed.). *Natural Products Chemistry of Botanical Medicines from Cameroonian Plants*. USA: CRC Press. p.1-22. ISBN: 9781032064765.

Concerts, Exhibitions, Performances, Workshops, Events

Lobb, K.A.

Lobb, K.A. Invited Lecture. Chemical databases and libraries in the search for solutions to problems such as mechanism chemistry through to drug discovery. *CHPC Research Webinar*. Online (<https://www.youtube.com/watch?v=oDV6HGkuNmw>). Cape Town. South Africa. 2 September 2022.

Sewry, J.

Sewry, J. Invited Lecture. Chemistry, Students and the Community. *International Conference of Chemical Education*. Cape Town, 18 - 22 July 2022.

Distinguished Visitors

Khan, S.

Mr S Khan. University of Antwerp, Antwerp, Belgium. *Research Collaboration and use of INI equipment facilities*. February 2022.

Managa, M.E.

ME Managa. University of South Africa, Pretoria, South Africa. *Research Collaboration and use of INI equipment facilities (former PhD Chemistry student and Postdoctoral Fellow)*. April 2022.

ME Managa. University of South Africa, Pretoria, South Africa. *Research Collaboration and use of INI equipment facilities (former PhD Chemistry student and Postdoctoral Fellow)*. February 2022.

Matlou, G.

Dr G Matlou. University of Johannesburg, Johannesburg, South Africa. *Research Collaboration and use of INI equipment facilities (former Chemistry PhD candidate)*. March 2022.

Nelwamondo, F., Lottering, E. and Paterson, A.

Professor F Nelwamondo, Dr E Lottering and Dr A Paterson. National Research Foundation, Pretoria, South Africa. *National Research Foundation Executive visit to NRF SARCHI Chair Professors*.

Also did a tour of the INI facilities during which senior students demonstrated the use of the different research equipment. March 2022.

Sekhosana, K.E.

Dr KE Sekhosana. University of South Africa, Pretoria, South Africa. *Research Collaboration and use of INI equipment facilities (former PhD Chemistry student and Postdoctoral Fellow)*. August 2022.

Sikhwivhilu, L.

Professor L Sikhwivhilu. Mintek, Randburg, South Africa. *Tour of INI facilities and meeting with Mintek funded students*. July 2022.

Sikhwivhilu, L. and Mokhena, T.C.

Dr L Sikhwivhilu and Dr TC Mokhena. Mintek, Randburg, South Africa. *Sod-turning event*. August 2022.

Welsh, A.

Mr A Welsh. University of Cape Town, Cape Town, South Africa. *Research Collaboration and use of INI equipment facilities*. February 2022.

Peer Reviewed Subsidy-Earning Journal Research Publications

Adeniyi, O.K. and Mashazi, P.N.

Adeniyi, O.K. and Mashazi, P.N. (2022) Kirigami paper-based colorimetric immunosensor integrating smartphone readout for determination of humoral autoantibody immune response. *Microchemical Journal*. 178 (2022). p.1-9.

Adesina, A.O. and Achadu, O.J.

Bankole, O.M., Ojubola, K.I., Adanlawo, O.S., **Adesina, A.O.**, Lawal, I.O., Ogunlaja, A.S. and **Achadu, O.J.** (2022) Amoxicillin Encapsulation on Alginate/Magnetite Composite and Its Antimicrobial Properties Against Gram? *Negative and Positive Microbes*. *BioNanoScience*. 12 (2022). p.1136-1149.

Adesina, A.O., Adeniyi, O.K. and Mashazi, P.N.

Adesina, A.O., Adeniyi, O.K. and Mashazi, P.N. (2022) Nanomagnet Bioconjugates with anti -CRP Polyclonal Antibodies as Nanobioprobes for Enhanced Impedimetric Detection of CRP. *Electroanalysis*. 34 (2022). p.1-12.

Babu, B., Mack, J. and Nyokong, T.

Babu, B., Mack, J. and Nyokong, T. (2022) A Sn(IV) porphyrin with mitochondria targeting properties for enhanced photodynamic activity against MCF-7 cells. *New Journal of Chemistry*. 46 (2022). p.5288-5295.

Britton, J.

Madikizela, P., Iheanetu, C.U., Laubscher, R., Britton, J. and Tandlich, R. (2022) Assessment of alkali modified coal fly ash as a potential pit latrine additive for elimination of pathogens using synthetic faeces as proxy. *Journal of Solid Waste Technology and Management*. 48 (1). p.75-89.

Centane, S. and Nyokong, T.

Centane, S. and Nyokong, T. (2022) Aptamer versus antibody as probes for the impedimetric biosensor for human epidermal growth factor receptor. *Journal of Inorganic Biochemistry*. 230 (2022). p.1-12.

Centane, S., Mgidlana, S., Openda, Y.I. and Nyokong, T.

Centane, S., Mgidlana, S., Openda, Y.I. and Nyokong, T. (2022) Electrochemical detection of human epidermal growth factor receptor 2 using an aptamer on cobalt phthalocyanines - Cerium oxide nanoparticle conjugate. *Bioelectrochemistry*. 146 (2022). p.1-10.

Chindeka, F. and Nyokong, T.

Nyembe, S., Chindeka, F., Ndlovu, G., Mkhohlakali, A., Nyokong, T. and Sikhwivhilu, L. (2022) Enhanced Solar Efficiency via Incorporation of Plasmonic Gold Nanostructures in a Titanium Oxide/Eosin Y Dye-Sensitized Solar Cell. *Nanomaterials*. 12 (2022). p.1-12.

Daramola, O.A., Krause, R.W.M. and Siwe Noundou, X.

Dlamini, Z.W., Vallabhapurapu, S., Daramola, O.A., Tseki, P.F., Krause, R.W.M., Siwe Noundou, X. and Mahule, T.S. (2022) Conduction and Resistive Switching in Dropcast CdTe/CdSe Core-Shell Quantum Dots Embedded Chitosan Composite. *Iranian Journal of Science and Technology, Transactional Science*. 46 (2022). p.709-716.

- Dendera, W. and Isamura, B.K.I. Matondo, A., Dendera, W., Isamura, B.K.I., Ngbolua, K., Mambo, H.V.S., Muzomwe, M. and Mudogo, V. (2022) In silico Drug Repurposing of Anticancer Drug 5-FU and Analogues Against SARS-CoV-2 Main Protease: Molecular Docking, Molecular Dynamics Simulation, Pharmacokinetics and Chemical Reactivity Studies. *Advances and Applications in Bioinformatics and Chemistry*. 2022 (15). p.59-77.
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- Jokazi, M., Mpeta, L.S. and Nyokong, T. Jokazi, M., Mpeta, L.S. and Nyokong, T. (2022) Electrocatalytic Behavior of Manganese and Cobalt Porphyrins Attached to Graphene Quantum Dots: Applied in the Oxidation of Hydrazine. *Electroanalysis*. 35 (2023). p.1-16.
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Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Britton, J., Jones, B., Mafukidze, D.M., Mapukata, S. and Nyokong, T.

Britton, J., Jones, B., Mafukidze, D.M., Mapukata, S., Hainer, A.S., Lanterna, A.E., Scaiano, J.C., Osifeko, O. and Nyokong, T. Applications of Phthalocyanine Modified Electrospun Fibers. *12th International Conference on Porphyrins & Phthalocyanines (ICPP-12)*. Riu Plaza España Hotel and Conference Center, Madrid. Spain. July 2022.

Krause, R.W.M.

Keneni, D.A., Kalinski, J.C.J., Isaacs, M., Krause, R.W.M. and Dorrington, R.A. Bioactive bifunctional sphingolipids from the marine sponge, *Oceanapia ramsayi*. *H3D Symposium 2023*. Webersburg Estate, Stellenbosch. South Africa. October 2022.

Kalinski, J.C.J., Marwarwa, S.Z., Njanje, I., Parker-Nance, S., Polyzois, A.P., Potts, T., Krause, R.W.M., Dorrington, R.A. and Keneni, D.A. A Marine Natural Products Drug Discovery Pipeline for Novel Antibiotics. *H3D Symposium 2023*. Webersburg Estate, Stellenbosch. South Africa. October 2022.

Mack, J.

Mack, J. Coordinated Porphyrinoids as Photosensitizers for Photodynamic Anticancer and Antimicrobial Chemotherapy (Keynote Address via Zoom). *5th Annual Conference of the Faculty of Science and Technology*. University of Nairobi, Nairobi. Kenya. October 2022.

Mack, J. Rational structural modification of porphyrins: NIR absorbing photosensitizer dyes for biomedical applications (Invited Speaker). *12th International Conference on Porphyrins & Phthalocyanines (ICPP-12)*. Riu Plaza España Hotel and Conference Centre, Madrid. Spain. July 2022.

Mack, J., Babu, B., May, A.K., Soy, R.C., Dingiswayo, S.,

Chiyumba, C.N., Burgess, K.P. and Nyokong, T.

Mack, J., Babu, B., May, A.K., Soy, R.C., Dingiswayo, S., Chiyumba, C.N., Burgess, K.P. and Nyokong, T. Rational design of porphyrinoid dyes for photodynamic therapy: further progress and future perspectives. *Centre for High Performance Computing 2022 National Conference (zoom meeting)*. CSIR, Pretoria. South Africa. November 2022.

Magadla, A., Babu, B., Mack, J. and Nyokong, T.

Magadla, A., Babu, B., Mack, J. and Nyokong, T. Positively charged styryl pyridine substituted Zn (II) Phthalocyanines for Photoantimicrobial Chemotherapy: Effect of the number of charges. *12th International Conference on Porphyrins & Phthalocyanines (ICPP-12)*. Riu Plaza España Hotel and Conference Centre, Madrid. Spain. July 2022.

Mashazi, P.N.

Mashazi, P.N. Metallophthalocyanines as electrocatalytic thin monolayer films for enhanced electrochemical (bio)sensing applications. *12th International Conference on Porphyrins & Phthalocyanines (ICPP-12)*. Riu Plaza España Hotel and Conference Centre, Madrid. Spain. July 2022.

Mgidlana, S. and Nyokong, T.

Mgidlana, S. and Nyokong, T. Phototransformation of dibenzothiphenes using asymmetrical phthalocyanines covalently linked to metal tungstate nanoparticles. *12th International Conference on Porphyrins & Phthalocyanines (ICPP-12)*. Riu Plaza España Hotel and Conference Centre, Madrid. Spain. July 2022.

Mkhondwane, S.T. and Nyokong, T.

Mkhondwane, S.T. and Nyokong, T. TiO₂ electrospun nanofibers decorated with conjugates of porphyrin with graphitic carbon nitride quantum dots for photodegradation of organic pollutants. *12th International Conference on Porphyrins & Phthalocyanines (ICPP-12)*. Riu Plaza España Hotel and Conference Centre, Madrid. Spain. July 2022.

Mpeta, L.S. and Nyokong, T.

Mpeta, L.S. and Nyokong, T. Light assisted electrodegradation of 4-acetamidophenol on fabricated phthalocyanine based electrode. *12th International Conference on Porphyrins & Phthalocyanines (ICPP-12)*. Riu Plaza España Hotel and Conference Centre, Madrid. Spain. July 2022.

Ndebele, N. and Nyokong, T.

Ndebele, N. and Nyokong, T. The Synthesis of Symmetric Chalcone Co, Cu, Mn and Ni Phthalocyanine Complexes and their Electrochemical Properties. *12th International Conference on Porphyrins & Phthalocyanines (ICPP-12)*. Riu Plaza España Hotel and Conference Centre, Madrid. Spain. July 2022.

Nemakal, M. and Nyokong, T.

Nemakal, M. and Nyokong, T. Biocompatible Cobalt(II) Phthalocyanine Encapsulated with Chitin Biopolymer Via Amide Bond and Decorated with Flower-Like Zinc Oxide Nanopods for Electrochemical Sensing. *12th International Conference on Porphyrins & Phthalocyanines (ICPP-12)*. Riu Plaza España Hotel and Conference Center, Madrid. Spain. July 2022.

Nene, L.C. and Nyokong, T.

Nene, L.C. and Nyokong, T. Photo-Sonodynamic Combination Activity of Morpholino-Phthalocyanines Conjugated to Graphene Quantum Dots against MCF-7 Breast Cancer Cell Line. *12th International Conference on Porphyrins & Phthalocyanines (ICPP-12)*. Riu Plaza España Hotel and Conference Centre, Madrid. Spain. July 2022.

Nkhahle, R. and Nyokong, T.

Nkhahle, R. and Nyokong, T. A comprehensive study on the electrocatalysis of nitrite using cobalt and manganese phthalocyanines. *12th International Conference on Porphyrins & Phthalocyanines (ICPP-12)*. Riu Plaza España Hotel and Conference Center, Madrid. Spain. July 2022.

Nwahara, N. and Nyokong, T.

Nwahara, N., Abrahams, G.L., Prinsloo, E. and Nyokong, T. Prodrug-modified Phthalocyanine for Photodynamic Therapy. *12th International Conference on Porphyrins & Phthalocyanines (ICPP-12)*. Riu Plaza España Hotel and Conference Center, Madrid. Spain. July 2022.

Nyokong, T.

Nyokong, T. Design of Phthalocyanines for Photoinactivation of Multidrug Resistance Bacteria In symposium: 14 - Porphyrinoid biohybrid materials for light management applications (Invited Speaker). *12th International Conference on Porphyrins & Phthalocyanines (ICPP-12)*. Riu Plaza España Hotel and Conference Centre, Madrid. Spain. July 2022.

Openda, Y.I. and Nyokong, T.

Openda, Y.I., Ngoy, B.P. and Nyokong, T. Fast removal of Multidrug-resistant bacterial Biofilms: Antimicrobial photodynamic therapy combined to Chemotherapy. *12th International Conference on Porphyrins & Phthalocyanines (ICPP-12)*. Riu Plaza España Hotel and Conference Centre, Madrid. Spain. July 2022.

Smith, V.J.

Witika, B., Smith, V.J. and Walker, R.B. The development of a novel nano co-crystal-in-stimuli responsive hydrogel for management of HIV/AIDS. *The 41st Annual Congress of the South African Academy of Pharmaceutical Sciences*. Rhodes University, Makhanda. South Africa. August 2022.

Department of Computer Science

INTRODUCTION

The research activity in the Department of Computer Science is organized around several mutually supporting research groups, the boundaries of which fluctuate as new technologies and techniques are developed or extend into existing areas.

The Department's research is largely conducted under the auspices of the Telkom Centre of Excellence in Distributed Multimedia, which is an initiative that has been ongoing since 1997 and brings together industry and academia. In addition, a multi-disciplinary research collaboration between the South African Institute for Aquatic Biodiversity (SAIAB), the Computer Science Department and a few other departments in the mathematical sciences at Rhodes University, was initiated in 2022. Current research groups in the department, together with the main researchers, are listed below.



Professor Karen Bradshaw - Head of Department

Artificial Intelligence and Robotics

(Mr James Connan, Dr Dane Brown, Professor Karen Bradshaw and Dr Stones Dalitso Chindipha)

Given that the artificial intelligence field is very broad, this group focuses mainly on three distinct areas, namely, image processing, machine learning and intelligent agents. Research is conducted in a wide range of application areas using appropriate algorithms either individually or in combination.

Security and Networks

(Dr Stones Dalitso Chindipha, Professor Barry Irwin and Dr Alan Herbert)

The Security and Networks Research Group (SNRG) concentrates in the areas of Information Security and Computer Networks, both crucial in modern computing and telecommunications.

Convergence

(Dr Zelalem Shibeshi, Professor Nomusa Dlodlo and Professor Alfredo Terzoli)

This group focuses on the rich intersection of legacy telecommunication systems and organisations and the Internet. The main research theme is 'Software Defined Networks, Network Function Virtualisation, Cloud and Fog computing for 5G networks'.

Distributed and Parallel Computing

(Professor George Wells and Professor Karen Bradshaw)

As one of the most established areas of research in the Department, this group focuses on the ever-present and vital theme of parallel and distributed computation, in particular the use of GPUs for high performance computing and concurrent programming in the Java programming language.

ICT for Development

(Professor Nomusa Dlodlo, Dr Zelalem Shibeshi and Professor Alfredo Terzoli)

This group focuses on a long-term, multidisciplinary effort to introduce meaningful and sustainable ICT in impoverished rural and peri-urban areas of South Africa. The group is currently also working in the areas of the Internet of Things and Blockchain applications.

Bioinformatics

(Professor Philip Machanick)

Rhodes University Bioinformatics (RUBi) Research Group is an interdisciplinary group based in the Department of Biochemistry and Microbiology and which focuses on collaborative research to produce computational outcomes of biological significance.

Immersive Audio

(Professor Richard Foss)

This group focuses mainly on the conceptualisation and implementation of a distributed immersive audio solution for a range of professional audio devices, such as loudspeakers and mixing consoles for application in live sound installations and Virtual Reality.

Software Design and Development

(Dr Yusuf Motara)

This group focuses on finding ways in which the next generation of software and software development can be conceptualised, designed, taught, and implemented. The research agenda encompasses Computer Science education and gamification in this context.

Postgraduates / Graduations

In 2022 there were eighteen (18) Honours, fourteen (14) MSc and seven (7) PhD registered Postgraduate students. Of these, sixteen (16) Honours, three (3) MSc and two (2) PhD candidates had fulfilled the requirements for their degrees by the end of the academic year.

Our top Postgraduate student, who received the Centre of Excellence Prize for the Best Research Student in Computer Science in 2022, was Dr Stones Dalitso Chindipha. He was awarded a PhD degree for his thesis entitled "Evaluation of the Effectiveness of Small Aperture Network Telescopes as IBR Data Sources".

Mr Joshua van Staden, a registered PhD candidate, was awarded the Best Research Paper Award at the International Conference on Computer Vision and Signal Processing held in Cape Town in November 2022.

Distinguished Visitors / International Visits

As part of her sabbatical leave, Professor Karen Bradshaw visited the Multi-agent Research and Simulation (MARS) group led by Professor Dr Thomas Clemen at the Hamburg Applied University of Technology.

Significant Research Aligned Events

In September 2022, Professor Karen Bradshaw in collaboration with her research partners Professor Thomas Clemen and Dr Ulfia Lenfers from the Hamburg Applied University of Technology presented an inter-disciplinary short course on computer-based ecological modelling and simulation in Gqeberha. This course was run under the auspices of the SPACES II project, which is funded by the Federal Republic of Germany.

Dr Dane Brown was inaugurated as a member of the South African Young Academy of Science in October 2022.



Dr Dane Brown (right) receiving his certificate of membership to SAYAS -- presented by Associate Professor Dustin van der Haar from the University of Johannesburg, who is the co-chair of SAYAS. Photo: Department of Computer Science

Department of Computer Science

PUBLICATIONS

Peer Reviewed Subsidy-Earning Journal Research Publications

Boby, A.Z. and Brown, D.L.

Boby, A.Z. and Brown, D.L. (2022) Improving Licence Plate Detection Using Generative Adversarial Networks. *Lecture Notes in Computer Science*. 13256 (1). p.588-601.

Bradshaw, K.

MacFaden, S., Alsopp, N., Altweg, R., Archibald, S., Botha, J., **Bradshaw, K.**, de Klerk, H., **De Vos, A.**, Distiller, G., Foord, S., Freitag-Ronaldson, S., Gibbs, R., Hamer, M., Landl, P., MacFayden, D., Manuel, J., Midgley, G., Moncrieff, G., Munch, Z., Mutanga, O., Sershen, A., Nenguda, R., Ngwenya, M., Peel, M., Power, J., Pretorius, J., Ramdhani, S., Robertson, M., Rushworth, I., Slingsby, J., Turner, A., Visser, V., van Wageningen, G. and Hui, G. (2022) Drowning in data, thirsty for information and starved for understanding: A biodiversity information hub for cooperative environmental monitoring in South Africa. *Biological Conservation*. 274 (109736). p.1-10.

Pascoe, L., Clemen, T., **Bradshaw, K.** and Nyambo, D. (2022) Review of importance of weather and environmental variables in agent-based arbovirus models. *International Journal of Environmental Research and Public Health*. 19 (33). p.15578-15597.

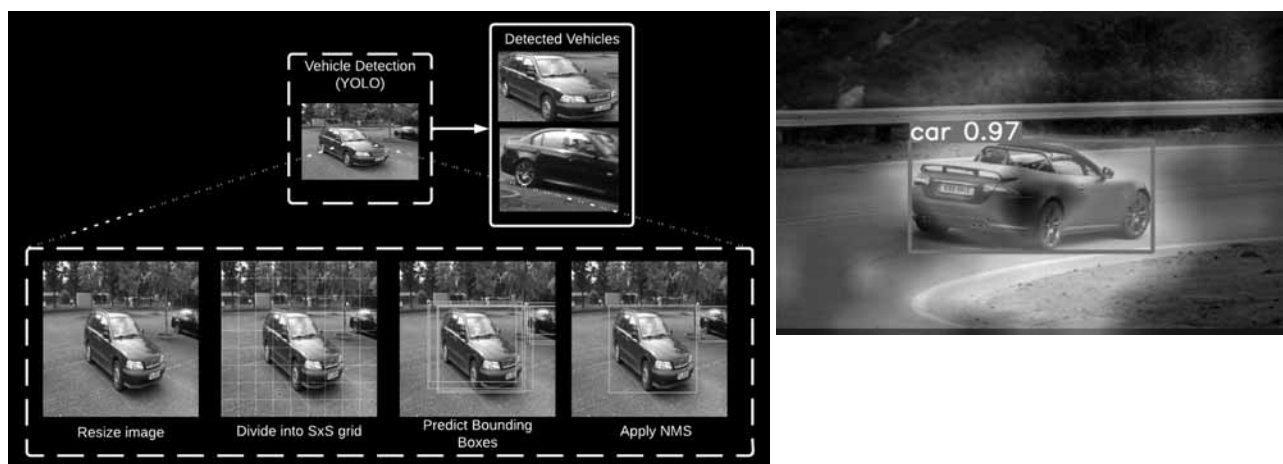
Bradshaw, K., and Milne, S. (2022) Mapping Computational Thinking Skills to the South African Secondary School Mathematics Curriculum. In: W.S. Leung, M. Coetzee, D. Coulter and D. Cotterrell (eds.). *ICT Education, Communications in Computer and Information Science*. Vol 1461, pp. 85-101. Springer Nature Switzerland AG.

James, K. and Bradshaw, K.

James, K. and Bradshaw, K. (2022) Shrub Detection in High-Resolution Imagery: A Comparative Study of Two Deep Learning Approaches. *Communications in Computer and Information Science*. 1528 (0). p.545-561.

Marais, M.J. and Brown, D.L.

Marais, M.J. and Brown, D.L. (2022) Golf Swing Sequencing Using Computer Vision. *Lecture Notes in Computer Science*. 13256 (1). p.351-365.



Various machine learning research activities in the department. Photo: Department of Computer Science

Terzoli, A.

Okuthe, J.A. and Terzoli, A. (2022) Quantifying the Shift in Network Usage Upon Bandwidth Upgrade. *Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering*. 443 (2022). p.340-354.

Peer-reviewed Proceedings

Boby, A.Z., Brown, D.L., Connan, J. and Marais, M.J.

Boby, A.Z., Brown, D.L., Connan, J. and Marais, M.J. Investigating the Effects of Image Correction Through Affine Transformations on Licence Plate Recognition. *2022 International Conference on Artificial Intelligence, Big Data, Computing and Data Communication Systems (icABCD)*. Virtual, Durban. South Africa. August 2022.

Boby, A.Z., Brown, D.L., Connan, J., Marais, M.J. and Kuhlana, L.

Boby, A.Z., Brown, D.L., Connan, J., Marais, M.J. and Kuhlana, L. Licence Plate-specific Character Recognition Using YOLO. *Southern Africa Telecommunication Networks and Applications Conference (SATNAC) 2022*. Fancourt, George. South Africa. August 2022.

De Silva, N.M.T. and Brown, D.L.

De Silva, N.M.T. and Brown, D.L. Plant Disease Detection using Deep Learning on Natural. *2022 International Conference on Artificial Intelligence, Big Data, Computing and Data Communication Systems (icABCD)*. Virtual, Durban. South Africa. August 2022.

Irwin, B.V.W.

Irwin, B.V.W. and Johnson, C.M. An Exploration of the Adoption of DNSSEC by businesses within the Norwegian ccTLD. *ICONIC*. Ravenala Attitude Hotel, Balaclava. Mauritius. December 2022.

Irwin, B.V.W. and Loyani, L.K. Towards Scalable Secure Syslog Compatible Remote Logging. *ICONIC*. The Ravenala Attitude Hotel, Balaclava. Mauritius. December 2022.

Irwin, B.V.W. Evaluation of Mauritian IPV4 address space within the Internet Background Radiation data. *ICONIC*. The Ravenala Attitude Hotel, Balaclava. Mauritius. December 2022.

Kuhlana, L., Brown, D.L., Connan, J., Boby, A.Z. and Marais, M.J.
Kuhlana, L., Brown, D.L., Connan, J., Boby, A.Z. and Marais, M.J. Deep Learning Approach to Image Deblurring and Image Super-Resolution using DeblurGAN and SRGAN. *Southern Africa Telecommunication Networks and Applications Conference (SATNAC) 2022*. Fancourt, George. South Africa. August 2022.

Kwedza, P.T. and Chindipha, S.D.

Kwedza, P.T. and Chindipha, S.D. Cryptojacking Detection in Cloud Infrastructure using Network Traffic. *Southern Africa Telecommunication Networks and Applications Conference (SATNAC) 2022*. Fancourt, George. South Africa. August 2022.

Lushaba, S.N. and Chindipha, S.D.

Lushaba, S.N. and Chindipha, S.D. Blackhole Attack Detection in Mobile P2P Networks using Modified AODV Routing Protocol. *Southern Africa Telecommunication Networks and Applications Conference (SATNAC) 2022*. Fancourt, George. South Africa. August 2022.

Magwenzi, T., Shibeshi, Z.S. and Terzoli, A.

Magwenzi, T., Shibeshi, Z.S. and Terzoli, A. SDN-based "Broadband Islands" to Connect the Unconnected in South Africa. *Southern African Telecommunication Networks and Applications Conference (SATNAC) 2022*. Fancourt Hotel, George. South Africa. August 2022.

Marais, M.J., Brown, D.L., Connan, J. and Boby, A.Z.

Marais, M.J., Brown, D.L., Connan, J. and Boby, A.Z. An Evaluation of Hand-Based Algorithms for Sign Language Recognition. *Artificial Intelligence, Big Data, Computing and Data Communication Systems (icABCD)*. Virtual, Durban. South Africa. August 2022.

Marais, M.J., Brown, D.L., Connan, J., Boby, A.Z. and Kuhlana, L.

Marais, M.J., Brown, D.L., Connan, J., Boby, A.Z. and Kuhlana, L. Investigating Signer-Independent Sign Language Recognition on the LSA64 Dataset. *Southern Africa Telecommunication Networks and Applications Conference (SATNAC) 2022*. Fancourt, George. South Africa. August 2022.

Maribana, C.T. and Chindipha, S.D.

Maribana, C.T. and Chindipha, S.D. Malware Detection and Classification. *Southern Africa Telecommunication Networks and Applications Conference (SATNAC)*. Fancourt, George. South Africa. August 2022.

Ncube, L.B.S., Dlodlo, N. and Terzoli, A.

Ncube, L.B.S., Dlodlo, N. and Terzoli, A. A Prototype for a Blockchain-based Peer to Peer Energy Trading System. *Southern African Telecommunication Networks and Application Conference (SATNAC) 2022*. Fancourt, George. South Africa. August 2022.

Ncube, T., Dlodlo, N. and Terzoli, A. A Blockchain-based Multi-controller SDN Architecture for Controller State Consistency. *Southern African Telecommunication Networks and Applications Conference (SATNAC) 2022*. Fancourt, George. South Africa. August 2022.

Wells, G., Wells, S. and Tsaoane, M.L.

Wells, G., Wells, S. and Tsaoane, M.L. The Design and Implementation of a Mobile Application to Decrease Occupational Sitting. *Southern Africa Telecommunication Networks and Applications Conference (SATNAC) 2022*. Fancourt, George. South Africa. August 2022.

Other Publications

Machanick, P.

Machanick, P. (2022) Onward and upward. *South African Computer Journal*. 34 (1). p.1-4.

Department of Drama

INTRODUCTION

The Rhodes Drama department had a very exciting 2022 research programme in which there was a range of offerings, consisting of creative and written research done by staff and Postgraduate students. New research initiatives were started, national and international collaborations were forged and significant funding was generated.

The department produced thirty-five (35) productions and performance events - some as public exams, others as research and community engagement performances. Of those thirty-five (35) productions, two (2) were extra-curricular departmental productions: *16 Kinds of Gratitude (16 Vignettes)* curated by Alan Parker and *(Not) A Place of War* directed by Thembela Madliki. After the live performance hiatus during the Covid pandemic, it was particularly exciting to experience live theatre again and both works were well received.



Associate Professor Heike Gehring
- Head of Department

Among the other productions of the year were five (5) works for the National Arts Festival produced by Masters students Siyabulela Javu, Kanya Ngcuka, Lyndre Bonhomme, Caillyb Prinsloo and Tasmin Shermin. No fewer than three (3) of these productions received Silver Ovation Awards. Other festival highlights were Ubom's *Betti and the Yeti*, directed by Luvuyo Yanta; and Gavin Krastin's *Twelve Labours* (2022) was featured at both the National Arts Festival and the International Forum of Performance Art, Athens, Greece.

In terms of community-based research, the department was also active. In this regard, Lalu Mokuku and Ingrid Wylde's community responsive projects, which related to the Enyobeni tavern tragedy, stand out. Another highlight is the ongoing partnership that Ms Mokuku has forged with Makhanda-based arts therapist, Merran Roy, and the Drama for Life division at Wits University. This is to develop a project addressing mental health issues at institutions of higher learning. The project is called, "Koko, Knock Knock, Nqonqo! Arts for Life". For this, Ms Mokuku received funding from the National Arts Council. Other funding, in the form of grants for projects, was received by Gavin Krastin: the National Arts Festival's Standard Bank Young Artist Award commission grant; a grant from the Centre for Creative Arts, UKZN, and an NAC grant 2022/2023 (for *Arcade2023* and the publication of an accompanying book).

In the realm of publishing, Anton Krueger was elected to the editorial board of the Bloomsbury "Agitations" Series and as editor of the "Performance and Mindfulness" Journal. The 2022 edition of *Aerial*, a publication of the Institute for the Study of English in Africa was co-produced by Lalu Mokuku. Heike Gehring's book proposal "Shifting Identities" was accepted by African Media Press. Masters student, Tamarisk Glogauer, was the finalist in the McGregor Poetry competition and her play was selected by the UJ Playwriting Lab to be staged at the Free State Arts Festival.

Postgraduates / Graduations

As mentioned in the introduction, five (5) Masters students produced works for the 2022 National Arts Festival: they were Siyabulela Javu, Kanya Ngcuka, Lyndre Bonhomme, Caillyb Prinsloo and Tasmin Shermin. Three (3) of these productions received Silver Ovation Awards: *Jikijela*, *What do you think the birds are doing?* and *My Weight and Why I Carry it*. As mentioned, Tamarisk Glogauer's play was selected by the UJ Playwriting Lab to be staged at the Free State Arts Festival.

Distinguished Visitors / International Visits

Internationally acclaimed South African choreographer and performer, Ms Mamela Nyamza, visited the department for a short residency. Ms Nyamza is the 2023 JOMBA! Legacy Artist. With a formal ballet background, she received further training at the Alvin Ailey New York School of Dance, which is known for deconstructing the traditional methods and logic

of ballet and contemporary dance. She is recognised for a series of ground-breaking works that challenge classical norms: "The Dying Swan" - innovation in the dance in 1998; "Hatched" - against patriarchy in 2007, and the "The Meal" - against elitist ballet in 2012. Her other works include: "BLACK PRIVILEGE" - against injustices of women; "PEST CONTROL" - miscarriage of justice within the arts formalized institutions; and her newest work: "GROUNDED" - reflection of contemporary narratives and dramaturgy behind political discourses of dialogue and performance between the contemporary artist and audience.

Among her many accolades, Ms Nyamza was chosen as the Featured Artist of the Grahamstown Standard Bank National Arts Festival 2018, and she was awarded the FNB Dance Indaba Award for Outstanding Performance by a Female Dancer in Contemporary Style. In 2022 she received an award from Burkina Faso Festival International de Danse de Ouagadougou (FIDO 2022), the Marraines FIDO 2022.

Apart from receiving an internationally profiled visitor like Ms Nyamza, staff from the department also represented the university internationally. Three (3) staff members were invited to participate in Pro Helvetia sponsored residencies: Anton



PEN(T)S DOWN HAHÁ! production is inspired by events of 2022 where children and young people died after they had gone out to celebrate the end of exams in June 2022 in an event called Pens Down. The play won the Standard Bank Ovation Awards (Bronze) and toured to the Cradle of Creativity International festival in Johannesburg. The students got to perform at the iconic Market Theatre. The script was written by Lulu Mokuku, and Luvuyo Yanta directed the production.

Top: Drama students, Suthukazi Memela, Rozelle Hartenzberg, Lisa Simelane and Nokulunga Masia.

Below: Showcasing the extravagant groove life. Photos: Simphiwe Magolego, a Journalism student.

Krueger (Pro Helvetia / Chateau de Lavigny Writer's Residency in Switzerland); and Alan Parker and Gavin Krastin (Pro Helvetia Johannesburg Research Residency Grant to conduct research at the University of the Arts Bern and Muzeum Susch, Switzerland). Professor Krueger attended the International Federation for Theatre Research conference in Reykjavik, Iceland, as a member of the "Embodied Working Group" and Mr Krastin's work *Twelve Labours* (2022) featured at the International Forum of Performance Art, Athens, Greece.

Significant Research Aligned Events

An exciting research-aligned development in the department was Alan Parker's establishment of the Network for Embodied Research in Africa (NERA) in January 2022 as a research and community-building project. This significant development offers new possibilities for creative research practice and intercontinental dialogue. Among many other initiatives, NERA launched a short residency programme which this year was attended by South African choreographer and performer, Ms Mamela Nyamza: "to host a series of workshops that share her creative approach to embodied research and performance-making."

Professor Gehring completed a Breathworks Africa Foundation course and has been accepted to do an Advanced Practitioners Breathwork course in 2023 in order to start a wellness research initiative in the department, called "Let's Breathe". This will form part of her research towards curriculum development in this field, complemented by other research projects related to breathwork, vocal practice and wellness.

Department of Drama

PUBLICATIONS

Concerts, Exhibitions, Performances, Workshops, Events

Krastin, G.J. and Parker, A.C.
Krastin, G.J. and Parker, A.C. Dramaturg, Performer, Creator. 12 Labours. *National Arts Festival. Sun Gallery, Makhanda. South Africa.* 23 June - 3 July 2022.

Krueger, A.
Krueger, A. Hosted a weekend workshop. Facilitator. *First Thought / Best Thought Mindful Writing Retreat.* Deep South Retreat Centre, Makhanda. South Africa. 11 - 13 November 2022.

Krueger, A. Film performance. Caller. *The Fury.* Amazon Prime, Cape Town. South Africa. 1 March 2022.

Krueger, A. Performance in Movie. Roman Zorich in Voices of the New Belarus [Film]. *Screened at Hong Kong Film Festival (and others).* Online Collaboration - USA, Hong Kong, Australia, Belarus, Egypt, SA. 1 February - 1 May 2022.

Krueger, A. Performance in Series - Dam. The Vet. *Dam (Season 2).* Showmax, Bedford. South Africa. 4 August - 20 September 2022.

Parker, A.C. and Krastin, G.J.
Parker, A.C. and Krastin, G.J. Performance Dramaturg. Labouring Gratitude. *ICA Live Art Festival.* Hiddingh Hall, Cape Town. South Africa. 1 - 2 April 2022.

Creative Writing

Krueger, A.
Krueger, A. (2022) Three contributions: Poems on the Theme, Voices of New Contrast, and Poems by Mary Oliver. (Page numbers below indicate estimated length of the readings, not actual publication pages). In: Swanson, A.r.c.h.i.e. (ed.). *Performances at McGregor Poetry Festival.* South Africa: New Contrast.

Mokuku, S.
Mokuku, S. (2022) Breath, Donkey Years, (Not) Passover, Ways of Faith, Christmas has arrived, Mosa, An Oyster. In: Lalu Mokuku, L.M. and Nicol Gowar, N.G. (eds.). *AERIAL 2022.* Makhanda: Institute for the Study of the Englishes of Africa.

Distinguished Visitors

Krueger, A.
A Krueger. McGregor Poetry Festival, McGregor, South Africa. *Workshop: Mindful Writing - Befriending the Inner Critic.* September 2022.

Parker, A.C. and Krastin, G.J.
AC Parker and GJ Krastin. University of the Arts Bern, Bern, Switerland. *Guest Lecture and Research.* November 2022.

International Visits

Krueger, A.
Krueger, A. Chateau Lavigny, Lavigny, Switzerland. *Chateau Lavigny Residency.* 4 July - 2 August 2022.

Krueger, A. University of the Arts (Central St Martins), London, UK. *Dialogues - MA Performance Design and Practice (seminar workshop presented).* 15 March 2022.

Parker, A.C. and Krastin, G.J.
Parker, A.C. and Krastin, G.J. Muzeum Susch Art Stations Foundation, Susch, Switerland. *Pro Helvetia Research residency.* 26 November - 11 December 2022.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Krueger, A.
Krueger, A. Connections across Remoteness Reflections on Two Live Performances at the Virtual National Arts Festivals of South Africa. *International Federation of Theatre Research.* University of Iceland, Reykjavik. Iceland. June 2022.

Parker, A.C.
Parker, A.C. Some Opening Provocations: Dancing Archives. *Jomba! Masihambisane Dialogues #2.* online, Durban. South Africa. May 2022.

Department of Economics and Economic History

INTRODUCTION

The year 2022 was a busy one for the Department of Economics, as the Covid-19 pandemic subsided, and research fieldwork, travel and conferences resumed.

Progress is being made in encouraging early-career staff to participate in international conferences: Dr Friderichs and Ms Malimba participated in an international conference in Windhoek, Namibia, and Dr Phakathi participated in "Connecting the World" in Amsterdam (funded by the Erasmus Plus fund).



Professor Jen Snowball - Head of Department



Dr Friderichs and Ms Malimba at the Windhoek conference.
Photo: Department of Economics and Economic History

Economics staff are also involved in capacity-building: Ms Niki Cattaneo co-facilitated and lectured on the 2022 edition of the African Programme on Re-thinking Development Economics (APORDE) in Pretoria. APORDE is an initiative of the Department of Trade, Industry and Competition and the Trade and Industrial Policy Strategy (TIPS) group. Drs Friderichs and Phakathi were also involved in offering a course for researchers on the use of Afrobarometer dataset.

There were also some interesting international collaborations: Mr Delon Tarentaal, Ms Fiona Drummond (an Economics PhD candidate) and Professor Snowball continued to be involved in research collaborations with King's College, London on the economics of cultural festivals during the Covid-19 period. Professor Snowball and Ms Cattaneo were invited to join the UNCTAD Working Group on the Creative Economy, working particularly on how to measure cultural industries services trade.

Dr Sibanisezwe Khumalo, deputy HoD, contributed a paper to the very successful conference, organised by the Management Department in September 2022, presenting a paper entitled, "Financial technology and bank risk-taking behaviour: A case of selected South African Banks", which was also published in the peer-reviewed conference proceedings.

Professor Marire was on sabbatical for the first semester of 2022 - an extremely productive period in which he increased his publication in the field of public finance considerably. 2022 was the first year in which Economics offered a Postgraduate course that included community-based service-learning. Designed and led by Dr Friederichs, Development Economics Honours included a very successful service-learning component, which will be expanded on in the future.

Members of the Economics Department are also involved in producing commissioned research, with wider policy impact:

Professor Rogan, Dr Phakathi and Ms Malimba have been commissioned by the Department of Employment and Labour to conduct research on the Basic Conditions of Employment Act. This is a 6-month project which will draw in Postgraduate students. Professor Rogan and Dr Friederichs are working with the University of the Western Cape on a National Skills Fund project to measure the employment outcomes from TVET completion. This will be the largest national study on TVET completion in South Africa.

Professor Rogan has also started a new project with the OECD and ILO to investigate the links between regulation and productivity in informal sector firms. This is the start of a longer term planned project based on an enterprise survey approach.

Professor Rogan was also involved in the design and dissemination of the research commissioned by the South African presidency to investigate the impact of the COVID social relief of distress (SRD) grant on informal sector livelihoods. The project was funded by the Agence Française de Développement (AFD).

Rhodes University is a partner in the South African Cultural Observatory (SACO). Hosted by Nelson Mandela University, SACO is funded by the Department of Sport, Arts and Culture, with a mandate to produce policy and industry-relevant research on the cultural and creative industries in South Africa. Professor Snowball, together with Ms Cattaneo, Professor Rogan, and external research partners, produced an Economic Mapping Study of the Cultural and Creative Industries in 2022, which was launched by the minister of Sport, Arts and Culture in April 2022.

The Department also contributes to wider knowledge dissemination through public events. In 2022 the *Handbook of the South African Economy* (published through Oxford University Press) was launched at a large public event hosted by President Ramaphosa. Professor Rogan was a contributor to the volume. Professor Rogan also presented his contributions to the volume through a Massive Online Open Source Course (MOOC) on Sustainable Development Goal 8. The course was filmed at UCT at the end of 2022 as a collaboration with UNU-WIDER (United Nations University World Institute for Development Economics Research) and is targeted at policy makers across the global south.

Economics staff members also publish their research in a variety of formats in order to ensure that research is accessible outside of the academy. Members of the department publish regularly in, *inter alia*, *The Conversation*. One of Professor

Rogan's *Conversation* articles was included in a list, by the editor, as a read 'to catch up on' at the end of 2022.

On the staff front, we are very proud of Mr David Fryer, who won the Vice Chancellor's Teaching Award, which was presented at the October 2022 graduation ceremonies, and followed by his public lecture which was very well received. We also congratulate Dr Phakathi, who followed the nGAP scholar route, and graduated with her PhD in 2022. We celebrated two promotions: Dr Friderichs (Lecturer to Senior lecturer) and Professor Marire (Senior Lecturer to Associate Professor). We are happy to welcome Professor Meshach Aziakpono as the new leader and joint coordinator of the Masters in Financial Markets programme.

Postgraduates / Graduations

We congratulate former staff member, Dr Jamela Hovern, on completing her PhD in Economics from Rhodes University in 2022.

The Economics Department was proud to have the 2022 SRC President, Botlhale Modisaotsile, as a Masters Student in our Department (supervised by Mr Sisa Jobo), who will graduate in 2023.

We also congratulate one of our 2022 honours students, Takudzwa Makuwa, for being selected as one of the top 20 in the annual Rhodes University Three Minute Thesis Competition (the only Honours-level student to have been included in the top 20 in 2022). Takudzwa was also a finalist in the National Treasury Budget Speech competition for 2022 (funded by Nedbank and Old Mutual).

Siviwe Mhlana, former Postgraduate student in the department, and a current RU Economics Department research associate, received a full PhD bursary to continue her studies at SOAS, the School of Oriental and African Studies (University of London).

Distinguished Visitors / International Visits

Professor Snowball gave an invited keynote address at King's College London Africa Week 2022 (online), entitled *Capturing Value in the Cultural and Creative Economies in Africa*. She was also appointed as a visiting professor at Nottingham-Trent University in the Department of Economics, Nottingham Business School. The three-week visit was to continue work on joint research on the value of cultural capital, with particular reference to heritage.

In September, Professor Rogan was invited to present his work at the Southern Denmark University (SDU) as part of the Just Society Initiative. The initiative is an 'interdisciplinary project that aims to promote equality by strengthening the rule of law, access to justice, and redistributive welfare policies through teaching, research and public engagement.' Professor Rogan presented some preliminary results from a firm survey conducted in Accra, Ghana.

Related to the above, Professor Rogan launched a firm survey in Accra, Ghana in April and May of 2022. The project was funded by the Swedish International Development Cooperation Agency and was implemented as a partnership with the International Centre for Tax and Development at the University of Sussex. Professor Rogan was hosted by the Institute of Statistical Social and Economic Research (ISSER), a semi-autonomous institute within the College of Humanities at the University of Ghana.

Significant Research Aligned Events

We were happy to reinstate our annual Postgraduate student conference, which was held at Rhodes University in September 2022. Sponsorship from the Economic Society of South Africa allowed us to include staff and students from the University of Fort Hare and Nelson Mandela University as well. The keynote speaker was Mr John Loos, Senior Economist of First National Bank, South Africa.

The South African Cultural Observatory held a very successful international conference in Pretoria in November. The Cultural and Creative Industries Mapping Study, that was led by a team from RU Economics, was presented at a plenary session. The conference was attended by more than three hundred and fifty (350) delegates from eighteen (18) countries.

Mr David Fryer, together with Professor Rogan, coordinated and presented a session at the Vuyisile Mini Winter School, organised by the Neil Aggett Labour Studies Unit, with support from the Friederich-Ebert-Stiftung. The winter school is offered to trade union office bearers in the Eastern Cape and associated labour-based organisations.



Mr David Fryer delivering the VC's Teaching Award lecture in 2022.
Photo: Department of Economics and Economic History

Department of Economics and Economic History

PUBLICATIONS

Books/Chapters/Monographs

Rogan, M.

Rogan, M. (2022) Taxation and the informal economy in the global South: strengthening the social contract without reciprocity? In: Alfars, L., Chen, M. and Plagerson, S. (eds.). *Social Contracts and the Future of Work: A View from Informal Workers in the Global South*. UK: Edward Elgar Publishing Limited. p.85-105. ISBN: 9781839108051.

Concerts, Exhibitions, Performances, Workshops, Events

Fryer, D., Mhlana, S. and Rogan, M.

Mcgregor, W., Van Der Walt, L., Grinker, R., Fryer, D., Mhlana, S., Rogan, M., Alfars, L., Jara, M., Kota, A. and Makola, W.L. Design, facilitation, presentation. Crisis, Recovery and the Labour Movement. *Vuyisile Mini Workers School (Neil Aggett Labour Studies Unit / NALSU)*. Graham Hotel, Makhanda. South Africa. 31 October - 4 November 2022.

International Visits

Rogan, M.

Rogan, M. Southern Denmark University, Odense, Denmark. *Just Society Initiative*. 15 - 20 September 2022.

Rogan, M. University of Ghana, Accra, Ghana. *Taxation in Accra's Informal Sector*. 1 - 10 February 2022.

Snowball, J.D.

Snowball, J.D. Nottingham-Trent University Business School, Nottingham, UK. *Research project: Development and the Protection of Cultural Heritage: Evidence from South Africa*. 18 July - 1 August 2022.

Other Publications

Cattaneo, N. and Snowball, J.D.

Cattaneo, N. and Snowball, J.D. (2022) South Africa's cultural goods trade with a focus on the US-Mexico-Canada (USMCA) bloc and SADC in comparative perspective and the impact of the Covid-19 pandemic. In: *The Economic Mapping of the Cultural and Creative Industries in South Africa 2020*. Port Elizabeth: South African Cultural Observatory.

Cattaneo, N., Snowball, J.D., Gouws, A. and Hadisi, S. (2022) The South African Creative Economy in Historical Context. In: *The Economic Mapping of the Cultural and Creative Industries in South Africa 2020*. Port Elizabeth: South African Cultural Observatory.

Rogan, M.

Rogan, M. (2022). In: *Covid-19 and informal work Degrees and pathways of impact in 11 cities around the world*. Helsinki: UNU-WIDER.

Rogan, M. (2022). In: *The Covid-19 crisis and the South African informal economy: A stalled recovery*. Helsinki: UNU-WIDER.

Snowball, J.D.

Hadisi, S. and Snowball, J.D. (2022) Employment and transformation in the Cultural and Creative Industries in South Africa. In: *The Economic Mapping of the Cultural and Creative Industries in South Africa 2020*. Port Elizabeth: South African Cultural Observatory.

Gouws, A., Hadisi, S. and Snowball, J.D. (2022) Provincial Profiles: Cultural and Creative Industries in South Africa. In: *The Economic Mapping of the Cultural and Creative Industries in South Africa 2020*. Port Elizabeth: South African Cultural Observatory.

Snowball, J.D., Friderichs, T.J. and Rogan, M.
Wilson, N., Gross, J., Dent, T., Comunian, R., Kim, S., Snowball, J.D., Friderichs, T.J. and Rogan, M. (2022) The Cultural Development Index (CDI): Theorising and Implications of the Cultural Development Index. In: *DISCE (Developing Inclusive and Sustainable Creative Economies) project. DISCE is an EU funded research project.*

Peer Reviewed Subsidy-Earning Journal Research Publications

Drummond, F.J.
Drummond, J., Rogerson, C.M. and Drummond, F.J. (2022) Adventure Tourism in the Apartheid Era: Skydiving in Mafikeng - Mmabatho. *African Journal of Hospitality, tourism and Leisure (AJHTL)*. 11 (1). p.578-594.

Friderichs, T.J.
Friderichs, T.J. and Correa, F.M. (2022) Measuring human capital in South Africa across socioeconomic subgroups using a latent-variable approach. *Social Indicators Research*. 2022 (2022). p.1-25.

Khumalo, S.A.
Simbi, C., Arendse, J. and Khumalo, S.A. (2022) IFRS and FPI nexus: does the quality of the institutional framework matter for African countries? *Journal of Accounting in Emerging Economies*. 13 (1). p.195-215.

Marire, J.
Marire, J. (2022) An empirical note on causality between government spending and debt in South Africa. *European Journal of Economics, Law and Social Sciences*. 6 (1). p.224-235.

Marire, J. (2022) Relationship between fiscal deficits and unemployment in South Africa. *Journal of Economic and Financial Sciences*. 15 (1). p.1-12.

Marire, J. (2022) Unemployment, total factor productivity, budget deficit, and wage share in South Africa. *Economic Journal of Emerging Markets*. 14 (2). p.175-189.

Marire, J. (2022) Effect of government spending on total factor productivity in South Africa. *European Journal of Economics, Law and Social Sciences*. 6 (1). p.435-452.

Nyopa, T. and Khumalo, S.A.
Nyopa, T. and Khumalo, S.A. (2022) Volatility spill overs in equity and foreign exchange markets: Evidence from emerging economies. *Journal of Economic and Financial Sciences*. 15 (1). p.1-14.



Members of the 2022 Development Economics Honours class with community partners.

Photo: Department of Economics and Economic History

Rogan, M.
Rogan, M., Moussie, R. and Ogando, A.C. (2022) Impacts of the COVID-19 pandemic and unpaid care work on informal workers livelihoods. *International Labour Review*. 161 (2). p.171-194.

Chen, M., Grapsa, G., Ismail, G., Rogan, M., Valdivia, M., Alfars, L., Harvey, J., Ogando, A.C., Reed, S. and Roeveer, S. (2022) Covid-19 and informal work: Evidence from 11 cities. *International Labour Review*. 161 (1). p.29-58.

Snowball, J.D.
Hadisi, S. and Snowball, J.D. (2022) Assessing the potential of the craft sectors contribution to employment and gross domestic product in South Africa. *Creative Industries Journal*. p.1-15.

Snowball, J.D. and Gouws, A. (2022) The impact of Covid-19 on the cultural and creative industries: determinants of vulnerability and estimated recovery times. *Cultural Trends*. p.1-24.

Peer-reviewed Proceedings

Magula, Z. and Khumalo, S.A.
Magula, Z. and Khumalo, S.A. Financial technology and bank risk-taking behaviour: A case of selected South African banks. *VUCA and the disrupted workplace: Managing a sustainable future*. Mpekwini Beach resort, Port Alfred. South Africa. September 2022.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Friderichs, T.J.
Friderichs, T.J. COVID-19 on inequality in South Africa by socioeconomic subgroup. *1st Joint Annual International Conference 2022*. Namibia, Windhoek. Namibia. September 2022.

Friderichs, T.J., Nyumbaiza, P.N. and Keeton, G.R.
Friderichs, T.J., Nyumbaiza, P.N. and Keeton, G.R. Critical analysis of the impact of Covid-19 on inequality in South Africa by socioeconomic subgroup. *1st Joint Annual International Conference 2022*. Namibia University of Science and Technology, Windhoek. Namibia. September 2022.

Keeton, G.R.
Keeton, G.R. The Economics of the feasible in a Democratic SA: Anglo-American and Economic policy. *Colloquium in honour of Vishnu Padayachee - 20 - 22 July 2022*. University of the Witwatersrand, Johannesburg. South Africa. July 2022.

Snowball, J.D.
Snowball, J.D. and Gouws, A. Mapping the Creative Industries: Using multi-dimensional measures to track development and recovery. *South African Cultural Observatory Conference*. CSIR, Pretoria. South Africa. November 2022.

Snowball, J.D. Capturing Value in the Cultural and Creative Economies in Africa (Invited Keynote Address). *King's College London Africa Week 2022*. Online, London. UK. March 2022.

Snowball, J.D., Drummond, F.J. and Tarentaal, D.
Snowball, J.D., Drummond, F.J., Tarentaal, D., Comunian, R. and Gross, J. Online festival experiences, eventscares and cultural value. *Royal Geographic Society Annual International Conference*. Online, Newcastle. UK. August 2022.

Snowball, J.D., Tarentaal, D. and Drummond, F.J.
Snowball, J.D., Tarentaal, D., Drummond, F.J., Comunian, R. and Gross, J. Innovating Festivals: new formats, new measures, new possibilities. *Futures and beyond*. Online. South Africa. June 2022.

Fraser, G.C.G. and Phakathi, S.
Makhorele T, Fraser, G.C.G. and Phakathi, S. Rural households' perceptions of rosehip and the role it plays in rural livelihoods in Lesotho. *Annual Conference of the Agricultural Economics Association of South Africa*. 2 - 5 October 2022, Swakopmund, Namibia.

Faculty of Education

Department of Secondary and Post-School Education (DoSPSE)

Introduction

2022 Marked the first year of existence for the Department of Secondary and Post-School Education (DoSPSE) - one of two (2) new departments formed from the previous single education department in the Rhodes University Faculty of Education. The DoSPSE houses school education specialisations such as English Language Teaching and Science Education; in addition to cross-cutting specialisations such as Information and Communication Technologies in Education; Education, Leadership and Management; and Environmental Education (through the Environmental Learning Research Centre). One of the things that the DoSPSE values is research excellence, something that our 2022 research report attests to.

As South African higher education grapples with transformation in a time of massification and diversification, questions arise regarding staffing at higher education institutions. Associate Professor Nhlanhla Mpofu-Khumalo's co-authoring of a chapter in a 2022 Council on Higher Education book reporting on trends in the staffing of public higher education institutions in South Africa, is thus timely. Although Professor Mpofu-Khumalo has since taken up a post at Stellenbosch University during 2023, she maintains a strong research relationship with the Department of Secondary and Post-School Education as a Senior Research Associate and supervisor of Postgraduate research on English Language Teaching.

Head of Department, Dr Kavish Jawahar shared research on semiotic access to science curriculum in a co-authored paper on the relationship between visual and textual modes in Namibian school science textbooks drawing on the distinctive work of MEd graduate Mr Venasius Mateus. Dr Jawahar also presented two (2) studies at the 26th IUPAC International Conference on Chemistry Education during 2022. One of these showcased the research of Mr Kwanele Mgozoleli who graduated during 2022, passing with distinction for his novel research providing a means for analyzing the design feature of "integration" in curriculum. A lecturer at the University of Namibia, Mr Efraim Muzambani, also passed his MEd with distinction during 2022 under the guidance of supervisors Dr Jawahar and Professor Karen Ellery (from the Extended



Professor Eureta Rosenberg - Dean



Dr Kavish Jawahar - Head of Department

Studies Unit). Mr Muzambani's study explored the lexical and semantic access afforded by novice and experienced science teachers in Namibia.

Dr Clement Simuja has continued his research with Post-graduate students focusing on ICTs in Education. His 2022 publications with PhD candidates Mr Adedayo Theodorio and Mr Brian Shambare address pertinent issues such as online learning during the Covid-19 lockdown; the affordances of virtual laboratories for science education; and the perceptions, attitudes and perspectives of rural secondary school teachers on ICTs in Education. Ms Ayanda Mbethe whose MEd study was supervised by Dr Simuja, passed with distinction during 2022. Her study explored the use of gamification technology for mathematics education in a rural school.

Also focusing on Covid-19 but from a Legitimation Code Theory lens on educational leadership and management, Dr Farhana Kajee published a paper calling for criticality and the legitimation of social theory. She also co-authored a paper with a distinctive MEd graduate whose research she co-supervised - Mr Kenneth Haufiku, on inclusivity and sustainability in the leadership of an academic department at a South African University. Passionate about bridging the theory-practice divide, during 2022 Dr Kajee co-facilitated a 3-day leadership workshop for the Western Cape Education Department, illustrating the usefulness of research for informing the practice of senior curriculum planners and managers.

Environmental Learning Research Centre (ELRC)

2022 was a year of graduations! We had the April graduation, the October catch-up graduation, and then the October 2022 graduation. Therefore, we start this section of this research report with the works of our PhDs who graduated from the Environmental Learning Research Centre (ELRC) in 2022. They are,

- **Anna James:** The transformative potential of intersecting with arts-based inquiry and environmental learning in urban South Africa: A focus on socio-ecological water pedagogies.
- **Priya Vallabh:** Towards the Common Good: An Expansive Post-Abyssal (Re)stor(y)ing of the Epistemic Cultures of the Citizen Sciences.
- **Michelle Hiestermann:** Mentoring as social learning value creation in two South African environmental organisations: A social realist analysis.
- **Laura Conder-Aller:** Human Development, the Capability Approach and the Mediating of Sustainable Rural Livelihoods: A case study of women's empowerment through expansive learning in the Mzimvubu Catchment of the Eastern Cape province, South Africa.

In her paper titled 'Socio-ecological Justice Informed Curriculum Inquiry: Transformative Potentials of Critical Water Pedagogy', Anna James (2022), proposes that there is a



ELRC Scholars and alumni at the 40th EEASA Conference in Namibia, 2022. Photo: Faculty of Education

need to bring water education, critical pedagogy and environmental learning into dialogue. Anna's PhD, completed in 2022 develops beautiful 'water pedagogies' with children and young people, helping them to engage in more deeply critical, yet holistically and aesthetically constituted ways with water. Anna's work reflects the spirit of much of the research being undertaken in the ELRC.

Reflecting a similar commitment to reframing our ways of knowing, in her PhD Priya Vallabh restores and (re)story(s) the power and potential of citizen sciences in decolonial worlds oriented to the common good. Her work reviews hegemonic epistemic cultures that characterise mainstream citizen sciences, and brings to the surface the 'knowledges in-between' and 'absented' most often not recognised in mainstream forms of citizen science, offering new potential for working with citizen science in ways that advance the commons.

Research in the ELRC also seeks to support green skills and work and learning, and opportunities for young people to access and participate meaningfully in biodiversity and other environmental workplaces. Michelle Hiestermann's PhD shows the importance of mentoring of young people in work and learning programmes, and she develops a new theory of mentoring that moves away from the dominant 'human capital' model towards a social realist model that accounts for the complexity in young people's lives and the possibility for relations with the ecological world as a key feature of what it means to work.

Another strong theme of the ELRCs work is strengthening participation of women smallholder farmers in the food system through expansive learning approaches that develop human capabilities. Human capabilities is an ethics-led approach to development that recognizes women's valued beings and doings and from them enables and supports their aspirations through expansive learning. Laura Conde-Aller's PhD offers a leading study in the field of cultural historical activity theory, showing how, when we give attention to the ethical-political in expansive learning, significant transformation emerges for the people and environments we are working with in our research.

These four (4) PhD studies provide insights into the ethos and orientation of the research being undertaken in the ELRC. This carries through the many other research studies and offerings that were put forward into the world via the various research programmes hosted in the ELRC.

We were also excited to see Thato Tantsi, our Research Programme Administration Manager graduate with her MBA.

Overall, the ELRC team continued to make both national and international contributions through their research. Professor Lotz-Sisitka, SARCHI Chair in Global Change and Social Learning continued to make both national and international contributions and was a lead author of a chapter on 'Context in re-imagining education' in a major global assessment of education 'The International Science and Evidence-based Education Assessment'. She also contributed to various UNESCO programmes such as the Futures of Education programme, and co-hosted a Living Heritage and Education professional development programme for international sector leaders in three (3) languages (English, French and Spanish). Contributing a keynote to the Anticipatory Futures conference in Arizona towards the end of the year, Professor Lotz-Sisitka shared the cutting edge work emerging from the ELRC via its T-learning research programme which is a core feature of the Chair's work. Professor Eureka Rosenberg, Chair of Environment and Sustainability Education continued to lead the front in the Biodiversity Skills sector, and has also continued to advance monitoring, evaluation and learning research. 2022 saw the start of an exciting new project focusing on Transdisciplinary teaching and learning (TRANSECTS) which Professor Rosenberg is leading with Dr Jess Cockburn from the Department of Environmental Sciences as part of the DSI/NRF Community of Practice that

is led out of the ELRC. The NRF CoP was refunded for another two (2) year period in 2022 and will come to an end in 2024. This CoP brings together eleven (11) Sustainability Science research Chairs in South Africa to advance policy engagement and impact around the sustainability sciences via transdisciplinary research and educational system impacts.

The One Ocean Hub (OOH), led by Dr Dylan McGarry, continued with its groundbreaking research to advance transdisciplinary scholar-activism for ocean governance through feminist, arts-based, and activist approaches. The OOH's Coastal Justice Network research led by Taryn Pereira and Buhle Francis grew from strength to strength in 2022, with numerous field-based impacts emerging. One significant outcome of the OOH scholar-activist research was the use of research-based evidence from the project in the court cases that stopped the seismic surveys planned by Shell of the Eastern and Western Cape coasts. The One Ocean Hub's award-winning play, *Lalela Ulwandle* was also taken to the 27th climate change COP under Dr McGarry's leadership, in Egypt towards the end of the year.

Dr Gamu Chakona, Dr Injairu Kulundu-Bolus, Garry Rosenberg and Thato Tantsi continued to work with Professor Lotz-Sisitka to lead the ZA Hub of the Transforming Education for Sustainable Futures GCRF Programme. This programme, working across India, Rwanda, Somalia/Somaliland, South Africa and the UK, involves working with fourteen (14) sub-projects in South Africa to develop co-engaged transformative, transdisciplinary approaches to educational research. The focus of the ZA Hub projects is to strengthen community-based and boundary crossing research approaches that advances the co-production of knowledge in and for education and transgressive learning.



Award-winning play, *Lalela Ulwandle* was also taken to the 27th climate change COP under Dr McGarry's leadership, in Egypt towards the end of the year.



Left: Dr Injairu Kulundu-Bolus, leading the session at the ZA Hub's Transforming Education for Sustainable Futures meeting at Mpekwini, July 2022.
Photo: ELRC



Below: River Commons researchers in the field with youth involved in citizen science monitoring.
Photo: ELRC

River Commons researchers were also active in 2022, advancing understandings of, and support for citizen-based water quality monitoring in the uMngeni catchment and ecological infrastructure for water security research and practice. Here Dr Jess Cockburn, Reuben Thifulufhelwi, Maletje Mponwane, post-doc Dr Robson Mukwambo, and visiting Postdoctoral scholar Dr Martin Mickelsson amongst others have made stirring contributions to the advancement of social learning and ecological infrastructure for water programmes. Researchers are also participating in the INREF River Commons programme with Wandile Mvulane visiting The Netherlands, and Professor Lotz-Sisitka contributing to the overview paper which was published in the *Journal of Peasant Studies*, and Preven Chetty continuing to work with children in our local catchments to develop environmental literacies. 2022 also saw the publication of the report of a four (4) year programme into scaling of citizen-based water quality monitoring (Lotz-Sisitka *et al.*, 2022) which led to two (2) pilots for youth employment by the Presidents Employment Stimulus programme (employing nine-hundred (900) young people in two (2) cohorts).

Food Commons researchers are also making great strides with their research. Professor Lausanne Olvitt's research on local food systems in the Makana Circle of Unity is contributing to ways of conceptualising how to develop more sustainable, engaged local food systems, which she took further in an ECD research partnership with the CSD in the 'First We Eat' project working with teachers in local ECD centres on food gardens and children's well-being. We continue to support farmers in the Amanzi for Food learning network established many years ago in the rural Eastern Cape through engaged research.

A number of ELRC scholars contributed to the *NORRAG Special Issue Journal on Climate Change Education*, co-edited by Professors Lotz-Sisitka and Rosenberg. An international journal launch was also hosted, and this journal is being translated into seven different languages. The ELRC Monitoring and Evaluation of Climate Change Education research team continued to contribute internationally with a number of country-based profiles on Climate Change Education being completed by Ben de Sousa and Sidney Muhangi. Africa cluster leads Sidney Muhangi and Ludwig Chanyau were able to co-ordinate a number of African contributions into the international network of climate change education case studies, thus ensuring that African climate change education is visible internationally.

Other significant research emerging from the ELRC is the work of Dr Wilma van Staden on e-learning for ESD, and in 2022 Dr Van Staden led a number of publications, and also continued to lead the development of the e-learning components of the Fundisa for Change and the Sustainability Starts with Teachers programmes. Through this attention to the e-learning ecologies (surfaced through engaged, reflexive research) Dr van Staden was able to support successful completion of the online SST course, bringing the final number

of course completions to over three-hundred (300) teacher educators, across eleven (11) countries in southern Africa. Emeritus Professor O'Donoghue has also been working closely with Dr Van Staden to translate the Teachers Workbook on 'handprint care-ethics' into online courses for teachers within the Fundisa for Change online course programme. His research continues to attract international attention with the 'Handprint Care-ethics' handbook published in 2022, and launched in an international gathering. Professor Ingrid Shudel's research continues to contribute to teacher education and ESD internationally as well, as does Dr Zintle Songqwaru's. A highlight of our collaborative work with UNESCO on the Sustainability Starts with Teachers Courses and research in 2022 was the development and release of the SADC ESD Strategic Framework which was adopted by Education Ministries across the SADC region.

A large team of researchers attended the annual Environmental Education Association of Southern Africa conference which was hosted in Namibia in August 2022, where EEASA members celebrated 40 years of this amazing professional association that has both built and held our field together over the years. Professor Lausanne Olvitt was appointed by the Council of the Environmental Education of southern Africa to serve as the Editor-in-Chief of the *Southern African Journal of Environmental Education*. She has already taken up leadership of this DHET accredited journal that has been so foundational to the establishment of the field of Environmental Education over the years. We are equally proud of Professor Ingrid Schudel who edited a special issue of the *International Journal of Critical Realism* in 2022.

The ELRC CHAT research group continued to engage closely with our Honorary Professors Engeström and Sannino through seminars, shared contributions on the development of change laboratories in Africa, and other interactions such as an online symposium offered at the AERA Conference. Research in the ELRC is also creative, and shows up in various creative practice forms. The National Arts Festival saw our researchers actively contributing with Professor Ingrid Schudel launching a photography exhibition with Professor Marc Shafer called 'We are sky's things', and Dr Dylan McGarry and the One Ocean Hub hosting an 'anarchivist' exhibition called 'Our Ocean is Sacred', which also showed in Cape Town. Dr McGarry's paper 'Suitably Strange: re-imagine learning, scholar- activism and justice' published towards the end of the year in the *Journal Crystal*, offers interesting new perspective on this stream of work and its orientating perspectives.

From the above, it is clear to see that research and the research community at the ELRC, and in the SARCHI Chair for Global Change and Social Learning Systems is thriving, making a contribution locally, nationally and globally to transforming education and social systems towards sustainability, social and environmental justice.

Faculty of Education

Department of Primary and Early Childhood Education (PECE)

Introduction

As a new department in the Faculty of Education, the Department of Primary and Early Childhood Education (PECE) had a productive 2022, with great strides being made in Postgraduate supervision and research. PECE staff participated in a wide variety of research conferences, workshops and events locally, nationally and internationally, through contributing five (5) book chapters, nine (9) peer-reviewed journal articles and eleven (11) peer-reviewed conference papers. The new Science, Technology, Engineering (Arts) and Mathematics (STE(A)M) innovation hub was introduced with the formalisation of the PECE Department in the Education Faculty. The purpose of the STE(A)M innovation hub is to support research, creative problem-solving and practical work to enrich teaching and learning opportunities and to develop an interdisciplinary and holistic approach to knowledge creation across all levels of the schooling system.



Dr Lise Westaway - Head of Department

Postgraduates / Graduations

The Department of Primary and Early Childhood Education had five (5) MEd students who graduated in 2022.

- **Angela Jones.** Thesis: *An investigation into the language demands of mathematical texts on data handling in Intermediate Phase classrooms.*
Supervisor: Dr Pamela Vale.
- **Konwaba Klisi.** Thesis: *Application of systems theory for analysing the sustainability foci and practices of the Faculty of Economics and Information Technology Systems (A Case Study of Walter Sisulu University: Komani campus).*
Supervisor: Associate Professor Ingrid Schudel.
- **Dominika Ortman-Gaweseb.** Thesis: *The use of lesson study to assist junior primary 'in-service training teachers' to develop learners' number sense using number talks.*
Supervisor: Dr Lise Westaway.
- **Hildegard Shimafo.** Thesis: *Pedagogical practices teachers use to teach reading lessons in the Junior Primary Phase in Kavango West Region.*
Supervisor: Mrs Bev Moore.
- **Elizabeth Shipanga.** Thesis: *The use of Lesson Study to assist Grade 2 teachers' competence in developing learners' reading comprehension.*
Supervisor: Dr Lise Westaway.

In addition, there were two (2) PhD graduates:

- **Jennifer Hodgskiss.** Thesis: *An in-depth investigation of an early literacy intervention in Grade R.*
Supervisor: Dr Caroline van der Mescht.
- **Priya Vallabh.** Thesis: *For the Common Good: A Counter-Hegemonic (Re)stor(y)ing of the Citizen Sciences.*
Co-supervisor: Associate Professor Ingrid Schudel.

Distinguished Visitors / International Visits

The DSI/NRF SARCHI SA Numeracy Chair hosted Professor Dr Silke Ladel from Institut für Mathematik und Informatik Pädagogische Hochschule Schwäbisch Gmünd. Professor Dr Silke Ladel is an esteemed scholar known most recently for her work on using digital applications to promote the development of learners' understanding of place value in mathematics. Professor Dr Silke Ladel spent a week with colleagues in the DSI/NRF SARCHI SA Numeracy Chair, and particularly Professor Mellony Graven, Drs Lise Westaway and Pamela Vale who are part of a tri-nation consortium seeking to strengthen the teaching and learning of place value in mathematics.

Professor Tsepo Mokuku, coordinator of the Lesotho Regional Centre for Excellence for Education for Sustainable Development, was hosted by Associate Professor Ingrid Schudel for six (6) months to further their research and teaching collaboration in environmental and sustainable education.

M.Ed student, Chris Botha was invited to Jönköping University in Sweden to participate in the Linnaeus Palme exchange programme. He participated in three (3) courses: Social sciences and sustainability; Introduction to global studies, Sustainable societies and global change; and Critical issues in sustainability (social perspectives on climate change and the environment).

Significant Research Aligned Events

The DSI/NRF SARCHI SA Numeracy Chair has extended its research-informed mathematics Mental Starters Assessment Project (MSAP), which is a collaboration between the two (2) numeracy Chairs in South Africa, Professor Mellony Graven from Rhodes and Professor Hamsa Venkat of Wits, and the national Department of Basic Education, into the realm of pre-service teacher education. The Mental Mathematics - Work Integrated Learning project was initiated in 2022 with seven (7) higher education institutions participating in research that seeks to develop pre-service teachers' competence to develop learners' number sense.

A tri-nation collaboration between Dr Silke Ladel (Institut für Mathematik und Informatik Pädagogische Hochschule Schwäbisch Gmünd, Germany), Associate Professor Kevin Larkin (Griffith University, Australia), Drs Lise Westaway and Pamela Vale and Professor Mellony Graven (DSI/NRF SARCHI SA Numeracy Chair) was initiated in 2022. This collaborative research programme aims to strengthen the content and pedagogical content knowledge of place value of pre- and in-service teachers, and primary school learners to have a sustainable and multiplicative effect in practice. The programme also seeks to develop a deeper understanding of the role of digital tools in the learning and teaching of place value.

Dr PJ Hellemann is a member of the Politics4Future project initiated in 2022 by UNESCO and various project partners, including Rhodes University. The project aims to support pre-service teachers towards achieving Sustainable Development Goal (SDG) Target 4.7, that is, to ensure that all learners acquire the knowledge and skills needed to promote sustainable development. The project is based on an intercultural and interdisciplinary teacher education curriculum that seeks to develop pre-service teachers' sustainability competencies for a stronger education system in the future.

Under the guidance of Professor Callie Grant in the Department of Primary and Early Childhood Education, and colleagues at Rhodes University, the University of Fort Hare and Queen's University (Belfast), the USDP project was able to accelerate its pace in 2022. The project successfully hosted five (5) writing retreats, providing doctoral scholars

with time off to conceptualise and develop their research proposals and chapters, guided by the project team leaders. Scholars and project leaders spent two (2) weeks at Queen's University in Belfast, Northern Ireland from 16 July - 2 August 2022. As part of the USDP project, doctoral scholars delivered papers at a range of conferences, including the SAERA 2022 conference and the Rhodes University Postgraduate Conference.

Associate Professor Ingrid Schudel was invited as a guest editor of the 2022 special conference edition of the *Journal of Critical Realism*.
<https://doi.org/10.1080/14767430.2022.2151142>.

A large contingent of the colleagues and Postgraduate students in the DSI/NRF SARCHI SA Numeracy Chair and PECE Department participated in the 30th Annual conference of the Southern African Association for Research in Mathematics, Science and Technology Education (hosted by a consortium of Western Cape Institutions). Professor Mellony Graven, Drs Samukeliso Chikiwa, Roxanne Long, Sally-Ann Robertson and doctoral student Tarryn Lovemore presented long papers based on their research. Professor Mellony Graven and Dr Pam Vale also presented a symposium on "Going national with the Mental Starters Assessment Project 2021: Model, Outcomes and Provincial Foundation Phase Maths Coordinators' experiences".

The 44th Annual Mathematics Education Research Group of Australasia conference was hosted as a hybrid event in Launceston, Tasmania. The DSI/NRF SARCHI SA Numeracy Chair supported ten (10) staff and Postgraduate students to present papers either online or face-to-face. Professor Mellony Graven, Drs Sally-Ann Robertson, Lise Westaway, Pamela Vale, doctoral scholar Tarryn Lovemore and Masters scholar Tammy Booyesen all presented or co-presented research papers.

Dr PJ Hellemann was invited to present her PhD research at the 6th World Conference of the International Federation of Public History in Berlin, Germany. The title of her presentation was *Umzi ka mama creative outputs as historical records: using film and performance documentation as tools for African women's neglected stories*.

Books/Chapters/Monographs

Chakona, G.

Chakona, G. (2022) Household Dietary Patterns and Food Security Challenges in Peri-Urban South Africa: A Reflection of High Unemployment in the Wake of Rising Food Prices. In: Riley, L. and Crush, J. (eds.). *Transforming Urban Food Systems in Secondary Cities in Africa*. Switzerland: Palgrave Macmillan. p.231-249. ISBN: 9783030930721.

Erwin, K., Pereira-Kaplan, T.L. and McGarry, D.K.

Erwin, K., Pereira-Kaplan, T.L., McGarry, D.K. and Coppen, N. (2022) Lalela Ulwandle: An Experiment in Plural Governance Discussions. In: O'Kane, D., Hills, J. and Boswell, R. (eds.). *The Palgrave Handbook of Blue Heritage*. Cham: Palgrave Macmillan. p.383-409. ISBN: 9783030993467.

Graven, M.

Hamsa, H. and Graven, M. (2022) Bringing the Mental Starters Assessment Project to scale in Foundation Phase: A 'building your timber' approach. In: Spaull, N. and Taylor, S. (eds.). *Early Grade Reading and Mathematics Interventions in South Africa*. Cape Town: Oxford University Press. p.224-289. ISBN: 9780190745271.

Roberts, N., Feza, N. and Graven, M. (2022) Story telling in early grade mathematics classrooms in South Africa. In: Venkat, H. and Roberts, N. (eds.). *Early Grade Mathematics in South Africa*. Cape Town: Oxford University Press. p.188-207. ISBN: 9780190745608.

Graven, M., Vale, P., Hokonya, W. and Long, R.

Graven, M., Vale, P., Hokonya, W. and Long, R. (2022) A decade of the South African Numeracy Chair Project: Out of school learner-focused interventions. In: Venkat, H. and Roberts, N. (eds.). *Early Grade Mathematics in South Africa*. Cape Town: Oxford University Press. p.134-151. ISBN: 9780190745608.

James, A.K.

James, A.K. (2022) Socio-ecological Justice Informed Curriculum Inquiry: Transformative Potentials of Critical Water Pedagogy. In: Häggström, M. and Schmidt, C. (eds.). *Relational and Critical Perspectives on Education for Sustainable Development: Belonging and Sensing in a Vanishing World*. London: Springer. p.60-80. ISBN: 9783030845100.

Lotz-Sisitka, H.

Lotz-Sisitka, H.B., Managi, S., Macintyre, T., Vickers, E.A., Chakraborty, A. and Kitamura, Y. (2022). 'Global change and the contextual dynamics shaping education: a view from the sustainability-education nexus' in Vickers, E.A., Pugh, K. and Gupta, L. (eds.) *Education and Context in Reimagining Education: The International Science and Evidence based Education Assessment*. [Duraiappah, A.K., Atteveldt, N.M. van et al. (eds.)]. New Delhi: UNESCO MGIEP. ISBN: 978-93-91756-04-8.

Lotz-Sisitka, H., Schudel, I., Wilmot, D., Songqwaru, N.Z.,

O'Donoghue, R.B. and Chikunda, C.

Lotz-Sisitka, H., Schudel, I., Wilmot, D., Songqwaru, N.Z., O'Donoghue, R.B. and Chikunda, C. (2022) Transformative Learning for Teacher Educators: Making sense of Education for Sustainable Development (ESD) policy emphasis on transformative education. In Eberth, A., Goller, A., Günther, J., Hanke, M., Holz, V., Krug, Roncevic, K. & Singer-Brodowski (Hrsg.), *Bildung für nachhaltige Entwicklung - Impulse zu Digitalisierung, Inklusion und Klimaschutz*. Leverkusen: Budrich.: Leverkusen. p.267-295. ISBN: 9783847417514.

McGarry, D.K., James, A.K., Kulundu, I.M., Pereira-Kaplan, T.L., Metelerkamp, L., Vermeylen, S. and Lotz-Sisitka, H.

McGarry, D.K., Weber, L., James, A.K., Kulundu, I.M., Ajit, S., Temper, L., Macintyre, T., Shelton, R., Pereira-Kaplan, T.L., Chaves, M., Kuany, K., Cockburn, J., Metelerkamp, L., Bajpai, S., Bengtsson, S., Vermeylen, S., Lotz-Sisitka, H., Turhan, E., Khutsoane, T., Villarreal, T. and Moser, S. (2022) The Pluriversity for Stuck Humans: A queer, decolonial school eco-pedagogy. In: *Queer Ecopedagogies*. Online: Springer, Cham. p.183-216. ISBN: 9783030653675.

Mpofu, N.

Maphalala, M.C., Ralarala, M.K. and Mpofu, N. (2022). Staffing South African Public Universities. In Council on Higher Education. *Review of Higher Education in South Africa Twenty-five years into democracy (134-150)*. Council on Higher Education. https://www.che.ac.za/sites/default/files/flipbooks/2023/che_review/index.html

O'Donoghue, R.B.

O'Donoghue, R.B., Sandoval Rivera, J.C.A. (2022) Clarifying ESD as transformative learning actions from below, together. In Eberth, A., Goller, A., Günther, J., Hanke, M., Holz, V., Krug, Roncevic, K. & Singer-Brodowski (Hrsg.), *Bildung für nachhaltige Entwicklung - Impulse zu Digitalisierung, Inklusion und Klimaschutz*. Leverkusen: Budrich Leverkusen. p.296-313. ISBN: 9783847417514.

Schudel, I.

Schudel, I. (2022) Food and farming. In: Scoffham, S. and Rawlinson, S. (eds.). *Sustainability Education: A Classroom Guide*. Oxford, UK: Bloomsbury Publishing. p.133-144. ISBN: 9781350262072.

Concerts, Exhibitions, Performances, Workshops, Events

Gunzo, F.

Gunzo, F. Guest Speaker. *Eastern Cape Provincial Teacher Development Conference*. Mandla Makupula Leadership Institute, East London, South Africa. 4 May 2022

Green, N.

Green, N. (2022) Panel speaker. *VWSA Trialogue Webinar - Achieving buy-in from schools and teachers to enhance programmes*. 27 October 2022.

Green, N. (2022). Presentation of the 1st We Eat Educational Research Project. *TESF National Conference*. Cape Town, South Africa. 28 November - 1 December 2022.

Kuhlane, H

Kuhlane, H. Visiting Researcher - Academic Exchange. *University Capacity Development Programme*. University Northern Ireland. 16 June - 4 July 2022.

Kuhlane, H. Visiting Researcher - BaQonde African Languages in Higher Education Project. University of Salamanca, Spain. 11 - 24 September 2022.

Kotschy, K.

Kotschy, K. Workshop Lead. Southern African Resilience Academy (SARA) Monitoring and Evaluation Working Group Workshop. *A Centre for Sustainability Transitions, Stellenbosch University and SARA Collaborative Event*. Stellenbosch University, Stellenbosch. South Africa. 24 - 26 October 2022.

Kotschy, K. and Rosenberg, E.

Kotschy, K. and Rosenberg, E. Host and Facilitator. Stakeholder workshop. *Biodiversity Skills and Transformation Strategy and Implementation Plan*. Online, Makhanda. South Africa. 7 July 2022.

Lotz-Sisitka, H. and Rosenberg, E.

Lotz-Sisitka, H. and Rosenberg, E. Host and Facilitator. TRANSECTS Pilot Workshop. *Environmental Learning Research Centre Event*. Rhodes University, Makhanda. South Africa. 21 - 22 April 2022.

Lotz-Sisitka, H. and Rosenberg, E. Convenor and Facilitator. *National Workshop: Work for the Common Good, Learn for the Future*. Pretoria National Botanical Gardens, Pretoria. South Africa. 30 - 31 March 2022.

Lotz-Sisitka, H., Van Staden, W., Songqwaru, N.Z. and

O'Donoghue, R.B.

Mlessor, S.B., Lotz-Sisitka, H., Van Staden, W., Songqwaru, N.Z., O'Donoghue, R.B. and Schudel, I. Hosts and facilitators. Reimagining Climate Change (in) education: An imperative we need for the future we want. *Fundisa for Change: Keep it Cool: Climate Change Education Symposium*. Kopanong Hotel, Benoni. South Africa. 2 - 3 August 2022.

Misser, S., Lotz-Sisitka, H., Van Staden, W., Songqwaru, N.Z., O'Donoghue, R.B. and Schudel, I. Hosts and facilitators. *Fundisa for Change: National Strategic dialogue on ESD and Climate Action in Teacher Education*. Kopanong Hotel, Benoni. South Africa. 26 - 27 October 2022.

O'Donoghue, R.B.

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Pereira-Kaplan, T.L., Francis, B. and McGarry, D.K.
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Pereira-Kaplan, T.L., Rosenberg, E. and Chetty, P.
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Rosenberg, E. and Kotschy, K.
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James, A.K.
James, A.K. and Jørgensen, N. (2022) Making space for children's voices in climate action. *NORRAG (Network for International Policies and Cooperation in Education and Training)*. 7 (2022). p.104-108.

James, A. (2022) Book review. Teaching and Learning for Change: Education and Sustainability in South Africa Edited by Ingrid Schudel, Zintle Songqwaru, Sirkka Tshiningayamwe and Heila Lotz-Sisitka. *Southern African Journal of Environmental Education (SAJEE)*. 38 (1). p.60-65.

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- Bhurekeni, J.**
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Mukwambo, R. Insider-formative interventionist approach, a tool for building inclusive, safe, resilient, and sustainable communities dealing with complex object(s) in times of global challenges. The case of Nyanyadzi irrigation scheme in Zimbabwe. *Environmental*

Education Association of Southern Africa (EEASA) 40th Conference. University of Namibia, Windhoek. Namibia. August 2022.

Mukwambo, R. Invitational lecture: An Introduction to CHAT. University of the Witwatersrand, REAL MED Session 9 + 10. Online, Johannesburg. South Africa. October 2022.

Mukwambo, R. Using the Cultural Historical Activity Theory (CHAT) to advance participatory action research in/with farmers in a rural irrigation community in Zimbabwe. *3rd International Conference on Community Based Research*. The Roots, Potchefstroom. South Africa. November 2022.

Mukwambo, R., Mathaba, K. and Sithole, P.

Mukwambo, R., Mathaba, K. and Sithole, P. Advancing Community-based research: learning and working towards community transformative practices. *COMBER 3rd International Conference, Pre-Conference Workshop*. University of North West, Potchefstroom. South Africa. November 2022.

Murray, S.

Murray, S. What is the content knowledge for teaching phonics and how do we make it accessible. *17th Annual Literacy Association of South Africa (LITASA) Conference*. Johannesburg, South Africa. October 2022.

O'Donoghue, R.B. and Taylor, J.

Nkosi, T., O'Donoghue, R.B. and Taylor, J. Workshop presentation: Ten steps towards systems thinking: an ESD manual for teachers, educators and facilitators. *Environmental Education Association of Southern Africa (EEASA) 40th Conference*. University of Namibia, Windhoek. Namibia. August 2022.

O'Donoghue, R.B., Misser, S., Van Staden, W. and Taylor, J.

O'Donoghue, R.B., Misser, S., Van Staden, W. and Taylor, J. Workshop presented: Handprint CARE - A teacher education handbook for ethics-led action learning in primary school curriculum settings. *Environmental Education Association of Southern Africa (EEASA) 40th Conference*. University of Namibia, Windhoek. Namibia. August 2022.

Olvitt, L.L.

Olvitt, L.L. Workshop presentation: Write for EEASA! Getting started with writing an article for SAJEE and the EEASA Bulletin. *Environmental Education Association of Southern Africa (EEASA) 40th Conference*. University of Namibia, Windhoek. Namibia. August 2022.

Olvitt, L.L. Workshop presentation: Exploring a new book: Environmental Ethics and Education- sourcebook for Educators'. *Environmental Education Association of Southern Africa (EEASA) 40th Conference*. University of Namibia, Windhoek. South Africa. August 2022.

Pereira-Kaplan, T.L.

Pereira-Kaplan, T.L. Small-scale Fisheries and Blue Economy Challenges in South Africa: lessons in defending human rights and ocean well-being through extending the contours of inter-disciplinary collaborations. *4th World Small Scale Fisheries Congress*. Lagoon Beach Hotel, Cape Town. South Africa. November 2022.

Pereira-Kaplan, T.L. "Lalela Ulwandle" - the story of an Empatheatre production and its contribution to coastal social movements in South Africa. *Transforming Education for Sustainable Futures (TESF)ZA Hub National Conference*. Sea Point, Cape Town. South Africa. December 2022.

Pereira-Kaplan, T.L. and McGarry, D.K.

Pereira-Kaplan, T.L., McGarry, D.K. and Lupin, D. Online presentation: 'Taking our time: consultation and Indigenous storytelling in South Africa'. *Law and Humanities Roundtable 2022 hosted by Southampton Law School*. Online, Southampton. United Kingdom. July 2022.

Price, L.

Price, L. The Power and Promise of Interdisciplinarity. *Guest lecture*. Inland Norway University of Applied Sciences, Lillehammer. Norway. October 2022.

Robertson, S.A. and Graven, M.

Robertson, S.A. and Graven, M. Mathematical meaning-making: It's not all about talk. *30th Annual Conference of the Southern African Association for Research in Mathematics, Science and Technology Education*. Cape Town. South Africa. January 2022.

Rosenberg, E.

Rosenberg, E. Standards and competencies for teacher development: A South African Case Study. *African Federation of Teaching Regulation Authorities (AFTRA) Conference*. Online, Accra. Ghana. May 2022.

Rosenberg, E. Standards and Competencies for Teacher Development: A case study of sustainability education for a green economy in South Africa. Environmental Education Association of Southern Africa (EEASA) 40th Conference. University of Namibia, Windhoek. Namibia. August 2022.

Rosenberg, E. and Lotz-Sisitka, H.

Rosenberg, E. and Lotz-Sisitka, H. TRANSECTS Principles of Transdisciplinarity. *TRANSECTS Pilot Workshop*. ELRC, Rhodes University, Makhanda. South Africa. January 2022.

Rosenberg, E., Ramsarup, P. and Lotz-Sisitka, H. Panel presentation at Work, Learning and Social Change: Researching green work and learning: Methodology for radical transformations in occupational activity and learning needs. *12th Annual Conference of Researching Work and Learning (RWL)*. Ontario Institute for Studies in Education, Toronto. Canada. July 2022.

Schudel, I.

Schudel, I., and Makuku, T. (2022). Four-planar framing of place-based knowledge. *Paper presented at the World Environmental Education Conference*. Prague, Poland. March 2022.

Simuja, C. and Shambare, C.

Simuja, C., Shambare, B., and Theodorio, A. (2022). Online learning experiences during schools' lockdown: Case of students in a Nigerian Higher Education Institution. In *Proceedings in Nigeria Computer Society International Conference Smart, Secure, & Sustainable Nation* (Vol. 33, pp. 272-287).

Songqwaru, N.Z.

Songqwaru, N.Z. Panel Discussion: SADC ESD Policy and UNESCO Sustainability Starts with Teachers Regional Dialogues on ESD for 2030 Hosted by Heila Lotz-Sisitka & Charles Chikunda with SST Regional Reference Group Members Roundtable. *Environmental Education Association of Southern Africa (EEASA) 40th Conference*. University of Namibia, Windhoek. Namibia. August 2022.

Songqwaru, N.Z. and O'Donoghue, R.B.

Mandikonz, C., Songqwaru, N.Z. and O'Donoghue, R.B. Experiences from supporting capacity for a climate change education Fundisa for Change research initiative: reflections from the Comparative Research Team. *Environmental Education Association of Southern Africa (EEASA) 40th Conference*. University of Namibia, Windhoek. Namibia. August 2022.

Tantsi, T.

Tantsi, T. Sustainable Business Model for Economic Development in Rural Food Economies. *Environmental Education Association of Southern Africa (EEASA) 40th Conference*. University of Namibia, Windhoek. Namibia. August 2022.

Thifhulufhelwi, R.

Thifhulufhelwi, R. Panel discussion: The Natural Resource Management Research Colloquium for KwaZulu-Natal. *The Natural Resource Management Research Colloquium for KwaZulu-Natal*. South African National Biodiversity Institute, KZN Midlands. South Africa. May 2022.

Mickelsson, M. and Thifhulufhelwi, R. The river that flows through the river: co-creation of 'health' in river commons practices. *Environmental Education Association of Southern Africa (EEASA) 40th Conference*. University of Namibia, Windhoek. Namibia. August 2022.

Thifhulufhelwi, R. Symposium presentation. Tools Advancing Expansive Learning in Change Laboratories: Oriented Towards Sustainable Development Activity and Agency in southern Africa. *Environmental Education Association of Southern Africa (EEASA) 40th Conference*. University of Namibia, Windhoek. Namibia. August 2022.

Thifhulufhelwi, R. Panel discussion: 3rd National Ecological Indaba. *3rd National Ecological Indaba*. South African National Biodiversity Institute, Hoedspruit. South Africa. November 2022.

Vale, P. and Graven, M.

Vale, P. and Graven, M. Teacher views of parent roles in continued mathematics home learning. *The 44th annual conference of the Mathematics Education Research Group of Australasia*. University of Tasmania, Launceston, Tasmania. Australia. July 2022.

Van Borek, S.

Van Borek, S. and Abrams, A. Knowledge, expertise and cellphills about water bodies; Towards decolonizing expertise and values. *The International Water Association's World Water Congress. International Water Association*. Copenhagen. Denmark. September 2022.

Van Borek, S. Climate for changing lenses: Mobilizing media arts for transgressive learning and research (Keynote). *Transforming Education for Sustainable Futures ZA Hub National Conference*. Sea Point, Cape Town. South Africa. November 2022.

Van Borek, S. Knowledge translation, water narratives, and Indigenous knowledge keepers in research. *Stockholm International Water Institute's World Water Week*. Online pre-recording, Stockholm. Sweden. August 2022.

Van Staden, W.

Van Staden, W. E-learning as a mediating tool for transformative capacity building for SADC Teacher Educators and inter-continental partners. *6th International Conference on Advanced Research in Education, Teaching and Learning*. University of Dublin, Dublin. Ireland. July 2022.

Van Staden, W. Post-Covid capacity building through digital learning platforms towards sustainability: What we've learnt and the way forward. *Environmental Education Association of Southern Africa (EEASA) 40th Conference*. University of Namibia, Windhoek. Namibia. August 2022.

Westaway, L. and Vale, P.

Westaway, L. and Vale, P. The nature of research on pre-service teachers' mental mathematics: A brief systematic review. *The 44th annual conference of the Mathematics Education Research Group of Australasia*. University of Tasmania, Launceston, Tasmania. Australia. July 2022.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Booyesen, T.I., Westaway, L. and Vale, P.

Booyesen, T.I., Westaway, L. and Vale, P. The use of visual images in multiplication and division in four early years' mathematics textbooks. *30th Annual Conference of the Southern African Association for Research in Mathematics, Science and Technology Education*. Cape Town. South Africa. January 2022.

Chikiwa, S. and Graven, M.

Chikiwa, S. and Graven, M. How the six-lens framework supports pre-service teachers' reflections. *12th Congress of the European Society for Research in Mathematics Education*. Bozen-Bolzano. Italy. February 2022.

Edwards, D.P.

Edwards, D.P. A Comparison of Rational Number Word Problem Types Across Three Grade 4 to 6 South African Textbook Series. *44th Annual Conference of the Mathematics Education Research Group of Australasia*. University of Tasmania, Launceston, Tasmania. Australia. July 2022.

Edwards, D.P. and Vale, P.

Edwards, D.P. and Vale, P. An analysis of rational number word problem types within intermediate phase South African textbooks. *30th Annual Conference of the Southern African Association for Research in Mathematics, Science and Technology Education*. Cape Town. South Africa. January 2022.

Graven, M.

Graven, M. and Venkat, H. Using Mental Maths diagnostic assessments to improve learning practice. *Department of Basic Education: Charting a way on improving the quality of assessment at school level*. Pretoria. South Africa. October 2022.

Graven, M., Venkat, H. and Mathews, C. Reflecting on R&D progress with MM-WIL implementation in pre-service programmes. *Pre-service teacher development and Mental Mathematics-Work in Learning project (in partnership with the DHET)*. University of the Witwatersrand, Johannesburg. South Africa. May 2022.

Graven, M. Large scale intervention programs of early grade mathematics: promising projects going national with the mental starter's assessment project 2021. *Department of Education's Early Grade Mathematics Research Indaba (DBE, Zenex, Epoch & Optima Trust)*. Pretoria. South Africa. February 2022.

Graven, M. and Chikiwa, S.

Graven, M. and Chikiwa, S. Going national with the mental starter's assessment project: rationale, model AND outcomes. *Reviews of Early Grade Mathematics Assessments and LTSM Expert Workshop*:

A working group of experts on Assessment and Teaching and Learning Material. Kelello, Johannesburg. South Africa. March 2022.

Graven, M. and Vale, P.

Graven, M., Venkat, H., Morrison, S. and Vale, P. Exploring the value of the Mental Starters Assessment Project for Higher Education and pre-service teachers: research and development opportunities. *Pre-service teacher development and Mental Mathematics-Work in Learning project (in partnership with the DHET).* University of the Witwatersrand, Johannesburg. South Africa. January 2022.

Graven, M., Venkat, H., Morrison, S. and Vale, P. Mental Starters Assessment Project virtual provincial training for the Department of Basic Education. *Department of Basic Education Provincial Training.* Department of Basic Education, Pretoria. South Africa. January 2022.

Graven, M., Vale, P., Westaway, L., Chikiwa, S. and Hokonya, W. Venkat, H., **Graven, M., Morrison, S., Vale, P., Askew, M., Bowie, L., Westaway, L., Chikiwa, S., Hokonya, W., Chetty, M. and Mathebe, D.** Going National with the Mental Starters Assessment Project 2021: Model, Outcomes and Provincial Foundation Phase Maths Co-ordinators' experiences. *30th Annual Conference of the Southern African Association for Mathematics, Science and Technology Education.* Cape Town. South Africa. January 2022.

Hokonya, W.

Hokonya, W. Mathematical identities of learners who chose Mathematical Literacy in high school. *10th Pan African Congress of Mathematicians.* Congo, Brazzaville. Congo. August 2022.

Hokonya, W. Understanding Mathematical Identities of Learners Who Chose Mathematical Literacy in High School After Participating in After-school Mathematics Clubs in Primary School. *44th Annual Conference of the Mathematics Education Research Group of Australasia.* University of Tasmania, Launceston, Tasmania. Australia. July 2022.

Hokonya, W., Vale, P. and Graven, M.

Hokonya, W., Vale, P. and Graven, M. Exploring the relationship between mathematics learner identities and learners' participation in different landscapes of mathematical practice. *30th Annual Conference of the Southern African Association for Research in Mathematics, Science and Technology Education.* Cape Town. South Africa. January 2022.

Jawahar, K.

Mgolozeli, K. and Jawahar, K. Exploring integration for the topic of stoichiometry in South African Natural Sciences and Physical Sciences school curricula. *26th IUPAC International Conference on Chemistry Education.* Cape Town. South Africa. July 2022.

Jawahar, K. and Sibanda, D. Exploring the alignment of visual literacy demand in a South African school chemistry textbook and exemplar assessment. *26th IUPAC International Conference on Chemistry Education.* Cape Town. South Africa. July 2022.

Long, R.

Long, R. Raising the Curve in the After-School Space. *Number Sense User Group Conference.* Cape Town. South Africa. September 2022.

Lovemore, T.S., Robertson, S.A. and Graven, M.

Lovemore, T.S., Robertson, S.A. and Graven, M. Developing fractional reasoning through body percussion. *45th Conference of the International Group for the Psychology of Mathematics Education.* Alicante. Spain. July 2022.

Mutlane, K.S.

Mutlane, K.S. Family maths Storytime program. *AMESA Regional Conference Northern Cape.* Kimberley. South Africa. August 2022.

Robertson, S.A. and Graven, M.

Robertson, S.A. and Graven, M. Working on and With Verbal, Visual and Gestured Confluences in Mathematical Meaning-making. *44th Annual Conference of the Mathematics Education Research Group of Australasia.* University of Tasmania, Launceston, Tasmania. Australia. July 2022.

Schudel, I.

Schudel, I. Invitational presentation: National invitational presentation: Teaching for Change: Synthesis of key findings from Fundisa for Change Research Project. *Fundisa for Change Strategic Dialogue and Stakeholder Engagement Meeting Programme.* Kopanong Hotel, Benoni. South Africa. October 2022.

Culibrk Fredriksen, B., Fischer, D., Schudel, I. and Jha, V. International invitational presentation: Context, Situatedness, Relevance and Transferability in Education for Sustainable Development. *UNESCO*

Chair on ESL Network meeting. Online, Webinar. South Africa. December 2022.

Culibrk Fredriksen, B., Fischer, D., Schudel, I. and Jha, V. International invitational presentation: Context, Situatedness, Relevance and Transferability in Education for Sustainable Development. *Norwegian Research Network on Sustainability and Education (NABU) Annual Conference: Sustainability and Education in Times of Crisis.* Norwegian Research Network on Sustainability and Education, online. Norway. November 2022.

Other Publications

Chanyau, L.

Kwauk, C., Chanyau, L., Grecequet, M. and Steer, L. (2022) Application at the core of a prosperous Africa in an uncertain and warming world. In: Choudhury, C., Davis, M. and Carey, J. (eds.). *State and Trends in Adaptation Report 2022.* Rotterdam: Global Centre on Adaptation.

Francis, B.

Francis, B., Yaa Oduro, G., Boateng, K.A., Morgera, E. and Febrica, S. (2022). In: *Women, Girls and the Right to a Clean, Healthy and Sustainable - the One Ocean Hub's Written Evidence to the UN Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment Environment.* South Africa: One Ocean Hub.

Kotschy, K., Conde Aller, L. and Rosenberg, E.

Kotschy, K., Cockburn, J., Conde Aller, L. and Rosenberg, E. (2022) Participatory Monitoring, Evaluation, Reflection and Learning (PMERL): Building a Participatory and Sustainable System for Evaluating Impact. In: *Tsitsa Project Practice and Policy Brief #5.* Makhanda: Rhodes University.

Lotz-Sisitka, H. and Rosenberg, G.J.

Batra, P., Imaniriho, D., Lotz-Sisitka, H., Rosenberg, G.J. and Tusiime, M. (2022) Address Inequalities: TESF Working Paper. In: <https://tesf.network/wp-content/uploads/2022/12/Inequalities-paper-9Dec2022.pdf>. Bristol: TESF.

Lotz-Sisitka, H., Mponwana, O.W. and Kuse, M.

Mbatha, C.N., Lotz-Sisitka, H., Mponwana, O.W. and Kuse, M. (2022) Monitoring and evaluation framework and workplan (2022/2023). A report to the Water Research Commission (WRC), Pretoria. In: Mbatha, C.N., Mponwana, M., Lotz-Sisitka, H. and Thifufelhi, R. (eds.). *Monitoring and evaluation framework and workplan (2022/2023).* A report to the Water Research Commission (WRC), Pretoria.

Lotz-Sisitka, H., Ward, M., Vallabh, P. and Madiba, M.S.

Lotz-Sisitka, H., Ward, M., Taylor, J., Vallabh, P., Madiba, M.S., Graham, M., Louw, A. and Brownell, F. (2022) Alignment, Scaling and Resourcing of Citizen Based Water Quality Monitoring (CBWQM) for Realising the DWS Integrated Water Quality Management Strategy. In: Lotz-Sisitka, H.B., Ward, M., Taylor, J., Vallabh, P., Madiba, M., Graham, M., Louw, A. and Brownell, F. (eds.). *Report.* South Africa: Water Research Commission.

McGarry, D.K.

McGarry, D.K., Coppen, N. and Mthombeni, M. (2022) *Lalela ulwandle* listen to the Sea: Theatre production and script submission. In: *Intergovernmental Panel on Climate Change (IPCC) COP27: Capacity Building Hub.* Egypt: IPCC.

McGarry, D.K., Erwin, K. and Pereira-Kaplan, T.L.

McGarry, D.K., Mthombeni, M., Coppen, N., Erwin, K., Walne, H. and Pereira-Kaplan, T.L. (2022). In: *The Blue Blanket - Illustrated poem and animation, and Lalela uLwandle Radio Play - included as evidence in the Court Case case 3491/2021.* South Africa: One Ocean Hub.

O'Donoghue, R.B.

Sarabhai, K.V., Henze, C., O'Donoghue, R.B., Sandoval-Rivera, J.C. and Shimray, C. (2022). In: Taylor, J. (ed.). *Handprints for Change: A Teacher Education Handbook - Activating Handprint Learning Actions in Primary Schools and Beyond.* Ahmedabad: Centre for Environment Education.

Olivitt, L.

Olivitt, L. (2022). Planetary Urgency, Researcher Reflexivity and ESE Research: Questions Arising from an Initial Exploration of Goethean-inspired Phenomenology. In N. Deutzkens, K. Van Poeck, M. Deleye; J. Læssøe; J. Lönngren; H. Lotz-Sisitka, J. Lysgaard; J. Ohman; L. Östman; E. Vandenplas & A. Wals (eds). *Challenges for Environmental*



Education Leadership and Management Bachelor of Education (Honours) group. Photo: ELRC

and Sustainability Education Research in Times of Climate Crisis: 15th Invitational Seminar on environmental & sustainability education research. Ghent: Ghent University - Centre for Sustainable Development.

Olvitt, L.; Nikel, J.; Wals, A. and **Lotz-Sisitka, H.** (2022). Boundaries between ESE Research and Practice - Some Observations and Contemplations. In N. Deutzkens, K. Van Poeck, M. Deleye; J. Læssøe; J. Lönngren; H. Lotz-Sisitka, J. Lysgaard; J. Öhman; L. Östman; E. Vandenplas & A. Wals (eds). *Challenges for Environmental and Sustainability Education Research in Times of Climate Crisis: 15th Invitational Seminar on environmental & sustainability education research.* Ghent: Ghent University - Centre for Sustainable Development.

Rosenberg, E. and Kotschy, K.

Rosenberg, E. and Kotschy, K. (2022). In: *National Biodiversity Skills and Transformation Strategy: Post-2020 Update and Implementation Plan.* South Africa: SANBI & The Lewis Foundation.

Rosenberg, E., Kotschy, K., James, W., Reed, M., **Cockburn, J.** and Walker, R. (2022). In: Rosenberg, E. (ed.). *Draft Monitoring and Evaluation Framework for the TRANSECTS Project.* South Africa: Transects.

Distinguished Visitors

Micklessen, M.

Dr M Micklessen. Uppsala University, Uppsala, Sweden. *Amanzi Ethu Nobuntu and the DSI/NRF CoP Phase 2 Project Collaboration.* January 2022.

Roux, D.

D Roux. SANParks, Scientific Services (Garden Route Node) and Nelson Mandela University, Sustainability Research Unit, Port Elizabeth, South Africa. *Project Collaboration.* November 2022.

Department of Environmental Science

INTRODUCTION

The Department of Environmental Science produced a sizeable number of publications. These consisted of thirty-four (34) papers in peer-reviewed subsidy earning journals, three (3) book chapters, and four (4) papers in non-peer-reviewed conference proceedings. Four (4) articles were published in the popular press. Staff participated in various research conferences and workshops both locally and internationally, and served on several national and international organisations.



Professor Gladman Thondhlana
- Head of Department

Postgraduates / Graduations

We have a healthy number of Postgraduate students (nineteen (19) PhD; twenty-one (21) Masters and fifteen (15) honours). Six (6) Masters students and three (3) (PhD) candidates graduated in 2022. As usual, Postgraduates were significant contributors to the outputs of the department. During 2022 three (3) former and current PhD candidates (Falayi, M., Kujirakwinja, D.K., Martins, A.R.O), four (4) Masters (Herd-Hoare, S.C.; Kharivha, T; Mutumbi, U., Ngulani, T.) and five (5) Honours (Deponselle, K.N.; Lee, M.A., Rouillard, T.K.; Seath, J.L.; Yose, P.) were lead or co-authors on journal publications. We regard this as a vital part of the research process, which also strengthens the research experience and credentials of the Postgraduates after they leave the department.

Significant Research Aligned Events

- Distinguished Professor Charlie Shackleton's NRF SARCHI Chair was renewed for the second time for a final 5-year cycle.
- Professor G Thondhlana attended a Creating Post-graduate Collaborations workshop (12 - 18 December 2022), in Naivasha, Kenya, and participated at the Forests & Livelihoods Assessment, Research, and Engagement (FLARE) Annual Meeting (07 - 10 October 2022) in Rome, Italy.
- Dr S Ruwanza gave a talk at a workshop in May 2022 in Stellenbosch, titled "Building on Seeds of Success in Invasive Species Management"; a plenary presentation at the Centre for Invasion Biology Annual Research Meeting in November 2022 at Stellenbosch University, titled "Restoration trajectory - how previously invaded ecosystems recover", and participated at the National Symposium on Biological Invasions 2022 at Fort Hare University in July 2022.

Department of Environmental Science

PUBLICATIONS

Books/Chapters/Monographs

- Cockburn, J.**
McGarry, D.K., Weber, L., **James, A.K., Kulundu, I.M.,** Ajit, S., Temper, L., Macintyre, T., Shelton, R., **Pereira-Kaplan, T.L.,** Chaves, M., Kuany, K., **Cockburn, J., Metelerkamp, L.,** Bajpai, S., Bengtsson, S., **Vermeylen, S., Lotz-Sisitka, H.,** Turhan, E., Khutsoane, T., Villarreal, T. and Moser, S. (2022) The Pluriversity for Stuck Humans: A queer, decolonial school eco-pedagogy. In: *Queer Ecopedagogies*. Online: Springer, Cham. p.183-216. ISBN: 9783030653675.
- Mograbi, P.J.**
 Clements, H., Esler, K., Henry, D., **Mograbi, P.J.,** Norstrom, A. and Reynolds, C. (2022) Ecological field data collection. In: Biggs, R., de Vos, A., Preiser, R., Clements, H., Maciejewski, K. and Schlüter, M. (eds.). *The Routledge Handbook of Research Methods for Social-Ecological Systems*. London: Routledge. p.95-106. ISBN: 9781032020761.
- Shackleton, C.M.**
Shackleton, C.M., Schreckenberg, K., Shackleton, S. and Luckert, M. (2022) Livelihood and vulnerability analysis. In: Biggs, R., de Vos, A., Preiser, R., Clements, H., Maciejewski, K. and Schlüter, M. (eds.). *The Routledge Handbook of Research Methods for Social-Ecological Systems*. London: Routledge. p.440-450. ISBN: 9781032020761.

Other Publications

- Cockburn, J.**
 Kotschy, K., **Cockburn, J., Conde-Aller, L. and Rosenberg, E.** (2022) Participatory Monitoring, Evaluation, Reflection and Learning (PMERL): Building a Participatory and Sustainable System for Evaluating Impact. *Tsitsa Project Practice and Policy Brief #5*. Tsitsa Project, Department of Environmental Science, Rhodes University, Makhanda.
- Clifford-Holmes, J., Van Der Waal, B., **Cockburn, J., Biggs, H. and Wolff, M.** (2022) The Tsitsa Approach to Sustainable Land Management and Rehabilitation. *Tsitsa Project Practice and Policy Brief #1*. Tsitsa Project, Department of Environmental Science, Rhodes University, Makhanda.
- De Vos, A.**
 Clements, H., **De Vos, A.** and Child, M. (2022) South Africa's wildlife ranches can offer solutions to Africa's growing conservation challenges. In: *The Conversation*. South Africa: The Conversation.
- Shackleton, C.M.**
Shackleton, C.M., Faull, A., Breetzke, G., Edelstein, I. and Venter, Z. (2022) Crime is lower when cities are greener: Evidence from South Africa supports the link. In: *The Conversation*. South Africa: The Conversation.

Peer Reviewed Subsidy-Earning Journal Research Publications

- Adeyemi, O. and Shackleton, C.M.**
Adeyemi, O. and Shackleton, C.M. (2022) Understanding foraging practices in Lagos metropolis to redesign urban greenspaces in support of human-nature interactions. *Urban Forestry and Urban Greening*. 79 (2023). p.1-10.
- Amoako, E.A. and Gambiza, J.**
Amoako, E.A. and Gambiza, J. (2022) Fire use practices, knowledge, and perceptions in a West African savanna parkland. *PLoS ONE*. 17 (5). p.1-25.
- Bellon De La Cruz, B.**
Blanco, J. and Bellon De La Cruz, B. (2022) Early stages of crop expansion have little effect on farm-scale vegetation patterns in a Cerrado biome working landscape. *Landscape and Urban Planning*. 223 (2022). p.1-12.

- Bellon De La Cruz, B. and De Vos, A.**
Bellon De La Cruz, B., Henry, D., Renaud, P.C., Roque, F., Santos, C., Melo, I., Arvor, D. and **De Vos, A.** (2022) Landscape drivers of mammal habitat use and richness in a protected area and its surrounding agricultural lands. *Agriculture, Ecosystems and Environment*. 33 (107989). p.1-11.
- Cundill, G., De Vos, A., Cockburn, J. and Shackleton, C.M.**
 Biggs, R., Clements, H., Cumming, G., **Cundill, G., De Vos, A.,** Hamman, M., Luvuno, L., Roux, D., Selomane, O., Blanchard, R., **Cockburn, J.,** Dziba, L., Esler, K., Fabricius, C., Henriksson, R., Kotschy, K., Lindborg, R., Masterson, V., Nel, J., O'Farrell, P., **Palmer, C.G.,** Pereira, L., Pollard, S., Preiser, R., Scholes, R., **Shackleton, C.M.,** Shackleton, S.E., Sitas, N., Slingsby, J., Spierenburg, M., Tengo, M. and Reyers, B. (2022) Social-ecological change: Insights from the Southern African program on ecosystem change and society. *Ecosystems and People*. 18 (1). p.447-468.
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Research Papers Presented at Academic/ Scientific Conferences (Non-peer-reviewed Proceedings)

- Martins, V., Shackleton, C.M. and De Vos, A.**
Martins, V., Shackleton, C.M. and De Vos, A. A fireside chat: Hunting practices by rural communities in the Eastern Cape - motivations, methods and perceptions. *Cape Parrot action plan coordination committee annual meeting*. Hogsback hotel, Hogsback. South Africa. July 2022.
- Njwaxu, A. and Shackleton, C.M.**
Njwaxu, A., Shackleton, C.M. and Cocks, M. Assessing the prevalence of cultural keystone species in the Wild Coast, South Africa. *Indigenous Plant Use Forum*. Virtual. South Africa. July 2022.
- Shackleton, C.M.**
Shackleton, C.M. The need for an urban ecology of the Global South. *ATREE*. Bangalore. India. May 2022.
- Sinasson Sanni, K.G. and Shackleton, C.M.**
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Department of Fine Art

INTRODUCTION

The Department of Fine Art had a very productive research year. Outputs generated by our staff, Postgraduates, and SARCHI research associates and fellows comprised twenty-two (22) publications (books, chapters, monographs, and journal articles), many of them accredited; forty-two (42) exhibitions, performances, workshops and events, many of them international; and forty-two (42) presentations, talks, artist walkabouts, and screenings at local and international conferences and academic symposia. For such a small Department, this level of research productivity is significant.



Associate Professor Maureen De Jager
- Head of Department

Postgraduates / Graduations

During 2022, two (2) MFA candidates mounted solo exhibitions for examination purposes: Julia Arbuckle presented *Looking After* at the Rhodes University School of Art Gallery; and Tayla Mackintosh presented *My Craft: Building True Worlds in Reality* at the 1820 Settlers Monument. Arbuckle was awarded the Javier Rosón Award (Ankaria Foundation, Spain) for her book artwork titled '*Root/Rot: The Family Bible*'. Two (2) students, Aaron Adriaan and Daniel Retief had artworks selected for the Turbine Art Fair Graduate Showcase, *At Odds*, described by the curators, Michaela Limberis and Siwa Mgoboza, as an exhibition featuring "some of the youngest and brightest talent that has emerged in the last two (2) years from across the nation".

Together with their supervisor, Associate Professor Maureen de Jager, three (3) Fine Art PhD candidates, Jarrett Erasmus, Simone Heymans and Raphaela Linders, contributed artworks to a collaborative newspaper produced by London-based *We Are Publication*, which formed part of the Whitstable Biennale 2022 education programme. Linders presented a paper at the *Symposium for Artistic Research in Analogue Photography* in Helsinki. In collaboration with the *Sites of Memory Collective*, Erasmus was artistic contributor and designer for a site-specific installation, and accompanying educational programme, with artist Raul Balai at Het Scheepvaart Museum (The Maritime Museum) in Amsterdam.

Lifang Zhang, a SARCHI PhD candidate, was particularly productive in 2022, publishing a co-authored accredited article and a book chapter, and presenting at four (4) international conferences. She also assisted Professor Ruth Simbao in curating the National Arts Festival *Arts Lounge Africa* talks series, which featured a number of other Fine Art Postgraduate students including Viwe Madinda, Juanito Featherstone, Claire Nalukenge, Wynona Mutisi and Mühunyo Maina. MFA student, Viwe Madinda, also held a solo exhibition, *Zintombi Zam Zenani*, at the RAW Spot Gallery on campus. The SARCHI MA student, Fadzai Muchemwa, was invited to curate the Zimbabwe Platform at the prestigious Venice Biennale in Italy. She curated the exhibition, *I did not leave a sign?* which included the work of Wallen Mapondera, a former MFA student.

Distinguished Visitors / International Visits

The Harvard University Centre for African Studies hosted a symposium and workshop on the Future of Africa-Based Curatorial Practice. Professor Ruth Simbao was invited by the Historian, Professor Emmanuel Akyeampong, and the MoMA curator, Ugochukwu-Smooth Nzewi, to present her work and to be involved in discussions about possible collaboration and the future of curating in Africa. She also spent a month in Zambia filming a documentary about the Chinese-built TAZARA Memorial Park in Zambia.



DIXIE @ Bathurst St., Makhanda

Photo: Department of Fine Art

Significant Research Aligned Events

During 2022, Senior Lecturer Christine Dixie was especially prolific, producing no fewer than five (5) solo exhibitions nationally and internationally. These comprised *The Harbingers* and *@Bathurst St., Makhanda* (both shown at the Gallery of the SARCHI Chair in South African Art and Visual Culture, University of Johannesburg); *Blueprint for the DisOrder of Things* (shown at Wits Art Museum); *The Astronomer, the Princess and the Order of Things* (shown at Graham Contemporary, Johannesburg) and *To Be King* (shown at Iwalewahaus Museum, Bayreuth, Germany). Most of these solo exhibitions were accompanied by artist's talks/walkabouts. Dixie also participated in a number of group exhibitions, including *Romancing the Stone: Relational Dialogues* (KZNSA Gallery); *TenX10* (Wits Art Museum) and *A New Wave*. (Graham Contemporary).

Senior Lecturer Dr Thembinkosi Goniwe presented numerous papers at conferences, both locally and internationally. The latter comprise the *Making Art History Now* conference, hosted by Yale University History of Art and School of Art and The Space for Creative Black Imagination; and the *Pioneers in Contemporary African Art* conference, hosted by Institut National D'Histoire Del'Art in Paris. Lecturer Sikhumbuzo Makandula co-edited a reader titled *Emgwali* which was published by Creative Knowledge Resources, University of Cape Town, and funded by the National Research Foundation. He convened a conference, *Soga Conference Studies*, hosted by the Johannesburg Institute for Advanced Studies. He presented a paper titled at the *Township Studies Conference* hosted by the University of Johannesburg; and presented a film screening at the *Transforming Education for Sustainable Futures National Conference* in Cape Town.

Lecturer Mbali Khoza produced a solo exhibition titled *Native of Nowhere* (Church Projects, Cape Town); and published an article titled 'Seeing Blackness through Black Expressive Culture: A Reading of Zanele Muholi's Somnyama Ngonyama Hail the Dark Lioness' in the *Athens Journal of Humanities & Arts*. Lecturer Robyn Munnick participated in a group exhibition, *Creative Block*, which formed part of the Turbine Art Fair. Professor Dominic Thorburn presented a paper at *IMPACT 12 International Printmaking Conference* in Bristol, United Kingdom, where he also chaired a panel. Associate Professor Maureen de Jager presented a discursive seminar on practice-based research hosted by Kingston University, London; and delivered a performance-lecture titled 'Marginalia (Some Reflections on Archival Silence)' during *The Listening Academy* at Iklectik, London.

In 2022, Associate Professor Stephen Fqláránmí co-authored an article, '*COVID-19 Facemask Rule, Public Distrust, and Artistic Interventions in Nsukka, Nigeria*,' which was published in *Cogent Arts & Humanities*. He attended the 110th College Art Association (CAA) Conference, which took place online. Although he didn't present at this event, his involvement as a CAA/Getty Alumni allowed him to participate in the pre-conference program/colloquium and the main conference. Fqláránmí also attended and presented a paper titled '*Josy Ajiboye's Women: Family, Advocacy, and Reference*' at the 6th Lagos Studies Association (LSA) Conference, held at the University of Lagos, Nigeria.

Professor Ruth Simbao co-edited the volume, *Visualising China in Southern Africa: Biography, Circulation, Transgression* with Juliette Leeb-du Toit and Ross Anthony. The peer reviewed book includes essays by Simbao, Research Associate Ying Cheng from Peking University, two (2) SARCHI

PhD candidates Binjun Hu Grobbelaar and Lifang Zhang, and former SARCHI MFA student Stary Mwaba. Featuring sixteen (16) chapters by authors predominantly based in Southern Africa and China, and over one hundred and fifty (150) colour images, the book was supported by the Mellon Foundation and the National Research Foundation SARCHI Chair programme in *Geopolitics and the Arts of Africa*. According to Professor Yoon Jung Park, "This is perhaps the most important contribution to the growing body of China-Africa literature of the decade...it is breathtaking in its ambition and scope". Historian Jamie Monson writes, "This pathbreaking publication draws together, for the first time, works by authors who analyse the encounter between Chinese and Africans through the lens of visual arts and material culture. Led by the leading scholars of artistic representation in China-Africa engagement, the contributors make visible the circulations and connections between material objects, identity, and culture in the expanding relationship between Chinese and Africans".

In 2022, SARCHI Research Associates published four (4) books - three (3) with Iwalewabooks and one (1) with Routledge, three (3) peer reviewed book chapters and a credited journal article. The programmes' Postdoctoral Fellows were active in publishing and exhibiting, featuring two (2) solo exhibitions at the RAW Spot Gallery and a performance intervention during the National Arts Festival. Fine Art staff member, Sikhumbuzo Makandula, created a performance in dialogue with Nsubuga's solo exhibition, *The Baganda*. Nsubuga also featured in the Zeitz MOCAA exhibition, *When We See Us: A Century of Black Figuration in Painting*, and PhD candidate, Barnabas Muvhuti, conducted research for this exhibition and accompanying catalogue.

SARCHI Audacious Art Histories workshop.

Photo: Department of Fine Art



Department of Fine Art

PUBLICATIONS

Books/Chapters/Monographs

Becker, D.L.

Becker, D.L. (2022) Afrofuturism and Art History: Contemporary comic adaptations as methodology for decolonization. In: Gray, M. and Horton, I. (eds.). *Seeing Comics through Art History: Alternative Approaches to the Form*. Cham: Palgrave Macmillan. P.225-246. ISBN: 9783030935078.

Cheng, Y.

Cheng, Y. and Wang, S. (2022) Understanding William Kentridge from China. In: Leeb-du Toit, J., Simbao, R. and Anthony, R. (eds.). *Visualising China in Southern Africa: Biography, Circulation, Transgression*. Johannesburg: Wits University Press. P.298-321. ISBN: 9781776147670.

Grobbelaar, B.J.

Grobbelaar, B.J. (2022) A Chinese Immigrant Collector and the Story of His Stamp Cover. In: Leeb-du Toit, J., Simbao, R. and Anthony, R. (eds.). *Visualising China in Southern Africa: Biography, Circulation, Transgression*. Johannesburg: Wits University Press. P.50-61. ISBN: 9781776147670.

Makandula, S.

Makandula, S., Skeyi-Tutani, Z. and Mbangu, B. (eds) (2022) *Emgwali: A Reader*. Cape Town: Creative Knowledge Resources, University of Cape Town. ISBN: 9780620734721.

Siebert, N.I.

Siebert, N.I. (2022) The Empty Pedestal: Artistic Practice and Public Space in Luanda. In: Capdepôn, U. and Dornhof, S. (eds.). *Contested Urban Spaces: Monuments, Traces, and Decentered Memories*. Cham: Palgrave Macmillan. P.169-183. ISBN: 9783030875053.

Siebert, N.I. (ed.) (2022) *Ndidi Dike: Discomfort Zone*. Bayreuth: Iwalewbooks. ISBN: 9783947902071.

Siebert, N.I., Oppen, A. and Fink, K. (ed.) (2022) *Das Bauhaus Verfehlen/Missing the Bauhaus*. Bayreuth: Iwalewbooks. ISBN: 9783947902224.

Siebert, N.I., Mushaandja, N. and Fink, K. (ed.) (2022) *The Issue of Care: Labour, Love & Pleasure in times of loss and uncertainty*. Bayreuth: Iwalewbooks. ISBN: 9783947902248.

Simbao, R.

Simbao, R. and Mwaba S. M. (2022) Abapakati: Chinese Intermediaries and Artisanal Mining on the Zambian Copperbelt. In: Leeb-du Toit, J., Simbao, R. and Anthony, R. (eds.). *Visualising China in Southern Africa: Biography, Circulation, Transgression*. Johannesburg: Wits University Press. P.84-112. ISBN: 9781776147670.

Anthony, R., **Simbao, R.** and Leeb-du Toit, J. (2022) Geopolitics by Other Means: Navigating the Chinese Presence in Southern Africa through Art. In: Leeb-du Toit, J., Simbao, R. and Anthony, R. (eds.). *Visualising China in Southern Africa: Biography, Circulation, Transgression*. Johannesburg: Wits University Press. P.11-35. ISBN: 9781776147670.

Simbao, R. (2022) A Letter to My Cousin in China: Migrancy and Dilemmas of Burial. In: Leeb-du Toit, J., Simbao, R. and Anthony, R. (eds.). *Visualising China in Southern Africa: Biography, Circulation, Transgression*. Johannesburg: Wits University Press. P.35-58. ISBN: 9781776147670.

Leeb-du Toit, J., **Simbao, R.** and Anthony, R. (eds.) (2022). *Visualising China in Southern Africa: Biography, Transgression, Circulation*. Johannesburg: Wits University Press. P.1-364. ISBN: 9781776147670.

Stanley-Niaah, S.N.

Stanley-Niaah, S.N., Noxolo, P. and Patten, H. (2022) Introduction. In: Noxolo, P., Patten, H. and Niaah, S.S. (eds.). *Dancehall In/Securities: Perspectives on Creative Life in Jamaica*. London: Routledge. P.1. ISBN: 9781032071251.

Stanley-Niaah, S.N. (2022) Sounding out the System: Noise and the Politics of Citizenship. In: Noxolo, P., Patten, H. and Niaah, S.S.

(eds.). *Dancehall In/Securities: Perspectives on Creative Life in Jamaica*. London: Routledge. P.130-150. ISBN: 9781032071251.

Stanley-Niaah, S.N., Noxolo, P. and Patten, H. (ed.) (2022) *Dancehall In/Securities: Perspectives on Creative Life in Jamaica*. London: Routledge. ISBN: 9781032071251.

Zhang, Z.L.F.

Zhang, Z.L.F. (2022) Moffat Takadiwa: Reincarnating Chinese Commodity Waste in Zimbabwe. In: Leeb-du Toit, J., Simbao, R. and Anthony, R. (eds.). *Visualising China in Southern Africa: Biography, Circulation, Transgression*. Johannesburg: Wits University Press. P.212-229. ISBN: 9781776147670.

Concerts, Exhibitions, Performances, Workshops, Events

Adriaan, A.

Adriaan, A. Group Exhibition. *At Odds*. Turbine Art Fair (TAF) Graduate Showcase, Johannesburg. South Africa. 21-24 July 2022.

Arbuckle, J.

Arbuckle, J. Solo Exhibition (MFA). *Looking After*. School of Art Gallery, Rhodes University, Makhanda. South Africa. 25 November 2022.

Arbuckle, J. Recipient of Javier Rosón Award, Ankaria Foundation, Spain. Awarded for the book artwork entitled '*Root/Rot: The Family Bible*'.

De Jager, M.S.

De Jager, M.S., Erasmus, J., Heymans, S., and Linders, R. Contributors. *Capacity does not explain but cultivates a September garden*. A collaborative newspaper produced by *We Are Publication* and forming part of the Whitstable Biennale 2022 education programme. United Kingdom. 11 - 19 June 2022.

De Jager, M.S. Presenter. Expanding formats - Kingston School of Art discursive seminar. *Practice-Based Research: conversations on the lifecycle of a Post Graduate Researcher (hosted by Kingston*

Makandula: A spectre of the Commonwealth

Photo: Department of Fine Art



University, London). Online, London. United Kingdom. 22 March 2022.

De Jager, M.S. Presenter (performance lecture). *Marginalia (Some Reflections on Archival Silence)*. *The Listening Academy*. Iklectik, London. United Kingdom. 29 August - 4 September 2022.

Dixie, C.

Dixie, C. Solo Exhibition. *The Harbingers*. Gallery of the SARChI Chair in South African Art and Visual Culture, University of Johannesburg. South Africa. 3 November 2022 - 31 January 2023.

Dixie, C. Group Exhibition. *@Bathurst St., Makhanda* exhibited on *Romancing the Stone: Relational Dialogues*. KZNSA Gallery, Durban. South Africa. 19 - 23 September 2022.

Dixie, C. Group Exhibition. *Below the Sediments* exhibited on *TenX10*. Wits Art Museum, Johannesburg. South Africa. 15 March - 23 July 2022.

Dixie, C. Group Exhibition. *Harbouring Fanon* exhibited on *A New Wave*. Graham Contemporary, Johannesburg. South Africa. 28 April - 4 June 2022.

Dixie, C. Solo Exhibition. *The Astronomer, the Princess, and The Order of Things*. Graham Contemporary, Johannesburg. South Africa. 8 September - 16 October 2022.

Dixie, C. Solo Exhibition. *To be King*. Iwalewahaus Museum, Bayreuth. Germany. 11 May - 9 July 2022.

Dixie, C. Solo Exhibition. *Blueprint for the Disorder of Things*. Wits Art Museum, Johannesburg. South Africa. 12 April - 4 June 2022.

Dixie, C. Solo Exhibition. *@Bathurst St., Makhanda*. Gallery of the SARChI Chair in South African Art and Visual Culture, University of Johannesburg. South Africa. 16 March - 7 April 2022.

Erasmus, J.

Erasmus, J. in collaboration with *Sites of Memory Collective*. Artistic contributor and designer. *Decoding The Atlantic World*. Site-specific installation and education programme with artist Raul Balai at Het Scheepvaart Museum (The Maritime Museum) in Amsterdam. Netherlands. July - December 2022.

Goniwe, T.

Goniwe, T. Critical Reader. *National Institute for Humanities and Social Science Eastern Cape Doctorate School*. Port Alfred. South Africa. 23 - 25 August 2022.

Kakande, A.

Kakande, A. Group Exhibition. *Desacralized: On Uganda's Monuments as Symbols of Activism Artwork exhibited on Different but One 21 Staff Exhibition for academic staff at Margaret Trowell School of Industrial and Fine Art*. Institute of Heritage Conservation and Restoration, Makerere University, Kampala. Uganda. 20 September 2022.

Kakande, A. Solo Exhibition. *Celebration of the Deaf Week 2022*. Institute of Heritage Conservation and Restoration, Makerere University, Kampala. Uganda. 15 September 2022.

Kakande, A. Group Exhibition. *Art the Brain Exhibition*. Protea Hotel, Institute of Heritage Conservation and Restoration, Makerere University, Kampala. Uganda. 1 - 31 March 2022.

Khoza, M.

Khoza, M. Solo Exhibition. *Native of Nowhere*. Church Projects, Cape Town. South Africa. 9 July - 31 August 2022.

Mackintosh, T.

Mackintosh, T. Solo Exhibition (MFA). *My Craft: Building True Worlds in Reality*. 1820 Settlers Monument, Makhanda. South Africa. 12 December 2022.

Madinda, V.

Madinda, V. Solo Exhibition. *Zintombi Zam Zenani*. National Art Festival. Raw Spot Gallery, Makhanda. South Africa. 23 June - 3 July 2022.

Madinda, V. and Featherstone, J.R.

Madinda, V. and Featherstone, J.R. Event. *Sip n Art: Creating an Art Space on the Move in Makhanda*. *Arts Lounge Africa* talks series. Arts of Africa and Global Souths, Rhodes University, Makhanda. South Africa. 30 June 2022.

Madinda, V., Makandula, S. and Mutisi, W.V.

Madinda, V., Makandula, S., Mutisi, W.V. and Siwani, B. Event. *Healing in the Visual and Performing arts*. *Arts Lounge Africa* talks series. Arts of Africa and Global Souths, Rhodes University, Makhanda. South Africa. 25 June 2022.

DE JAGER Performance lecture at the Listening Academy

Photo: Department of Fine Art



Makandula, S.
Makandula, S. Performance. *Zizimase, Remember Us?* Amazwi Museum, Makhanda. South Africa. 23 October 2022.

Makandula, S. and Nsubuga, E.S.
Makandula, S. and Nsubuga, E.S. Performance. *A Spectre of the Commonwealth*, as part of the exhibition *The Baganda* curated by Ruth Simbao, Raw Spot Gallery, Makhanda. South Africa. 24 November 2022.

Mapondera, W.
Mapondera, W. Group Exhibition. *Did I leave a sign?* Venice Biennale, Venice. Italy. April 2022.

Muchemwa, F.
Muchemwa, F. Curator of the Zimbabwe Platform exhibition, *I not leave a sign?* at the Venice Biennale, Venice. Italy. April 2022.

Munnick, R.T.
Munnick, R.T. Group Exhibition. *Creative Block*. Turbine Art Fair (TAF). Johannesburg. South Africa. 21 - 24 July 2022.

Nalukenge, N.C., Maina, M. and Nsubuga, E.
Nalukenge, N.C., Maina, M., and Nsubuga, E. Event. A Conversation with Eria Nsubuga 'SANE'. *Arts Lounge Africa* talks series. Arts of Africa and Global Souths, Rhodes University, Makhanda. South Africa. 3 July 2022.

Nsubuga, E.S.
Nsubuga, E.S. Solo Exhibition. *The Baganda*. Raw Spot Gallery, Makhanda. South Africa. 3 November - 1 January 2022.

Nsubuga, E.S. Group Exhibition. *Beyond Memories*. Ham Mukasa Library, Uganda Christian University, Mukono. Uganda. 1 October - 1 December 2022.

Nsubuga, E. S. Group Exhibition. *When We See Us: A Century of Black Figuration in Painting*. Zeitz Museum of Contemporary Art Africa, Cape Town. South Africa, 20 November 2022 - 3 September 2023.

Olawale, Q.O.
Olawale, Q.O. Solo Exhibition. *Sunnukun*. Raw Spot Gallery, Makhanda. South Africa. 16 - 30 September 2022.

Olawale, Q.O. Co-curator of *Usen Obot: The Incarnation*. Nelson Mandela University Gallery, Gqeberha. South Africa. 12 April - 6 May 2022.

Retief, D.
Retief, D. Group Exhibition. *At Odds*. Turbine Art Fair (TAF) Graduate Showcase. Johannesburg, South Africa. 21 - 24 July 2022.

Simbao, R.
Simbao, R. Workshop Organiser. *Editing and Writing Workshop for the Audacious Art Histories Book*. Assegai Trails. South Africa. 10 - 17 July 2022.

Simbao, R. Curator of *Eria Nsubuga: The Baganda*. Raw Spot Gallery, Makhanda. South Africa. 3 - 24 November 2022.

Simbao, R. Workshop Organiser of *Postdoctoral Fellow Research Workshop*. My Pond Hotel, Port Alfred. South Africa. 19 - 20 February 2022.

Simbao, R. Workshop Organiser of the workshop for the research programme, *Artivism, Social Justice and Epistemic Revolution: Situating African Perspectives within the Global South*, for the Africa Multiple Cluster of Excellence in collaboration with Bayreuth University. Arts of Africa and Global Souths, Rhodes University, Makhanda. South Africa. 6 - 12 September 2022.

Tume, O.
Tume, O. Live Art Intervention. *Pa'tanmo*. *Arts Lounge Africa* talks series. Arts of Africa and Global Souths, Rhodes University, Makhanda. South Africa. 2 July 2022.

Zhang, Z.L.F.
Zhang, Z.L.F., Mbe., and Harmans, W. Event. *A conversation with Wezile Harmans*. *Arts Lounge Africa* talks series. Arts of Africa and Global Souths, Rhodes University, Makhanda. South Africa. 27 June 2022.

Distinguished Visitors

Goniwe, T.
Goniwe, T. Yakhal'inkomo: An Artistic Legacy. *Conversation with Dr Mongane Wally Serote*. University of Pretoria Javett Museum, Pretoria. South Africa. 17 March 2022.

Khoza, M.
Khoza, M. UCT, Wits, TUT and Rhodes University. Research and collaboration. *Visual Cultures and Curatorial Studies Postgraduate Symposium*. Virtual. August 2022.

Khoza, M. North-West University, Mahikeng, Potchefstroom, Vanderbijlpark, South Africa. Lecture. *Facing Race Week 2022*. North-West University. April 2022.

Koide, E.
Koide, E. Federal University of Recêncavo da Bahia (UFRB), Brazil. *African and Afro-Brazilian Art Histories in Brazil: Some Perspectives on Research and Teaching. Artivism, Social Justice and Epistemic Revolution: Situating African Perspectives research programme (P.I. Simbao) with the Africa Multiple Cluster of Excellence* in collaboration with the SARChI Arts of Africa research programme. Arts of Africa and Global Souths, Rhodes University, South Africa. September 2022.

Mukwazhi, K.
Mukwazhi, K. Independent artist in Harare, Zimbabwe. Visited *Arts of Africa and Global Souths*, and the SARChI research programme in *Geopolitics and the Arts of Africa*. Makhanda, South Africa. 4 - 7 October 2022.

Siwani, B.
Siwani, B. The Standard Bank Young Artist Award winner for the 2022 National Arts Festival visited the SARChI programme in *Geopolitics and the Arts of Africa*, and participated in the *Arts Lounge Africa* presentation, *Healing in the Visual and Performing Arts* with Wynona Mutisi, Viwe Madinda and Sikhumbuzo Makandula.

Mwaba, S.M.
Mwaba, S.M. Independent Artist. *Artivism, Social Justice and Epistemic Revolution: Situating African Perspectives research programme (P.I. Simbao) with the Africa Multiple Cluster of Excellence* in collaboration with the SARChI Arts of Africa research programme. *Arts Lounge Africa, Rhodes University, South Africa*. September 2022.

International Visits

Khoza, M.
Khoza, M. Chair. *A Small Symposium on Art History* as part of the *13th Annual International Conference on Visual and Performing Arts*. Athenas Institute of Education and Research, Athens, Greece. 2 - 9 June 2022.

Simbao, R.
Simbao, R. Invited participant of the Harvard University symposium and workshop, *The Future of Africa-based Curatorial Practice*. Presentation: *In Spite of Museums: The Unpredictable Delight of 'Taking Care' Otherwise*. Harvard Center for African Studies, Harvard University, USA, June 2022.

Simbao, R. Guest at the official opening of the new TAZARA Memorial Park in Chongwe District, Zambia. One month was spent in Zambia with independent artists and participants of the *Tulelosha (We are Mourning)* documentary film. August 2022.

Peer Reviewed Subsidy-Earning Journal Research Publications

Becker, D.L.
Becker, D.L. (2022) Afrofuturism and Art History: contemporary comic adoptions as methodology for decolonization. *Palgrave Studies in Comics and Graphic Novels*. 12 (2022). p.225-246.

Khoza, M.
Khoza, M. (2022) Seeing Blackness through Black Expressive Culture: A Reading of Zanele Muholi's Somnyama Ngonyama Hail the Dark Lioness. *Athens Journal of Humanities & Arts*. 8 (2022). p.1-25.

Nwigwe, C. and Fgláránmí, S.A.
Nwigwe, C., Fgláránmí, S.A. and Onuora, O. (2022) Covid-19 face mask rule, public distrust and artistic interventions in Nsukka, Nigeria. *Cogent Arts and Humanities*. 9 (1). p.1-17.

Tello, V.
Tello, V. and Valenzuela-Valdivia, S. (2022) A Partial History of South-South Art Criticism Juan Dávila's Collaborations with Art Text and Chilean Art Workers during the Pinochet Dictatorship, 1981 - 1990. *Third Text*. 35 (6). p.709-731.

Tume, O.
Tume, O. (2022) Awarawarirawa...Performing Statehood for Unity in the Nigerian National Festival of Arts and Culture. *South African Theatre Journal*. 34 (1). p.47-59.

Zhang, Z.L.F.

Sun, J.Y., Yuan, M. and Zhang, Z.L.F. (2022) Third World Crossings: Afro-Asian Travelogues in the Early 1960s. *Interventions*. 1 (1). p.1-8.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Dixie, C.

Dixie, C. Artist Talk/Walkabout on the exhibition *The Harbingers, at Hitting Home: Representations of the Domestic Milieu in Feminist Art*. Gallery of the SARCHI Chair in South African Art and Visual Culture, University of Johannesburg. South Africa. November 2022.

Dixie, C. Artist Talk/Walkabout on the exhibition *@Bathurst St., Makhandla*. Gallery of the SARCHI Chair of South African Art and Visual Culture, University of Johannesburg. South Africa. March 2022.

Dixie, C. Artist Talk/Walkabout on the exhibition *Blueprint for the Disorder of Things*. Wits Art Museum, Johannesburg. South Africa. May 2022.

Dixie, C. Artist Talk/Walkabout on the exhibition *The Astronomer, the Princess, and The Order of Things*. Wits Art Museum, Johannesburg. South Africa. September 2022.

Foláránmí, S.A.

Foláránmí, S.A. Josy Ajiboye's Women: Family, Advocacy and Reference. *6th Annual Lagos Studies Association (LSA) Conference*. University of Lagos, Lagos. Nigeria. June 2022.

Foláránmí, S.A. 110th College Art Association (CAA) Conference, Chicago USA (hybrid). *110th College Art Association (CAA) Conference*. Online. February 2022.

Goniwe, T.

Goniwe, T. Politics of Land Resources | Art and Politics-Panel Moderator. *National Institute for Humanities and Social Sciences Annual Doctorate Conference*. Pretoria. South Africa. 1 - 3 November 2022.

Goniwe, T. Township Subcultures of Consumption and Enjoyment - Panel Moderator. *Township Studies Conference*. University of Johannesburg. South Africa. 10 - 11 November 2022.

Goniwe, T. Provocation Roundtable. *Township Studies Conference*. University of Johannesburg. South Africa. 10 - 11 November 2022.

Goniwe, T. ukuNqakula as the Pedagogy Afrikan Time Music: Thinking with Herbie Tsoaeli. *Township Studies Conference*. University of Johannesburg. South Africa. 10 - 11 November 2022.

Goniwe, T. Thoughts on Work & Wait. *Making Art History Now*. Yale University History of Art and School of Art and The Space for Creative Black Imagination. 22 April 2022.

Goniwe, T. The last Modernism in South Africa is David Koloane's Thupelo Workshops. *Pioneers in Contemporary African Art*. Institut National D'Histoire Del'Art, Paris. France. 11 - 12 April 2022.

Goniwe, T. Reflecting on the Politics of Culture: The 1956 Black Writers Conference, Paris - Panel Chair. *Pioneers in Contemporary African Art*. Institut National D'Histoire Del'Art, Paris. 11 - 12 April 2022.

Goniwe, T. Intervention. *Tiyo Soga Studies Conference*. University of Johannesburg. South Africa. 24 - 26 March 2022.

Grobbeelaar, B.J.

Grobbeelaar, B.J. A Chinese Postcard on the Rand: Uncovering a Form of Silent Resistance. *African Studies Centre Research Seminar*. Online, South Africa. September 2022.

Khoza, M.

Khoza, M. Multi-Modes of Erasure: An analysis of the Art History and Visual Culture Curriculum. *A Focus on Pedagogy: Teaching, Learning and Research in the Modern Academy*. Virtual. April 2022.

Khoza, M. Black Feminism and Art Criticism. *13th Annual International Conference on Visual and Performing Arts*. 9 Chalkokondili Street, 10677 Athens. Greece. June 2022.

Linders, R.

Linders, R. camera_cuts_shot_ends. *Symposium for Artistic Research in Analogue Photography*. Process Space, Finnish Museum of Photography, Helsinki. Finland. 4 - 6 March 2022.

Makandula, S.

Makandula, S. Film Screening. Makhandla Ngoku. *Transforming Education for Sustainable Futures National Conference*. Cape Town. South Africa, December 2022.

Makandula, S. kwaNdancama: Akukho mbango ongenathuna. *Township Studies Conference*. University of Johannesburg. South Africa, November 2022.

Makandula, S. Conference Convenor. *Soga Conference Studies*. JIAS, University of Johannesburg. South Africa, March 2022.

Muvhuti, T.B.

Muvhuti, T.B. *The Stars are Bright: Exhibition of 1940s Cyrene Mission Artworks*. Contesting Ideologies and Legacies of Zimbabwe's

DIXIE To Be King at the Iwalewahaus Museum

Photo: Department of Fine Art





DIXIE The Astronomer, the Princess and The Order of Things

Photo: Department of Fine Art

Mainstream Art History. *African Studies Centre Research Seminar*. Faculty of Humanities Seminar Room, Makhanda. South Africa. November 2022.

Mwaba, S.M.

Mwaba, S.M. Presentation on his *Black Mountain* art series. *Biennale of Lumbumbashi*. Lumbumbashi, Democratic Republic of Congo. October 2022.

Olawale, Q.O.

Olawale, Q.O. Photographic Narratives of Police Brutality in Urban Space: Lagos, Nigeria End SARS Sága In Focus. *The 6th Annual Lagos Studies Association Conference*. University of Lagos, Lagos. Nigeria. June 2022.

Olawale, Q.O. Documenta XV, (Fridericianum) Kassel, Frankfurt Germany (A contemporary Art Collectives and artistic engagement). *Documenta XV, (Fridericianum) Kassel, Frankfurt Germany (A contemporary Art Collectives and artistic engagement)*. Kassel, Frankfurt. Germany. June 2022.

Olawale, Q.O. Attended an Actuvirtual Symposium titled Visual Culture and the Permission to Narrate. *Visual Culture and the Permission to Narrate Actuvirtual Symposium*. Johannesburg Institute for Advanced Study, University of Johannesburg. Johannesburg. South Africa. June 2022.

Olawale, Q.O. Border Jumping and the Control of Migration in Southern Africa. *An Actuvirtual Symposium of Johannesburg Institute for Advanced Study*. University of Johannesburg. Johannesburg. South Africa. June 2022.

Olawale, Q.O. Artivism, Visual Imagery and Police Brutality in Africa: A Nexus between the Culture of Torture and Torment. *Louisville & Conference on Literature and Culture Since 1900*. University of Louisville, Kentucky. USA. February 2022.

Olawale, Q.O. Ocean Space to Urban Space: Transforming Marine Plastic Debris to Artistic Up-cycled in Lagos, Nigeria (virtual conference). *Oceans as Archives conference*. University of Amsterdam, Amsterdam. Netherlands. July 2022.

Simbao, R.

Simbao, R. Invited Plenary. Re-burying the Remains of Chinese Martyrs: The Rumours, Controversies and Revised Solidarities of the New TAZARA Memorial Park in Zambia. Lingnan University, Hong Kong. *Chinese in Africa/Africans and Lingnan University symposium series*. Lingnan University. Online. January 2022.

Simbao, R. Convener of the seminar. *Distances and Intimacies: African and Chinese Entanglements in Art, Heritage and Material Culture*, in collaboration with the Centre for Cultural Research and Development at Lingnan University, Hong Kong. *Chinese in Africa/Africans and Lingnan University symposium series*. Lingnan University. Online. January 2022.

Simbao, R. Invited Keynote Address. Old Stories, Contemporary Politics, Shared Futures: Creative Power and Visual Narratives of Zambia-China Friendship. *The Centre for Chinese Visual Art (CCVA)* at the City University of Birmingham, Birmingham. UK. in collaboration with De Montfort University and the Arts and Humanities Research Council of the United Kingdom. December 2022.

Stanley-Niaah, S.N.

Stanley-Niaah, S.N. The Sound of Citizenship: Performance, Diaspora and Transgression. *Society for Ethnomusicology, Southeast and Caribbean Chapter Symposium*. Online. March 2022.

Stanley-Niaah, S.N. Dance and the Moving Image: Videography and Spectacle in Dancehall Culture. *7th Global Reggae Conference*. Institute of Caribbean Studies, UWI Mona Campus, Mona. Jamaica. February 2022.

Stanley-Niaah, S.N. Entertainment, Prohibition and Citizenship: Decolonial Thoughts on Caribbean Celebration. *Can we decolonise our shared heritage and public memory?* Scottish Graduate School in Arts and Humanities. Glasgow. United Kingdom. May 2022.

Stanley-Niaah, S.N. Sound Diasporas, Prohibition and Protest: New Explorations. *UWI/Leicester University 3rd International Summer School*. UWI Regional Headquarters, Leicester. United Kingdom. May 2022.

Thorburn, D.

Thorburn, D. Breaking Boundaries - Panel Chair. *IMPACT 12 International Printmaking Conference*. University of the West of England, Bristol. United Kingdom. September 2022.

Thorburn, D. Reflections on the Impact Zone. *IMPACT 12 International Printmaking Conference*. University of the West of England, Bristol. United Kingdom. September 2022.

Zhang, Z.L.F.

Zhang, Z.L.F. The route to/of Martin Abasi Phiri. *Chinese in Africa/Africans in China symposium*. Lingnan University. Online. January 2022.

Zhang, Z.L.F. Migrations of Objects as a Method: The Reincarnations of Consumer Wastes and Urban Decay at Mbare Art Space. *Comite International d'Histoire de l'Art (CIHA)-Brazil*. Online. January 2022.

Zhang, Z.L.F. The Reincarnation of a Colonial Beer Hall: (In)materiality, Labour and community in Mbare Art Space. *African Studies Association of Africa 4th biennale conference 2022*. University of Cape Town, Cape Town. South Africa. April 2022.

Zhang, Z.L.F. Translating the 'Third World': Shijie Wenxue and African literature in China (1953- 1966). *Revolutionary Papers Conference*. Online. April 2022.

Department of Geography

INTRODUCTION

Geography is a diverse discipline and this is reflected in the research of the Department. Current activities include the wild and augmented honeybush industry; land and agrarian reform; human mobility; the social dynamics of small towns; spatial dynamics related to heritage conservation; the impacts of dams on societies and river systems; soil erosion and sediment transfer; wetlands and their importance to society and the natural environment; applications of Geographical Information Systems (GIS) and Remote Sensing; Antarctic Geomorphology and Biogeomorphology; and climate change. Work continued on the Tsitsa project, which is a multi-institutional and departmental effort, and produces significant numbers of Postgraduates.



Professor Ian Meiklejohn - Head of Department

Not only is our research academically diverse but spatially extensive, with projects extending from the Nordic Arctic to Antarctica. The Department is extremely proud of our training of Postgraduate students and exposing them to the international research community. All those involved in such interactions have shown that Rhodes University, and the Department of Geography, are conducting research that is internationally relevant and of an international standard.

Postgraduates / Graduations

Four (4) MSc students completed their research and are graduating in the 2023 graduation ceremonies.

Distinguished Visitors / International Visits

Julia Heemstra, a Research Associate from Woods Hole, Wyoming, contributed to teaching in our Honours programme on Environmental Water Management. Her research is on providing water and related services using innovative, environmentally appropriate approaches. Professor Thembela Kepe, Head of the Department of Geography at Toronto University, Canada, visited and contributed to our research into land issues in the Pondoland region of the Eastern Cape and locally in Makhanda.

Significant Research Aligned Events

Staff and students participated in several local and international conferences, presenting a total of nine (9) papers.

Dr Sinenhlanhla Memela is a member of the South African Committee of the IGU (International Geographical Union), the IGU Task Force for Young and Early Career Geographers (YECG), and is also the Liaison Officer for SSAG (Society of South African Geographers) Chapter of the IGU Students and Young Professionals (SnP) group.

Laura Bannatyne is the current President of the Southern African Association of Geomorphologists (SAAG). She is coordinating the Biennial Conference of the Association which is being held in 2023 in the Hogsback mountains.

Emeritus Professor Kate Rowntree, PhD candidates Laura Bannatyne and Pippa Schegel, and Research Associate, Dr Bennie van der Waal continue with their research into sediment dynamics in the Tsitsa catchment. A key component of the research for Laura's PhD has been the involvement of community-based researchers who collected water and sediment samples, which serve as models for "Citizen Science". Since 2015, the Tsitsa Project partners, including the Department of Forestry, Fisheries and the Environment, local communities, the Rhodes University Department of Environmental Science and the Institute for Water Research, have co-developed a novel approach towards sustainable land management and rehabilitation with and for local land users. This integrated approach aimed to empower land users to maintain ecosystem services delivery and to avoid



The close-out Indaba of the Tsitsa Project hosted by the Institute for Water Research. PhD candidate, Laura Bannatyne featured in photo on the right, is one of the Principle Investigators for the project close-out phase from September 2022 to March 2023. Photo: Department of Geography

degradation. To this end, community members attended courses and interventions to build their capacity and agency to engage with local and district government structures, Catchment Management Forums, and traditional leadership structures. Small enterprise (SMME) development, climate change workshops, and learning interventions with community members aimed to raise awareness at family and SMME levels, and build their capacity to anticipate and mitigate the effects of climate change. Other individuals who resided in the Tsitsa River catchment were employed and trained to undertake biophysical monitoring and community social surveying, providing vital data for sustainable land management.

The project's final phase aimed to consolidate, conclude, and share the learning from these activities. Collected data were collated and curated and, via a two-day Indaba, shared with residents of the Tsitsa River Catchment, and with researchers, implementers, and government officials. It also supported the mentoring and capacity development of Groen Sebenza interns who assisted with this phase.

Gillian McGregor has extended her research into the honeybush industry, which is critical for policy development, specifically the Honeybush Community of Practice (HCOP). Postgraduate studies are focussed on the biological and social sustainability of the wild honeybush industry, *Cyclopia intermedia*, and is being extended to include cultivated species.



Remote Sensing formed a critical component of David Kinsler's MSc in collaborative research with the CIB (Centre for Invasion Biology) to map the dynamics of invasive water hyacinth.

Dr Sinenhlanhla Memela and Philippa Irvine are investigating land tenure practices, the sense of place, and "walkability" in the Makhanda area.

Three (3) students, under the tutorship and supervision of Professor Fred Ellery, completed their research on the rehabilitation of the wetlands in the Krom Valley and graduated.

Professor Ian Meiklejohn uses Remotely Sensed imagery to identify changes in the landscape of the uKhahlamba-Drakensberg Park. He also uses imagery to highlight the importance of landmasses in the Southern Ocean, especially the Marion and Prince Edward Islands.

Department of Geography

PUBLICATIONS

Peer Reviewed Subsidy-Earning Journal Research Publications

Bannatyne, L.J., Foster, I.D.L., Rowntree, K.M. and Van Der Waal, B.W.

Bannatyne, L.J., Foster, I.D.L., Rowntree, K.M. and Van Der Waal, B.W. (2022) Suspended sediment load estimation in a severely eroded and data poor catchment. *Hydrological Processes*. 1 (1). p.1-19.

Ellery, W.N.

Ellery, W.N. and Ellery, K. (2022) The Okavango Delta Peatlands. In: Eckardt, F.D. (eds) *Landscapes and Landforms of Botswana. World Geomorphological Landscapes*. Springer, p 37-56.

Lidzhegu, Z., Ellery, W.N. and Mantel, S.K. (2022) The geomorphic origin of large wetlands in Africa's elevated drylands: a Geographic Information System and Earth Observation approach. *South African Geographical Journal*. 105, p.134-156.

Grenfell, S.E., Grenfell, M.C., Tooth, S., Mehl, H. and Ellery, W.N. (2022) Wetlands in drylands: diverse perspectives for dynamic landscapes. *Wetlands Ecology and Management*. 30 (2022). p.1-16.

Foster, I.D.L.

Pulley, S., Zhang, Y., Copeland-Phillips, R., Vadher, A.N., Foster, I.D.L., Boardman, J. and Collins, A.L. (2022) A reconnaissance survey of channel bank particulate phosphorus concentrations, controls and estimated contributions to riverine loads across England. *Hydrological Processes*. 1 (1). p.1-12.

Hall, K.

Dixon, J. and Hall, K. (2022) 3.18 - Rock Decay in Cold Regions. In Schroder, J.F. *Treatise on Geomorphology (Second Edition)*. Academic Press, p 334-354.

Hoefnagels, N.H., Irvine, P.M. and Memela, S.

Hoefnagels, N.H., Irvine, P.M. and Memela, S. (2022) Makhandla: Exploring the mise-end-scene of a city under threat. *Urban Forum*. 2022 (2022). p.1-21.

Kepe, T.

Ibrahim, H.M., Abubakari, M., Akanbang, B.A.A. and Kepe, T. (2022) Resolving land conflicts through alternative dispute resolution: Exploring the motivations and challenges in Ghana. *Land Use Policy*. 120 (1). p.1-15.

Kinsler, D.L.

Coetzee, J.A., Paper, M.K., Miller, B.E., Kinsler, D.L., Cilliers, C. and Hill, M.P. (2022) Into Africa: *Salvinia minima Baker (Salvinaceae)* invades South Africa. *Rapid Communications in Mass Spectrometry*. 11 (4). p.1011-1018.

Coetzee, J.A., Miller, B.E., Kinsler, D.L., Sebola, K.M. and Hill, M.P. (2022) It's a numbers game: inundative biological control of water hyacinth (*Pontederia crassipes*), using *Megamelus scutellaris* (Hemiptera: Delphacidae) yields success at a high elevation, hypertrophic reservoir in South Africa. *Biocontrol Science and Technology*. 32 (11). p.1302-1311.

Lemahieu, A.

Rivers, N., Strand, M., Fernandes, M.A., Metuge, D., Lemahieu, A., Nonyane, C.L., Benkeinstein, A. and Snow, B. (2022) Pathways to integrate indigenous and local knowledge in ocean governance processes: Lessons from the Algoa Bay project, South Africa. *Frontiers in Marine Science*. 1 (1). p.1-15.

Miller, J.K., Rowntree, K.M. and Foster, I.D.L.

Miller, J.K., Rowntree, K.M., Foster, I.D.L., Reinwarth, B. and Baade, J. (2022) Application of environmental magnetism to estimate source contribution by lithology to Kruger National Park reservoirs. *Hydrological Processes*. 1 (1). p.1-20.

Nel, E.L.

Uko, U., Binns, T. and Nel, E.L. (2022) 'I lost my job suddenly, but I was prepared': the significance of urban and peri-urban agriculture in Benin City, Nigeria. *Agroecology and Sustainable Food Systems*. 47 (1). p.25-46.

Powe, N.A., Connelly, S. and Nel, E.L. (2022) Planning for small town reorientation: Key Policy choices within external support. *Journal of Rural Studies*. 1 (1). p.1-18.

Schlegel, P.K. and Van Der Waal, B.W.

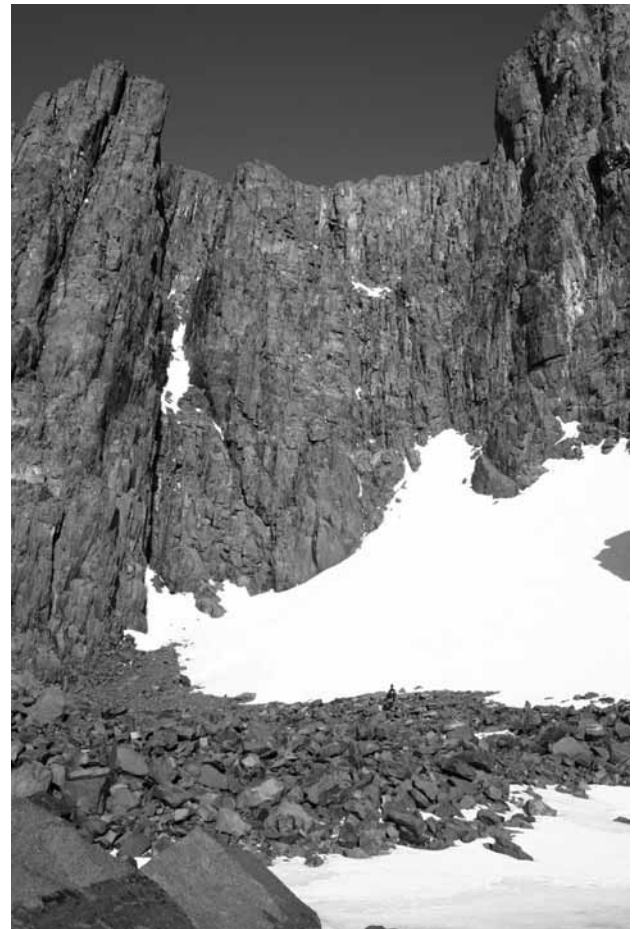
Wiener, K.D., Schlegel, P.K., Grenfell, S.E. and Van Der Waal, B.W. (2022) Contextualising sediment trapping and phosphorus removal regulating services: a critical review of the influence of spatial and temporal variability in geomorphic processes in alluvial wetlands in drylands. *Wetlands Ecology and Management*. 30 (1). p.737-770.

Van Der Waal, B.W.

le Roux, J., Morake, L., Van Der Waal, B.W., Anderson, R.L. and Hedding, D.W. (2022) Intra-gully mapping of the largest documented gully network in South Africa using UAV photogrammetry: Implications for restoration strategies. *Progress in Physical Geography*. 46 (5). p.772-789.

Weathering in cold regions. A highly weathered landscape, which is part of the Grunehogna Massif in Droning Maud Land, Antarctica.

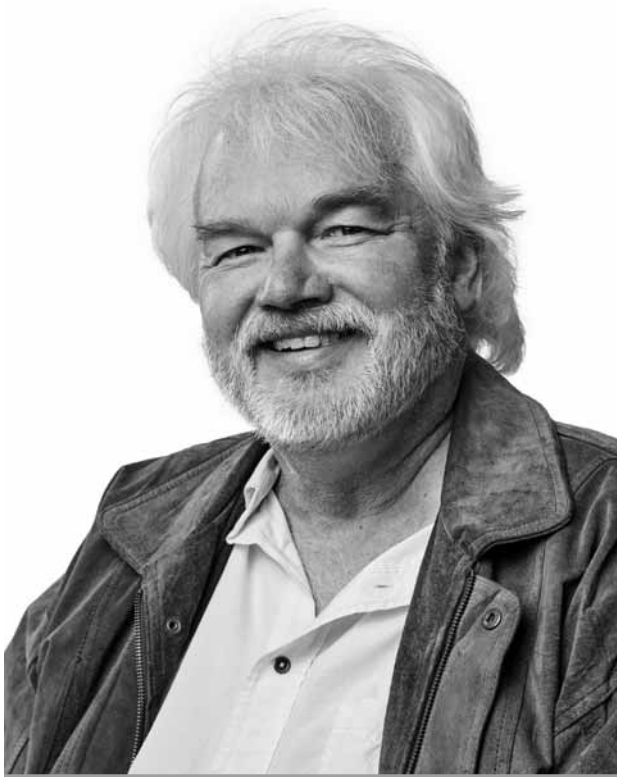
Photo: Department of Geography



Department of Geology

INTRODUCTION

The Department of Geology in 2022 consisted of three (3) full time academic staff members and one (1) part-time nGAP lecturer, four (4) research associates, and two (2) vacant posts. In spite of these staffing challenges, the department graduated eleven (11) Postgraduate students and published eleven (11) journal research articles, fourteen (14) conference abstracts, and a book. The departmental staff continued to punch above their weight and to maintain their high profile in terms of national and international participation in geoscience activities, looking optimistically to 2023, where even more productivity and participation await.



Professor Steve Prevec - Head of Department

Postgraduates / Graduations

The Geology Department graduated five (5) MSc students, and six (6) Honours students in 2022.

Distinguished Visitors / International Visits

Dr Eugene Grosch hosted Professors Daniel Aslanian and Marina Rabineau from IFREMER, University of Brest, France. In January 2022, Dr Thibedi Ramontja (formerly the Director of the Council for Geoscience, now employed as an independent consultant) visited the department and undertook a day of regional sample collection of ancient glacial deposits as part of an ongoing climate change study, with the geological and logistical assistance of Professor Prevec.

Significant Research Aligned Events

Dr Nicola McLoughlin, a Senior Research Associate of the department, was awarded a B2 rating by the NRF. Dr Eugene Grosch was invited to join the editorial board of the international journal *Lithosphere* as Associate Editor, and Professor Steve Prevec was invited to become coeditor (one of two) of the international journal *The Canadian Mineralogist*, which he commenced in May 2022. Dr Roger Scoon, a Research Associate of the department, published a new book entitled "Geological Highlights of East Africa's National Parks", published by Struik (in addition to regular quarterly contributions as "The Geotraveller" in the quarterly magazine of the Geological Society of South Africa). Professor Prevec continued to edit and produce the quarterly magazine of the *Mineralogical Society of South Africa* (Minsa), and also contributed regularly to the international magazine of the *Geochemical Society, Elements*, on behalf of the Mineralogical Association of Canada.

Ms Siyasanga Dyan, a recent MSc graduate (and currently a PhD candidate in the department) was awarded the 2022 Book Prize of the Mineralogical Society of South Africa for her MSc thesis, "Constraining the role of carbonate assimilation on spinel stability in the Upper Critical Zone of the Bushveld Complex, South Africa", in recognition of its high standard in South African geoscience with a mineralogical theme (the prize included an award letter, R2000 towards attendance at the 2023 national geological conference, and a book). Professor Prevec was promoted from Associate to Full Professor in 2022, and also obtained an NRF C rating.

Dr Grosch was invited to give presentations to the Geological Society of Africa entitled "Was plate tectonics operating on the Paleoproterozoic Earth? Insights from the Barberton Greenstone Belt, South Africa" and to the Department of



Geology Honours students Anam Vuthu and Anaye Pepu (L-R) sample kaolinitic clays north of Makhanda for their Honours research projects.

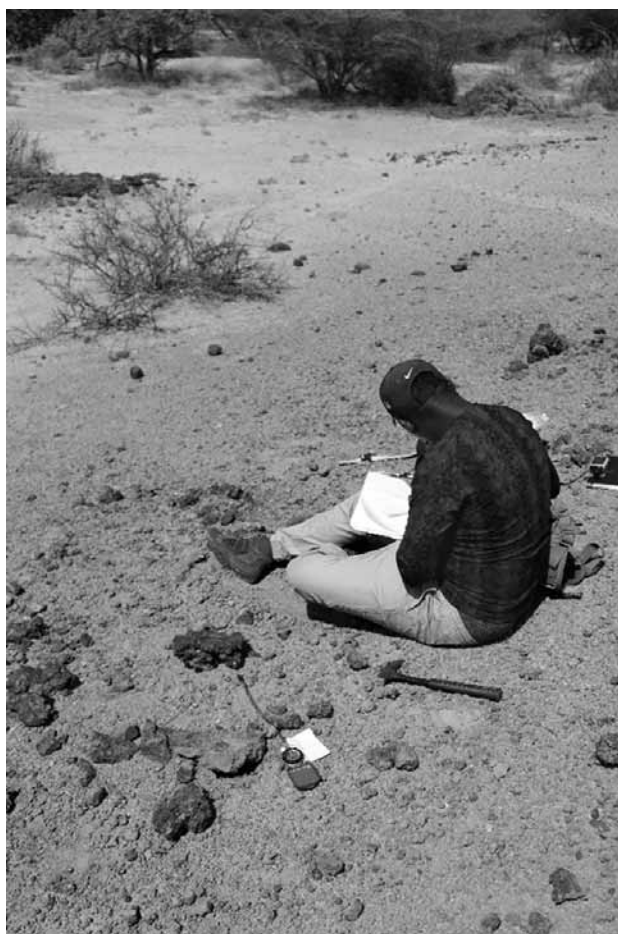
Photo: S. Prevec

Earth Science, Durham University in the United Kingdom, which was entitled “Geological and petrological evidence for oceanic plate tectonic processes operating on the Paleoproterozoic Earth”. Professor Prevec was invited to give a 45-minute keynote presentation “on the importance of geosites” at the Geological Society of South Africa’s Geoheritage conference in May 2022.

New research initiatives and collaborations

Mr Mavuso was co-Principal Investigator, with Dr Kathryn Ranhorn (Arizona State University, USA) of a research proposal entitled “Refining the Later Pleistocene Geoarchaeological Record of the Turkana Basin”, funded by the Turkana Basin Institute. Dr Nicola McLoughlin served on the scientific committee of MFed (Microbialite Formation Evolution and Diagenesis). Dr Rob Gess became an invited associate of a new global research program, funded by the European Research Council, hosted by Uppsala University and led by Professor Per Ahlberg: Tracking our ancestors across the Devonian world: a new multidisciplinary approach to the origin of tetrapods.

Professor Prevec and Dr Grosch began collaborations with Dr Vincent Smith and Dr Ebenezer Baa in the XRD lab in the Department of Chemistry relating to clay mineral analysis. Dr Grosch also collaborated with Dr David Murphy (QUT,



Silindokuhle Mavuso (Rhodes Geology) examining sedimentary deposits associated with early Homo species in the Koobi Fora Formation, Turkana Basin, in northern Kenya.

Photo S. Mavuso

Australia) on early Earth geochemistry, and with Professor Jeroen van Hunen (Durham, UK) on early Earth geodynamics. Mr Mavuso collaborated with Dr Kathryn Ranhorn (Institute of Human Origins, Arizona State University), Dr Ashley Hammond (American Museum of Natural History, New York City, USA), Dr Tebogo Makhubela (University of Johannesburg), Dr Amelia Villaseñor (Department of Anthropology, University of Arkansas, USA), and Dr Benjamin Collins (University of Manitoba, Canada).

Dr Nicola McLoughlin initiated a collaboration with Dr Nicolas Saintilan (ETHZ, Switzerland) relating to Re-Os dating. Dr Robert Gess, a Research Associate of the department, collaborated with Professor PE Ahlberg, Uppsala University, Department of Organismal Biology, Sweden (research on sarcopterygians), Dr C Prestianni, Liege University, Evolution and Diversity Dynamics Laboratory (EDDy Lab), Geology Department, Belgium (research on Devonian plants), Professor M Coates, University of Chicago, Department of Organismal Biology and Anatomy, USA (Research on chondrichthyans), and Professor K Trinajstić, Curtin University, School of Molecular and Life Sciences, Australia (research on placoderms).

Books/Chapters/Monographs

Mavuso, S.S.

Mavuso, S.S. and Makhubela, T. (2022) An overview of the geology of paleoanthropological and archaeological sites of South Africa. In: Montenari, M. (ed.). *Stratigraphy & Timescales*. 7th Ed: p.221-268. ISBN: 9780323989138.

McCloughlin, N.

McCloughlin, N. (2022) *Encyclopedia of Astrobiology*. 3rd Ed. New York: Springer. ISBN: 9783642278334.

Scoon, R.

Scoon, R. (2022) *Geological Highlights of East Africa's National Parks*. Cape Town: Struik Nature. ISBN: 9781775847786.

Creative Writing

Prevec, S.A.

Prevec, S.A. (2022) Elements v. 18 #2. In: *The Canadian Mineralogist*. 18th Ed. Chantilly, Virginia, USA: Mineralogical Society of America.

Prevec, S.A. (2022) Elements v.18 #4. In: *The Canadian Mineralogist News*. 18th Ed. Chantilly, Virginia, USA: Mineralogical Society of America.

Prevec, S.A. (2022) The Geode: Mineralogical Society of South Africa quarterly magazine. In: *Editor's columns (4)*. Johannesburg, R.S.A.: Mineralogical Society of South Africa.

Distinguished Visitors

Grosch, E.G.

Grosch, E.G. University of Brest, Brest, France. *Research Collaboration, Professor Daniel Aslanian and Professor Marina Rabineau*. October 2022.

Prevec, S.A.

Prevec, S.A. Independent consultant, Johannesburg, South Africa. *Visit of Dr Thibedi Ramontja for research sampling collaboration*. January 2022.

International Visits

Grosch, E.G.

Grosch, E.G. Durham University, Durham, UK. *Research visit, University of Durham UK*. 11 - 14 April 2022.

Peer Reviewed Subsidy-Earning Journal Research Publications

Chakraborty, T.

Chakraborty, T., Upadhyay, D. and Abhinay, K. (2022) Tourmaline growth in pelitic schist and quartzite: A textural, chemical and B-isotopic study from the Gangpur Schist Belt, eastern India. *Geochemistry*. 82 (1). p.125887-125905.

Chakraborty, T. (2022) Michigan Indian Education Before and After 1934: From Oppression to Neglect. *The Michigan historical review*. 48 (1). p.63-80.

Chakraborty, T., Kankuzi, C.F. and Buttner, S.H.

Chakraborty, T., Kankuzi, C.F., Glodny, J., Feri, D. and Buttner, S.H. (2022) The timing and tectonic context of Pan-African gem bearing pegmatites in Malawi: Evidence from RbSr and UPb geochronology. *Journal of African Earth Sciences*. 197 (2023). p.1-13.

Chukwuma, K. and Tsikos, H.

Chukwuma, K., Tsikos, H., Wagner, N. and Frazenburg, N. (2022) Dual sea-level-climatic controls on the stratigraphic distribution of total organic carbon content and macerals in the Permian black



Silindokuhle Mavuso (Rhodes Geology) examining sedimentary deposits associated with early Homo species in the Koobi Fora Formation, Turkana Basin, in northern Kenya.

Photo S. Mavuso

shales of southwest Gondwana. *Journal of African Earth Sciences*. 188 (2022). p.1-23.

De Klerk, W.J.

Forster, C.A., De Klerk, W.J., Poole, K.E., Chinsamy Turan, A., Roberts, E.M. and Ross, C.F. (2022) Iyuku raathi, a new iguanodontian dinosaur from the Early Cretaceous Kirkwood Formation, South Africa. *Anatomical Record-Advances in Integrative Anatomy and Evolutionary Biology*. p.1-42.

Gess, R.

Harris, C. and Gess, R. (2022) Insights from a monospecific lingulid brachiopod bed in the Late Devonian of South Africa. *Palaios*. 37 (9). p.471-485.

Gotz, A.E.

Omietimi, E.J., Lenhardt, N., Yang, R., Gotz, A.E. and Bumby, A.J. (2022) Sedimentary geochemistry of late Cretaceous-Paleocene deposits at the southwestern margin of the Anambra Basin (Nigeria): Implications for paleoenvironmental reconstructions. *Palaeogeography, Palaeoclimatology, Palaeoecology*. 600 (2022). p.1-16.

Gotz, A.E. and UHL, D. (2022) Triassic Micro-Charcoal as a Promising puzzle piece in Palaeo climate Reconstruction: An example from the Germanic basin. *Annales Societatis Geologorum Poloniae*. 92 (2022). p.219-231.

Grosch, E.G. and McCloughlin, N.

Grosch, E.G., McCloughlin, N. and Whitehouse, M. (2022) Multiple sulphur isotope record of Paleoproterozoic sedimentary rocks across the Onverwacht Group, Barberton Greenstone Belt, South Africa. *Geobiology*. 21 (3). p.12542.

Grosch, E.G., Ndlela, S. and McCloughlin, N.

Grosch, E.G., Ndlela, S., Murphy, D., McCloughlin, N., Trubac, J. and Slama, J. (2022) Geochemistry of mafic-ultramafic rocks of the 3.33 Ga Kromberg type-section, Barberton greenstone belt, South Africa: Implications for early Earth geodynamic processes. *Chemical Geology*. 605 (1). p.120947.

Marsh, J.S.

Antoine, C., Spikings, R., Miletic, D., **Marsh, J.S.**, Gaynor, S. and Schaltegger, U. (2022) 40Ar/39Ar geochronology of the Drakensberg continental flood basalts: Understanding large argon isotopic variations in mafic groundmass and plagioclase size fractions. *Chemical Geology*. 610 (1). p.1-27.

McCloughlin, N.

McCloughlin, N., Li, M., Wacey, D., Martin, L.A.J., Shen, Y. and Beukes, A. (2022) Microbial sulphur-cycling and atmospheric signatures in the 2.52 Ga Gamohaan Formation, South Africa. *Earth and Planetary Science Letters*. 1 (1). p.1-15.

Moore, A.E.

Moore, A.E. and Roberts, M. (2022) Kimberlites, Kimberlite Exploration, and the Geomorphic Evolution of Botswana. *World Geomorphological Landscapes*. 2022 (2022). p.263-285.

Prevec, S.A.

Barnes, S.J., Mansur, E.T., Maier, W.D. and **Prevec, S.A.** (2022) A comparison of trace element concentrations in chromite from komatiites, picrites and layered intrusions: Implications for the formation of massive chromite layers. *Canadian Journal of Earth Sciences*. p.1-30.

Siahi, M., Rafuza, S., Mhlana, X.R. and Oonk, P.B.H.

Tsikos, H., **Siahi, M., Rafuza, S., Mhlana, X.R., Oonk, P.B.H.**, Papadopoulos, V., Boyce, A., Mason, P.R.D., Harris, C., Gröcke, D.R. and Lyons, T.W. (2022) Carbon isotope stratigraphy of Precambrian iron formations and possible significance for the early biological pump. *Gondwana Research*. 109 (2022). p.1-13.

Tsikos, H.

Heard, A.W., Bekker, A., Kovalick, A., **Tsikos, H.**, Ireland, T. and Dauphas, N. (2022) Oxygen production and rapid iron oxidation in stromatolites immediately predating the Great Oxidation Event. *Earth and Planetary Science Letters*. 582 (2022). p.1-15.

Peer-reviewed Proceedings

Gess, R.

Gess, R. Ovule and ovule-like structures in the Famennian of South Africa. *11th European Palaeobotany and Palynology Conference*. Stockholm, Sweden. July 2022.

Gess, R. and Ahlberg, P.E. A new Famennian species of Hyneria from the terra incognita of southern Gondwana evidence from the Waterloo Farm Lagerstätte in South Africa. *16th International Symposium on Early and Lower Vertebrates*. Valencia, Spain. June 2022.

Grosch, E.G.

Grosch, E.G., Abu-Alam, T. and Slama, J. On the geology and petrology of the 3.48 Ga Barberton komatiitesuite, South Africa. *28th Colloquium of African Geology*. Fez, Morocco. July 2022.



Grosch, E.G. and Khetsi, D.K.

Abu-Alam, T., **Grosch, E.G.** and **Khetsi, D.K.** Neoproterozoic tectono-thermal evolution of Sinai metamorphic complexes. *Goldschmidt Geochemistry conference*. Honolulu, Hawaii. USA. July 2022.

McCloughlin, N. and Grosch, E.G.

McCloughlin, N., **Grosch, E.G.**, Saunders, M. and Wacey, D. Probing the Archean Sub-Seafloor Hydrothermal Environment for Early Traces of Life. *Goldschmidt Geochemistry Conference*. Honolulu, Hawaii. USA. July 2022.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Gess, R.

Gess, R. and Ahlberg, P.E. A new Famennian species of Hyneria from the terra incognita of southern Gondwana - evidence from the Waterloo Farm Lagerstätte in South Africa. *16th International Symposium on Early and Lower Vertebrates*. Valencia, Spain. June 2022.

Gess, R. Reconstruction of the high-latitude Late Devonian (Famennian) Waterloo Farm Lagerstätte from the Witpoort Formation (Witteberg Group, Cape Supergroup) of South Africa. *Proceedings of the 21st Biennial Conference of the Palaeontological Society of Southern Africa*. Golden Gate Highlands, Free State. South Africa. September 2022.

Gess, R. Implications of non-ammocoete larvae in the earliest known lampreys. *21st Biennial Conference of the Palaeontological Society of Southern Africa, Golden Gate*. Golden Gate Highlands, Free State. South Africa. September 2022.

Harris, C., Jinnah, Z. and **Gess, R.** Zoophycos (Spirophyton) trace fossils from marginal marine settings in the Witpoort Formation (Witteberg Group). *21st Biennial Conference of the Palaeontological Society of Southern Africa conference*. Golden Gate Highlands, Free State. South Africa. September 2022.

Grosch, E.G.

Grosch, E.G. Was plate tectonics operating on the Paleoproterozoic Earth? Insights from the Barberton Greenstone Belt, South Africa. *Geological Society of Africa, monthly seminar series*. Fez, Morocco. March 2022.

Nel, R. and Gess, R.

Nel, R., **Gess, R.** and Trinajstić, K.M. Insight into the morphological disparity in the rarely preserved soft tissue portion of antiarch placoderm fish, *Bothriolepis Africana*. *Proceedings of the 21st Biennial Conference of the Palaeontological Society of Southern Africa conference*. Golden Gate Highlands, Free State. South Africa. September 2022.

Nel, R., Trinajstić, K.M. and **Gess, R.** Insight into the morphological disparity in the rarely preserved soft tissue portion of antiarch placoderm fish, *Bothriolepis africana*. *Annual Student Symposium for Natural Science*. Pretoria. South Africa. November 2022.

Prevec, S.A.

Prevec, S.A. On the importance of Geoheritage. *Geological Society of South Africa Geoheritage Conference*. Online, Johannesburg. South Africa. May 2022.

Dr Deon van Niekerk and Professor Steve Prevec (not pictured) examine the upper contact between an igneous intrusion and overlying sedimentary rocks in Cradock.

Photo: S. Prevec

Department of History

INTRODUCTION

With the re-opening of archives in the aftermath of the Covid-19 pandemic, members of the Department have managed to complete a number of delayed projects and begin working on new ones. Completed research has spanned topics ranging from biography, the history of the Communist Party of South Africa/ South African Communist Party, memory studies, identity, food security/environmental history, the history of universities in South Africa, mining history to creative history. One of the refreshing aspects of the research culture in the Department is the range of interests and passions of staff members.



Associate Professor Alan Kirkaldy
- Head of Department

Postgraduates / Graduations

The closure of archives and travel restrictions during the Covid-19 pandemic delayed the completion of a number of Postgraduate research projects. The Department nevertheless graduated two (2) Honours students with distinctions and a PhD in History. Topics for the Honours theses awarded with distinction included "Blood, Sweat and Sand: Competitive fighting in ancient Greece" and "The Significance of Cecil John Rhodes' Grave in the Matopo Hills in Zimbabwe". The successful PhD thesis was entitled: "Saul Msane: Friend or Foe of the people? The life of the late nineteenth to early twentieth centuries South African politician and journalist". Two (2) Masters theses were submitted during the course of the year and should form part of next year's graduation ceremonies.

Distinguished Visitors / International Visits

Professor Derek Catsam, Professor of History and Kathlyn Cosper Dunagan, Professor in the Humanities at the University of Texas-Permian Basin and a Senior Research Associate in the Department, presented a seminar in the field of Sports History and ran a writing course for Postgraduate students while visiting us during the course of the year.

Significant Research Aligned Events

Since the outbreak of the covid-19 pandemic, the Department's popular History in the Making seminar series has been run online. In 2022 we returned to face-to-face seminars but retained an online component so that speakers and participants could join us by Zoom link from other universities in South Africa, other parts of Africa and overseas.

Professor Kirkaldy launched his book *Everyday Communists in South Africa's Liberation Struggle at Amazwi* (The South African Museum of Literature) on 25 June 2022. This took the form of a discussion between himself and Professor Paul Maylam. It formed part of the programme of the National Festival of the Arts. The event was well attended by Rhodes staff and the wider public and proved to be highly successful.

The Department will be hosting the Biennial conference of the Historical Association of South Africa in 2023. A committee consisting of Professor Kirkaldy, Ms Xolisa Nontyi (the Departmental Administrator) and Mr Efstratios Zacharellis (a Postgraduate student) has been hard at work with early planning for this significant event. Between eighty (80) and one hundred (100) delegates are expected from South Africa, other parts of Africa, Europe and the United States of America.

Books/Chapters/Monographs

Baines, G.F.

Baines, G.F. (2022) 'From Reconciliation to Contentious Co-existence: Memory Work and Wars in Post-Apartheid South Africa'. In: *The Legacy of a Troubled Past: Commemorative Politics in South Africa in the 21st Century*. Liverpool: Presses Universitaires de Provence. p.185-202. ISBN: 9791032003497.

Kirkaldy, A.

Kirkaldy, A. (2022) *Everyday Communists in South Africa's Liberation Struggle*. Switzerland: Palgrave Macmillan. ISBN: 9783030839215.

Maylam, P.

Maylam, P. (2022) "The Rise and Fall of an Empire-builder: Cecil John Rhodes, 1853-1902". In: Ghazanfar, S.M. and Eddy, R. (eds.). *From Columbus to Churchill: Heroes, Villains, and Confronting Racism*. South Africa: Mazda Publishers. p.168-187. ISBN: 9781568593890.

Concerts, Exhibitions, Performances, Workshops, Events

Madimu, T.

Madimu, T. Presenter. Banking on the Margins: Development and growth of 'parallel' money transfer and banking systems amongst Africans in colonial Zimbabwe. *African Economic History Network*

Annual Meeting. University of Las Palmas de Gran Canaria, Canary Islands. Spain. 13-14 October 2022.

Thumbran, J.D.

Thumbran, J.D. Presenter. Thinking the Coloured Question at the Stellenbosch University and the University of Pretoria. *National Workshop: Histories of Universities in South Africa*. Stellenbosch Institute for Advanced Study, Stellenbosch. South Africa. 15 - 18 May 2022.

Thumbran, J.D. Presenter. Building a separate and single coloured society, 1960-the present. *African Critical Inquiry Programme: Unsettling the Single Society*. North West University, Potchefstroom. South Africa. 20 - 22 April 2022.

Peer Reviewed Subsidy-Earning Journal Research Publications

Dhodho, C.

Dhodho, C. (2022) Letting Them Starve: The 2008 Food Crisis and Marginalisation of the Tonga of Binga in Zimbabwe. *Springer Geography*. 2022 (2022). p.157-171.

Madimu, T.

Madimu, T. (2022) 'Illegal'gold mining and the everyday in post-apartheid South Africa. *Review of African Political Economy* 49 (173). p.436-451.

Maylam, P.

Maylam, P. (2022) The Life and Work of a South African Economist: Desmond Hobart Houghton, 1906-1976. *Journal of the History of Economic Thought*. 44 (4). p.509-526.

Thumbran, J.D.

Thumbran, J.D. (2022) Transporting the Bus Stop Republic Resilience and Apartheid Transport Infrastructure, 1979 to present times. *Social Dynamics*. 48 (1). p.16-28.

Thumbran, J.D. and Sacks, R. (2022) Rethinking resilience: South Africa and self-reliance. *Social Dynamics*. 48 (1). p.2-15.

Left to right: Professor Alan Kirkaldy, Efstratios Zacharellis (Masters student), Abigail Puleng Kirkaldy, Hannah Tshirukhswe Kirkaldy and Tessa Kirkaldy at the book launch, National Arts Festival 2022. Photo Department of History





The launch of "Everyday Communists in South Africa's Liberation Struggle" (pictured below) which formed part of the National Arts Festival. It took the form of a dialogue between Professor Alan Kirkaldy and Emeritus Professor Paul Maylam.

Photo Department of History

Thumbran, J.D. (2022) Forging an Alternative to Separate Development: Afrikaner Sociology, the Apartheid State, and the Coloured Question (c.1932-1984). *South African Historical Journal*. 73 (4). p.836-858.

Wells, J.C.

Wells, J.C. (2022) The Hidden African Education of Thomas Stubbs, a Young 1820 Settler. *Bulletin of the National Library of South Africa (Former Quarterly Bulletin of the National Library of South Africa)*. 76 (1). p.33-54.

Wells, J.C. (2022) Performing Invisible Stories through Creative History: Escaping with Piet, a Gona-Xhosa from South Africa, 1820. *The Public Historian*. 44 (1). p.7-26.

Research Papers Presented at Academic/ Scientific Conferences (Non-peer-reviewed Proceedings)

Baines, G.F.

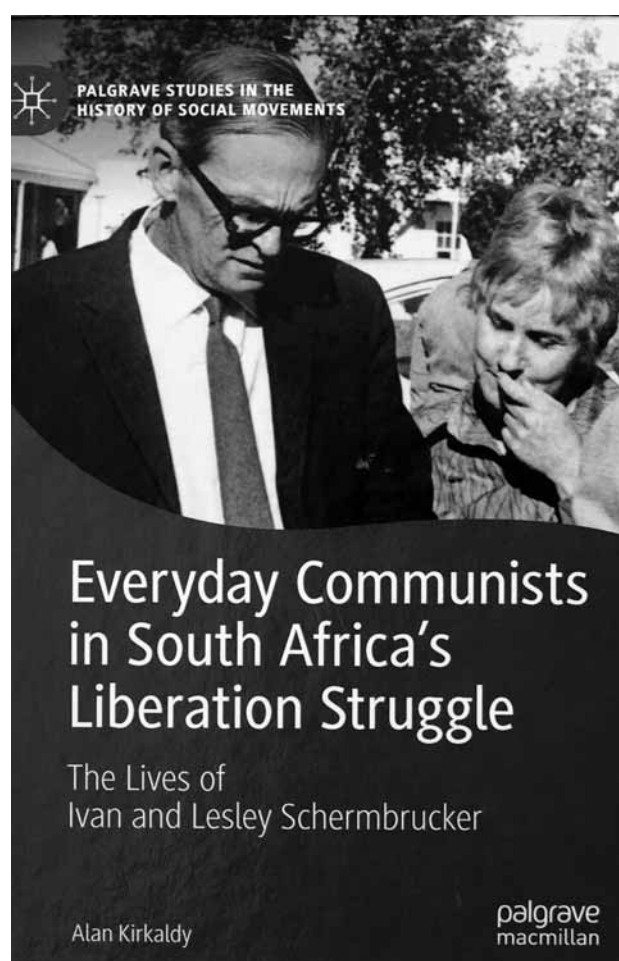
Baines, G.F. 'Commemorative stamps as memorials in the South African national project, c.1933-1952'. *6th World Conference of the International Federation of Public History (IFPH)*. Freie Universität, Berlin. Berlin. August 2022.

Maylam, P.

Maylam, P. 'Writing the history of South African universities: trends and themes'. *Research project on the Histories of Universities in South Africa*. Institute for Advanced Study, Stellenbosch. South Africa. May 2022.

Thumbran, J.D.

Thumbran, J.D. The coloured question goes North: Afrikaner nationalism and the nasie-in-wording. *Southern African Historical Association*. Premier Hotel, East London, East London. South Africa. June 2022.



Department of Human Kinetics and Ergonomics (HKE)

INTRODUCTION

The research outputs from the Human Kinetics and Ergonomics Department (HKE) reflect the diversity of the subject both in the publications and the research focus of Postgraduate students. The department adopts a systems approach to understanding human movement in context, be it in activities of daily living, on the sports field or in the work environment. We are fortunate to have global experts in both the fields of sports science and in human factors and ergonomics in which this knowledge is applied as reflected in the report. Professor Christie continues to be a global leader in the field of physical activity leading South Africa's contribution to the global physical activity report card highlighting the vital role that physical activity should play in promoting well-being. While Dr Davy has continued to develop a strong global presence in the field of sleep research and its application to a variety of contexts.



Dr Swantje Wells - Head of Department

Postgraduates / Graduations

Considering the size of the staff five (5) academic staff and two (2) administrative staff, the department has done an exceptional job in 2022, with a total of fifty (50) Postgraduate students entering our program for the year (seven (7) PhD, thirty-five (35) MSc and eight (8) honours). We were also able to host a very successful graduation in 2022 with a total of forty (40) students obtaining their bachelor's degree, fourteen (14) Honours graduates and an impressive nine (9) Master of Science graduates. A special mention should be made of Dr Davy who fulfilled the function of primary supervisor for four (4) of the MSc graduates and co-supervisor for a further two (2), an excellent contribution by any account.

Distinguished Visitors / International Visits

Andrew Todd represented the HKE department at the ULAERGO (Union of Latin American Ergonomics Associations) conference in Merida, Mexico from the 5 - 8 October 2022, in his capacity as chair of strategic development and implementation for the International Ergonomics Association (IEA). At the congress he ran a pre-congress day workshop on "Development of education programs to grow Human Factors and Ergonomics in emerging HFE societies". While at the congress he also presented an address on "Using Human Factors and Ergonomics to promote sustainable development".

Andrew also represented the department in November in Delft, The Netherlands. He firstly attended the IEA executive committee and council meetings where he presented on the work, he is doing to strengthen the implementation of the strategic goals of the IEA. He then attended the HEPS (Healthcare Systems Ergonomics and Patient Safety) congress, during which he participated in the World Health Organisation special review session (invite only) on IEA/WHO Guidance Document: Applying HFE to Health Care for Patient and Health Care Worker Safety.

Significant Research Aligned Events

In response to the initiation of the hard lockdown in March 2020, Dr Davy initiated and drove a research collaboration between three (3) universities (Rhodes, University of the Witwatersrand and University of Cape Town), which saw the development and dissemination of the survey that explored the effects of the Covid-19 associated hard lockdown (compared to pre-lockdown) on the sleep, mental health and lifestyle changes which were disseminated nationally. From this research, two (2) journal articles were published. This collaboration has translated into the group being offered a significant research grant from the Wellcome Trust under the Mental Health Award: Integrating sleep and circadian science into our understanding and treatment of anxiety, depression and psychosis. The research will focus on understanding the interaction between changes in sleep-wake behaviour and

mental health in adolescents from low socioeconomic groups in South Africa and the United Kingdom. This research is due to begin in 2024. Over and above the research, the collaboration also contributed to a firm base for establishing the South African Society for Sleep and Health (SASSH) (<https://sassh.org.za/>), officially constituted in 2021. SASSH brings together clinical, allied health professionals and researchers to drive developments in sleep medicine clinical practice and research around the importance of good quality sleep for health. Part of SASSH's activities includes holding bi-annual conferences - in September of 2022, Dr Davy co-convened the 1st congress of the society under the theme of 'Foregrounding good sleep as part of holistic health in uncertain times'. This is a significant contribution to the development of research within this critical area by Dr Davy, he deserves the departments congratulations.

Luke Goodenough, the Principal Technical Officer attended the biomechanics society of South African congress hosted in Pretoria, which leading researchers in Sports medicine, biokinetics, sport and health development, sports medicine and biomechanics attended. Luke was able to participate in various sessions that focus on the implementation of the latest equipment, methods and techniques for research in human performance. This access was instrumental in guiding the department towards its most recent equipment acquisitions guiding our research trajectory and allowing the department to participate in research focussed on technology and intellectual property development, a new area for the department.

Dr Jonathan Davy with two MSc students (Chumani Mona and Daryl Clark) at the SASSH congress that he co-convened.

Photo: HKE



Department of Human Kinetics and Ergonomics (HKE)

PUBLICATIONS

Other Publications

Davy, J., Christie, C.J. and Zschoernack, S.

Davy, J., Christie, C.J. and Zschoernack, S. (2022) Author Correction: The impact of sleep, physical activity and sedentary behaviour on symptoms of depression and anxiety before and during the COVID-19 pandemic in a sample of South African participants (Scientific Reports (2021) 11 1 (24059)). In: *Scientific Reports*. Switzerland: Springer Nature.

Peer Reviewed Subsidy-Earning Journal Research Publications

Campbell, B.C., Davy, J., Pote, L. and Christie, C.J.

Campbell, B.C., Davy, J., Pote, L. and Christie, C.J. (2022) The effect of time of day on adolescent fast bowling performance: A pilot study. *International Journal of Sports Science and Coaching*. 1 (10). p.1-10.

Christie, C. J.

Aubert, S., Barnes, J. D., Demchenko, I., Hawthorne, M., Abdeta, C., Abi Nader, P., Adsuar Sala, J. C., Aguilar-Farias, N., Aznar, S., Bakalár, P., Bhawra, J., Brazo-Sayavera, J., Bringas, M., Cagas, J. Y., Carlin, A., Chang, C., Chen, B., Christiansen, L. B., **Christie, C. J.**, De Roia, G. F., *et al.* (2022). Global Matrix 4.0 Physical Activity Report Card Grades for Children and Adolescents: Results and Analyses From 57 Countries. *Journal of Physical Activity and Health*, 19(11), 700-728.

Weldon, A., Duncan, MJ, Turner, A, LaPlaca, D, Sampaio, J, and **Christie, C.J.** (2022). Practices of strength and conditioning coaches: a snapshot from different sports, countries, and expertise levels. *Journal of Strength and Conditioning Research*. 36(5): 1335-1344.

Davy, J.

Qureshi, S.M., **Davy, J.** and Buckley, K. (2022) The barriers and opportunities to support the early career academics and professionals in human factors/ergonomics-revisiting reflections from IEA2015, IEA2018 & IEA2021. *Work*. 73 (1). p.67-80.

Peer-reviewed Proceedings

Todd, A. and Davy, J.

Thatcher, A., **Todd, A., Davy, J.** and Metson, G.S. Ergonomics in the Design of a Greywater Treatment System for an Urban Informal Settlement. *Human Factors and Ergonomics Society Annual meeting*. Washington Hilton Hotel, Washington. USA. October 2022.

Zschoernack, S.

Wells, G., **Zschoernack, S.** and Tsaoane, M.L. The Design and Implementation of a Mobile Application to Decrease Occupational Sitting. *Southern Africa Telecommunication Networks and Applications Conference (SATNAC) 2022*. Fancourt, George. South Africa. August 2022.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Davy, J., Christie, C.J. and Zschoernack, S.

Davy, J., Christie, C.J. and Zschoernack, S. The Interrelationship of Insomnia Symptoms, Physical Activity and Sedentary Behaviour on Symptoms of Depression and Anxiety Before and During the COVID-19 Pandemic Lockdown. *Sleep Medicine*. January 2022.

Dlepu, P., Mandondo, N., Wells, S. and Davy, J.P.

Dlepu, P., Mandondo, N., Wells, S. and Davy, J.P. (2022). Characterizing the sleep wake behaviour of late adolescents living in rural and township areas surrounding Alice in the Eastern Cape of South Africa (2022). *First Congress of the South African Society for Sleep and Health*. Cape Town.

Borchard, S., Zahn, M., Tlale, N., Goodenough, L., Wells, S. and Davy, J.P.

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Todd, A.I.

Todd, A.I. and Gomes, J.O. (2022). Development of education programs to grow Human Factors and Ergonomics in emerging HFE societies. *Union of Latin American Ergonomics Associations Congress*. de la Universidad Anáhuac Mayab, Merida, Mexico.

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Mr Andrew Todd at the World Health Organisation special review session.

Photo: HKE

Department of Ichthyology and Fisheries Science

INTRODUCTION

The Department of Ichthyology and Fisheries Science's (DIFS) focus is on the study of fish, fisheries, aquaculture and the sustainable utilization of aquatic resources in general, primarily through research and research-related teaching and training of students in these fields. It is recognised by the African Union as a Centre of Excellence for Training in Marine Fisheries and Aquaculture. Our staff of seven (7) academics continued the department's international reputation through collaborative teaching and research relationships with thirty (30) universities and research institutions around the world.



Associate Professor Cliff Jones
- Head of Department

In addition to the South African Institute of Aquatic Biodiversity (SAIAB), our Postgraduate supervision and research network also included collaborations with, and by way of example: the South African Environmental Observation Network (SAEON), Department of Forestry, Fisheries and Environment (DFFE), North West Provincial Government, Water Research Commission (WRC), Oceanographic Research Institute (ORI), Makerere University (Uganda), Bahir Dar University (Ethiopia), University of Namibia, Eldoret University (Kenya), Maynooth University (Ireland), University of Ghent (Belgium), Fort Hare University, University of Johannesburg, University of Pretoria, Stellenbosch University, Nelson Mandela University and researchers from numerous fish-farm industry partners.

Postgraduates / Graduations

Five (5) Postdoctoral fellows, thirty-five (35) PhD, twenty (20) MSc and ten (10) Honours students were registered in the DIFS in 2022; and the department graduated six (6) PhD, seven (7) MSc and five (5) Honours students that year. A school of sixty-five (65) registered Postgraduates was made possible primarily due to a well-developed network of collaborative patterns and our close working relationship with our associate title holder.

Distinguished Visitors / International Visits

The DIFS continued its participation in a number of international collaborative programs: AquaVitae (thirty-five (35) partners across sixteen (16) countries), COTRA (eight (8) partners across eight (8) countries) and we initiated a new international partnership called LIMAQUA (a South African/France initiative). We hosted two (2) MSc and four (4) PhD candidates as part of the COTRA program in 2022, and two (2) Postdoctoral students visited France and Norway as part of an exchange program funded by our AquaViate project, and we had students presenting papers at Aquaculture Europe in Rimini (France). Cliff Jones travelled to Portugal, Belgium, Uganda and Tanzania representing the DIFS in various projects funded by the African Union, COTRA and the AquaVitae projects, all of which contributed to him receiving a Rhodes University Internationalisation Award. He also participated in the European Maritime Day in 2022, and hosted twenty-eight (28) international participants from eleven (11) countries at an AquaVitae workshop held in Morgan Bay.

Amber Childs continued her international collaborations with Dr Audrey Darnaude (Marbec, University of Montpellier, France) as a member of Dr Darnaude's EU COST Action CA19107, Unifying Approaches to Marine Connectivity for improved Resource Management for the Seas (SEA-UNICORN). She was invited by Dr Anna Sturrock (University of Essex, UK) and Dr Susanne Tanner (MARE, Portugal) as one of four trainers for a Training Workshop "Basics of Biologging" in Montpellier, France. Here she trained a consortium of researchers from ten (10) different countries on biologging techniques.

Significant Research Aligned Events

Professors Cliff Jones and Peter Britz continued their participation in the European Union's Horizon 2020 All Atlantic 'AquaVitae' project with their partners from Europe, South and North America, and with a focus on innovation in low trophic aquaculture. Their work integrates seaweed and sea cucumber into existing abalone aquaculture, and the inclusion of by-products in abalone feeds, with an emphasis on waste recycling and the development of sustainable, circular economies.

Professor Britz continued his research and innovation in developing ranching technologies and he continued his focus on developing aquaculture and fisheries policy in Africa.

Professor Jones continued his research partnership with South African Breweries and TaylorMade Water Solutions. In 2022 the project saw the commercialisation of the concept developed previously, where water treatment solutions have been integrated with aquaculture and agriculture. He also continued collaborations with researchers from Makerere University in Uganda where they are developing technology to use natural methods of sex change in fish and mono-population farming of Nile tilapia.

Professors Cliff Jones and Horst Kaiser had students participate in a research exchange program (COTRA), that aims to improve tertiary education in aquaculture and fisheries science across Africa, funded by the European Commission/African Union's *Inter-Africa Academic Mobility Scheme* with various research collaborations with partners in Ethiopia, Kenya, Uganda, the Democratic Republic of Congo and Malawi.

Professor Horst Kaiser continued several collaborations with other institutes and Universities. 1) We are collaborating with DFFE to study the effect of replacing fish meal in diets for juvenile dusky kob with black soldier fly meal; 2) we continue to collaborate with researchers from the University of Johannesburg to conduct genetic testing of two southern African estuarine pipefish species; and 3) we initiated a new research programme with DFFE to study the population genetics of the fish parasite genus *Gyrodactylus* on south African tilapia farms.

Professor Warwick Sauer continued his research in Southern Africa and the Western Indian Ocean, working with regional and international researchers and students. SOLSTICE, a large international project which aimed to strengthen capacity in the WIO region to address challenges of food security and sustainable livelihoods for coastal communities, was successfully completed with several manuscripts published and more planned for 2023. With Dr Chris Bova, he undertook a review of tuna fisheries worldwide and a critique of the different approaches to the current harvesting of tuna. He also worked on determining Illegal, Unreported and Unregulated trade flows and socio-economic impacts in

South West Indian Ocean for tuna and shrimp fisheries. As project lead, he headed up the completion of a project funded through the Western Indian Ocean Marine Science Association aimed at the smaller tuna species important to the coastal communities in Southern Africa, with five regional Universities involved.

Professor Warren Potts continued his research on recreational fisheries. This included leading an African Coelacanth Ecosystem Project on the physiological response of fishes to the impacts of exploitation and a One Ocean Hub Project that examines the governance and characteristics of South Africa and Namibia's marine recreational fisheries. He participated in a National Oceanic and Atmospheric Administration project that aims to estimate the global contribution of inland recreational fisheries as food and a New South Wales funded project reviewing global harvest strategies in recreational fisheries. He also visited Germany to evaluate the country's recreational fishery monitoring systems and was appointed as the co-chair for the International Council for Exploration of the Sea's working group on the human dimension of recreational fisheries. He continued the community engagement project with the Rock and Surf Super Pro League and began working with Professor Childs on an NRF funded project aiming to examine the potential for catch and release zones to reduce the impact of marine shore-based recreational fisheries.

Dr Amber Childs continued her research on coastal fisheries ecology. This included leading a NRF MCR project addressing knowledge gaps in our marine-shore based fishery using a socio-ecological approach (ecosystem, human dimension and governance) and leading a NRF grant assessing the link between fish physiology and behaviour. She is also intricately involved in Professor Potts' NRF ACEP project assessing the role and efficacy of marine protected areas in maintaining the climate resilience of fish populations. Amber is also involved in several other research programmes, including Professor Nikki James (SAIAB) NRF MCR south-coast shallow water seascape ecology project assessing fish connectivity among coastal habitats, Dr Taryn Murray (SAIAB) NRF project assessing movement ecology of Mugilidae species, Dr Michelle Soekoe (Reel Science Co.) Save our Seas eagle ray movement connectivity project and Kyle Smith's SANParks blue ray movement ecology project. She also continued her term as Executive Director for the Council for Scientific and Industrial Research (CSIR).

Mr Qurban Rouhani, the Director of the Rural Fisheries Programme (RFP), a developmental unit within the DIFS, has been leading a thrust to assist in the digitisation of aquaculture in Africa. *Buna* (which means *to harvest* in Sepedi) was developed as an online aquaculture platform, that was designed to provide technical support and services to farmers in real time. It was also designed to enable farmers to provide their production data to government. This will enable governments to receive small-scale farm production data in real time, that was previously unavailable, which will assist

in informing policy and in managing and developing the sector. Buna was initially piloted in Zambia and Malawi with the support of the World Fish Centre, with plans to trial it in other African countries in future. As the aquaculture sector in Africa grows, and farmers move away from subsistence to commercially orientated production methods, it is anticipated that digital online platforms such as *Buna* will increasingly become more relevant to both farmers as well as governments.

Dr Wilbert Kadye continued his research on freshwater ecosystems by focusing on the ecology of headwater streams, conservation of fishes in the Eastern Cape and general fish taxonomy in collaboration with Dr Albert Chakona (SAIAB). As reported previously, Wilbert is also part of two large Foundational Biodiversity Information Program (FBIP) research projects. These are the Waterberg Biodiversity Research project (Limpopo Province) in collaboration with the University of Witwatersrand, University of Pretoria and University of Mpumalanga, and the REFRESH project in collaboration with SAIAB, SANBI, North West University, Stellenbosch University and University of Cape Town.

MSc student Franck Lutili, one of our COTRA exchanges from the Democratic Republic of Congo, shows off a catfish he grew in an our aquaponics system, where organic spinach (in the background) was grown using water and fish waste and where cleaned water is cycled back to the fish ponds.

Photo: Thierry Lwanzo



Department of Ichthyology and Fisheries Science

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Peer Reviewed Subsidy-Earning Journal Research Publications

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DIFS students departing for a research site in Saldanha Bay, where mussel and macro-algae are grown together in an integrated multitrophic aquaculture system (IMTA) that forms part of the AquaVitae research project.

Photo: Cliff Jones





MSc student Lwazi Nombembe harvesting *Gracilaria* farmed on mussel rafts in Saldanha Bay; the macro-algae was subsequently incorporated into abalone feed pellets.

Photo: Cliff Jones

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Earp, H.S., Smale, D.A., Perez Matus, A., Gouraguine, A., **Shaw, P.W.** and Moore, P.J. (2022) A quantitative synthesis of approaches, biases, successes, and failures in marine forest restoration, with considerations for future work. *Aquatic Conservation-Marine and Freshwater Ecosystems*. 32 (11). p.1717-1866.

Cross, D.E., Healey, A.J.E., McKeown, N.J., Thomas, C.J., Macarie, N.A., Siazziy, V., Singini, D., Liywalii, F., Sakala, J., Silumesii, A. and **Shaw, P.W.** (2022) Temporally consistent predominance and distribution of secondary malaria vectors in the Anopheles community of the upper Zambezi flood plain. *Scientific Reports*. 12 (240). p.1-17.

Soekoe, M. and Potts, W.M.

Soekoe, M., Smale, M.J. and Potts, W.M. (2022) Highly conserved tooth morphology in allopatric elasmobranch populations despite contrasting diets a case of *Triakis megalopterus* in southern Africa. *Environmental Biology of Fishes*. 105 (2022). p.821-850.

Towner, A.V.

Towner, A.V., Kock, A.A., Stopforth, C., Hurwitz, D. and Elwen, S.H. (2022) Direct observation of killer whales preying on white sharks and evidence of a flight response. *Ecology*. 104 (1). p.1-5.

Towner, A.V., Watson, R.G.A., Gennari, E. and Booth, A.J.

Towner, A.V., Watson, R.G.A., Kock, A.A., Papastamatiou, Y.P., Sturup, M., Gennari, E., Baker, K., Booth, A.J., Dicken, M., Chivell, W., Elwen, S., Kaschke, T., Edwards, D. and Smale, M.J. (2022) Fear at the top: killer whale predation drives white shark absence at South Africa's largest aggregation site. *African Journal of Marine Science*. 44 (1). p.1-14.

Weiss, S.E., Kaiser, H. and James, N.C.

Weiss, S.E., Emami-Khoyi, A., Kaiser, H., Cowley, P.D., James, N.C., van Vuuren, B., Whitfield, A.K. and Teske, P.R. (2022) The last two Remaining Populations of the critically endangered Estuarine Pipefish are inbred and not genetically distinct. *Frontiers in Marine Science*. 8 (1). p.1-12.

Department of Information Systems

INTRODUCTION

The Department of Information Systems is particularly interested in the generation of knowledge in the areas of ICT4D, eGovernment, eLearning, IT Project Management, Social Networks, Information Security, and User Experience. Research in these areas have produced twenty-two (22) journal articles, three (3) conference papers and three (3) conference presentations, with aspects of this research being presented locally as well as internationally in Mauritius, and the USA.

In addition to producing research outputs, staff in the Department of Information Systems contribute to their discipline as journal editors and reviewers, conference reviewers and panel members, and external examiners of theses for other academic institutions.



Associate Professor Ingrid Siebörger
- Acting Head of Department

Postgraduates / Graduations

Postgraduate numbers in the Department include six (6) PhD candidates, eight (8) Masters candidates, and a class of thirty-seven (37) Honours students. In April 2022, we celebrated the graduation of two (2) Masters of Commerce in Information Systems, with Distinctions, and one (1) PhD in Information Systems.

Distinguished Visitors / International Visits

Dr van der Schyff, Dr Baduza and Professor Siebörger undertook a collaborative teaching exercise as part of their Honours Business Data Analytics module with counterparts for Malmö University, Sweden. Staff and students from both institutes successfully interacted together online in team to solve problems related to the UN Sustainable Development Goals using Big Data.

Numerous guest lectures from industry partners were essential to many modules where they shared “real world” expertise and current IT trends in South Africa to contextualise the course material.

Dr Khene (De Montfort University, UK) and Dr Thinyane (United Nations University, Computing and the Society, China) continued collaborating with Associate Professor Siebörger on the MobiSAM/MobiSAfAIDS project.

Professor Renaud (University of Strathclyde, UK) continues to work on several projects around cyber responsabilization, behavioural information security, and social media privacy with Professor Flowerday and Dr van der Schyff.

Dr Orre (Malmö University, Sweden), Dr Lindroth (University of Gothenburg, Sweden) and Mr Boucher (University of Fort Hare, South Africa) remain active collaborators with Associate Professor Foster on a SUSUF project in digital health promotion. During October and November Dr Orre visited the Hamilton Building and Professor Foster visited Malmö University, working side by side on the SUSUF project in diabetes self-management.

Dr Baduza spent two (2) weeks at the University of Southampton in the UK collaborating with Dr Nora McIntyre on a research project involving eye-tracking in the field ICT in Education.

Significant Research Aligned Events

Mr Channel Zhou, a PhD candidate in the Department, was invited to the ICLD Local Democracy Academy, by the Swedish International Centre for Local Democracy which took place in Visby, Sweden in June 2022.

Peer Reviewed Subsidy-Earning Journal Research Publications

Flowerday, S.

Flowerday, S. and Xenakis, C. (2022) Editorial: Security and Privacy in Distributed Health Care Environments. *Methods of Information in Medicine*. 61 (1). p.1-2.

Flowerday, S., De La Rey, E., Van Der Schyff, K. and Foster, G. Currin, A., **Flowerday, S., De La Rey, E., Van Der Schyff, K. and Foster, G.** (2022) A smart city qualitative data analysis model: Participatory crowd sourcing of public safety reports in South Africa. *Electronic Journal of Information Systems in Developing Countries*. 2022 (2022). p.1-13.

Milne, S.D.

Bradshaw, K. and **Milne, S.D.** (2022) Mapping Computational Thinking Skills to the South African Secondary School Mathematics Curriculum. *Communications in Computer and Information Science*. 1461 (2022). p.85-101.

Mudzamba, R.R., Van Der Schyff, K. and Renaud, K.

Mudzamba, R.R., Van Der Schyff, K. and Renaud, K. (2022) The challenges of cloud adoption among South African small to medium enterprises: A thematic analysis. *Electronic Journal of Information Systems in Developing Countries*. 2022 (2022). p.1-18.

Pade-Khene, C.

Osah, U.J. and **Pade-Khene, C.** (2022) Designing strategy formulation in the midst of uncertainty in digital citizen engagement: A critical reflection of the application of Design Science Research augmented by Soft Systems Methodology to the design of strategy formulation. *Electronic Journal of Information Systems in Developing Countries*. 2022 (2022). p.1-18.

Pade-Khene, C. and Masiero, S. (2022) From research to action: the practice of decolonizing ICT4D. *Information Technology for Development*. 28 (3). p.443-450.

Renaud, K.

Ivano, B., **Renaud, K.**, Humphrey, B., Renette, B. and Angelo, C. (2022) A quantification mechanism for assessing adherence to information security governance guidelines. *Information and Computer Security*. 30 (4). p.517-548.

Bella, G., Ophoff, J., **Renaud, K.**, Sempreboni, D. and Vigano, L. (2022) Perceptions of Beauty in Security Ceremonies. *Philosophy & Technology*. 35 (72). p.1-34.

Venter, I.M., Cranfield, D.J., Tick, A., Blignaut, R.J. and **Renaud, K.** (2022) 'Lockdown': Digital and Emergency eLearning Technologies A Student Perspective. *Electronics*. 11 (18). p.1-25.

Prior, S. and **Renaud, K.** (2022) The impact of financial deprivation on children's cybersecurity knowledge and abilities. *Education and Information Technologies*. 27 (8). p.1-21.

Alkaldi, N. and **Renaud, K.** (2022) Migrant: Modelling Smartphone Password Manager Adoption using Migration Theory. *Data Base for Advances in Information Systems*. 53 (2). p.1-33.

Alahmari, S., **Renaud, K.** and Omoronyia, I. (2022) Moving beyond cyber security awareness and training to engendering security knowledge sharing. *Information Systems and e-Business Management*. p.1-36.

Renaud, K., Attaffa, A. and Craig, M.T. (2022) Positioning Diplomacy Within a Strategic Response to the Cyber Conflict Threat. *Lecture Notes in Computer Science*. 13176 (2022). p.1-11.

Zimmermann, V., Marky, K. and **Renaud, K.** (2022) Hybrid password meters for more secure passwords a comprehensive study of password meters including nudges and password information. *Behaviour & Information Technology*. p.1-44.

Thinyane, H.

Gallo, M., **Thinyane, H.** and Teufel, J. (2022) Community Health

Centres and Sentinel Surveillance of Human Trafficking in the United States. *Public Health Reports*. 137 (1). p.23-29.

Van Der Schyff, K. and Flowerday, S.

Van Der Schyff, K. and Flowerday, S. (2022) The mediating role of perceived risks and benefits when self-disclosing: A study of social media trust and FoMO. *Computers and Security*. 126 (2023). p.1-17.

Van Der Schyff, K., Flowerday, S. and Renaud, K.

Van Der Schyff, K., Flowerday, S. and Renaud, K. (2022) Socially desirable responding within the context of privacy-related research: A personality perspective. *South African Journal of Information Management*. 24 (1). p.1-10.

Van Der Schyff, K., Renaud, K. and Tshiqi, T.N.

Van Der Schyff, K., Renaud, K., Puchert-Townes, J. and Tshiqi, T.N. (2022) Investigating the mediating effects of phubbing on self-presentation and FoMO within the context of excessive Instagram use. *Cogent Psychology*. 9 (1). p.1-19.

Wright, G.

Nyangena, J., Some, K., Kuria, M., Nangulu, A., Kasasa, S., da Costa Vroom, F.B., **Wright, G.** and Were, M.C. (2022) Developing Harmonized Benchmarks for the Master of Science in Health Informatics for the East African Region. *Studies in Health Technology and Informatics*. 290 (2022). p.907-911.

Wright, G. (2022) Organisational Change: Using Health Informatics Education as a Change Agent. *Studies in Health Technology and Informatics*. 2022 (2022). p.907-911.

Hersh, W.R., Haux, R., Huesing, E., Ball, M.J., Kimura, M., Otero, P., Detmer, D., Koch, S., Saranto, K.K. and **Wright, G.** (2022) The International Academy of Health Sciences Informatics: 2021 Update. *Yearbook of medical informatics*. 31 (1). p.7-10.

Bichel-Findlay, J., **Wright, G.** and *et al*, (2022) Recommendations of the International Medical Informatics Association (IMIA) on Education in Biomedical and Health Informatics: Second Revision. *International Journal of Medical Informatics*. 170 (2023). p.1-16.

Peer-reviewed Proceedings

Chatapura, R. and Ramafi, P.

Chatapura, R. and Ramafi, P. Investigating the Value Big Data Analytics Can Bring to African Public Healthcare Facilities. *International conference on Teaching, Assessment and Learning in the Digital*. Umhlanga, Durban. South Africa. December 2022.

Ramafi, P.

Ramafi, P. Investigating the barriers of ICT use in teaching and learning at public schools, South Africa. *2022 International Conference on Intelligent and Innovative Computing Applications*. The Ravenala Attitude Hotel, Balaclava. Balaclava. December 2022.

Renaud, K.

Renaud, K., Lamond, M.L., Wood, L. and Prior, S. SOK: Young Children's Cybersecurity Knowledge, Skills & Practice: A Systematic Literature Review. *SIGITE'22*. Illinois Institute of Technology, USA. Illinois. September 2022.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Foster, G.

Orre, C.J., **Foster, G.**, Boucher, D.E. and Lindroth, T. Diabetes Health Information Kiosk for Self-Management Education: A Conceptual Design. *SANORD - Southern African-Nordic Centre*. University of Limpopo, Polokwane. South Africa. December 2022.

Salamntu, T.P.L.

Salamntu, T.P.L. and Seymour, L. Organisational culture influence on Business Process Management (BPM) in South African State-Owned Enterprises (SOEs). *International Development Informatics Association (IDIA) 2022*. Mbombela, Mpumalanga. South Africa. November 2022.

Salamntu, T.P.L. and Seymour, L. Challenges of Enterprise Content Management (ECM) system in South African public sector organisations. *International Development Informatics Association (IDIA) 2022*. Mbombela, Mpumalanga. South Africa. November 2022.

School of Journalism and Media Studies

INTRODUCTION

The School of Journalism and Media Studies celebrated its 50th anniversary in 2022 marked by a series of events to recognise this milestone. A total of fifty (50) alumni received special awards in recognition of the influential work they have done in the industry and academy in South Africa and beyond. Staff and students continued to carry out impactful research and projects that resulted in a total of eleven (11) journal articles and six (6) book chapters. Additionally, they have produced creative outputs and attended local and international conferences. The school was well presented at the South African Communications Association 2022 conference with a delegation of eleven (11) staff and students.



Dr Jeanne du Toit - Head of School



Dr Kealeboga Aiseng - Deputy Head of School



Dr Priscilla Boshoff - Deputy Head of School

The extension of funding from the Andrew W. Mellon Foundation (2022-2024) has enabled a team of researchers to conceive a number of research projects relating to digitality, sociality and coloniality to be implemented during this period.

Postgraduates/Graduations

The School of Journalism and Media Studies graduated thirty (30) Bachelor of Arts, forty (40) Bachelor of Journalism, forty-seven (47) Bachelor of Social Science, six (6) Postgraduate Diploma in Journalism, nineteen (19) Postgraduate Diploma in Media Management, five (5) Honours, and one (1) Master of Arts students.

Distinguished Visitors/International Visits

As part of its interdisciplinary research collaboration and internationalisation endeavours, the school hosted visitors from around the country and the world. We hosted Syracuse University visitors from the Newhouse School of Public Communications as part of a Fulbright exchange: Ken Harper (Associate Professor and Director of the Newhouse Centre for Global Engagement), Dan Pacheco (Peter A. Horvitz Endowed Chair in Journalism Innovation), Makana Chock (David J. Levidow Endowed Professor) and Brad Gorham (Chair of Newhouse School). From 24 - 27 May 2022, we held a series of meetings to plan further collaborative research and teaching projects, following an online RU-SU colloquium in 2021 and a portal project launched in February 2022, linking students through two giant audiovisual 'portals' located in the Africa Media Matrix and in the Newhouse School. The visitors met with JMS staff, other academics at RU and local environmental organisations to discuss the framing of a possible collaborative praxis course in 2024.

Bridget Harrison from the Royal College of Music collaborated with documentary video students in June to create a short documentary about one of their alumni who teaches in a rural

Eastern Cape School. Michael Porter from *The Home Channel* and Semeyi Zake from *Business Day* visited the school to interview students for their internship programme and to share information about Arena Holdings (their company) with staff.

Jonathan Shapiro visited JMS in March. He presented a guest lecture with the JMS4 class and did a staff seminar on political cartooning. On 21 October Sivu Giba from the Documentary Filmmakers Association screened a film *As far as I can Walk* on behalf of the European Union Film Festival. In November 2022 the head of the SABC technical division advised us on our TV studio.

As part of the 50th anniversary celebrations we hosted Zubeida Jaffer, an award-winning journalist, author and activist; Rich Mkhondo, Director, The Media and Writers Firm; Krivani Pillay, Partnerships and Development Finance Officer (United Nations); Haru Mutasa, Africa Correspondent, Al Jazeera; Zikhona Tshona, Senior Reporter, Newzroom Afrika and Kathryn Cleary freelance journalist and engagement co-ordinator for Internews and the Health Journalism Network (HJN).

Significant Research Aligned Events

The School of Journalism and Media Studies started a series of journalism education colloquia which will continue into 2023. For our first colloquium in June, *Journalism Under Pressure*, we invited participants to share work in which they articulate innovative responses to the challenges (financial, digital, political, Covid-related, and other) faced by journalism and journalism education today. Panellists from across South Africa joined us virtually and in person, enabling us to identify key conversations that can inform the contemporary reinvention of journalism education and its practice.

In October, we took these conversations further in the second colloquium, *Decolonial Approaches to the practice, study, and teaching of Journalism: Imagining the future, learning from the past*. Delegates shared examples of their own work as teachers, researchers, and producers of journalism. Leading media producers reflected on the current context of the media in South Africa, their experiences of producing media for South African audiences today, and the implications for journalism curricula and the decolonial imperative in universities.

The School of Journalism and Media Studies (represented by Professor Anthea Garman) together with the Wits Centre for Journalism were chosen by UNESCO to implement a project to promote journalism education excellence in Africa. The project, funded by the Google News Initiative, was launched at a regional conference on the future of journalism education and practice in Eastern Africa. JMS and Wits then held consultations with journalism educators and trainers in all five (5) regions of the continent (North, West, Central, East and Southern) and a document synthesising their understandings of the components of 'excellence' in journalism education is being written. The second part of the project (which takes place in 2023) is to allocate small grants to at

Legendary newsreader Noxolo Grootboom and Professor Sizwe Mabizela at the Johannesburg JMS50 alumni award event.

Photo: School of Journalism and Media Studies



least ten (10) journalism schools to improve current curricula and training programmes in each region.

In June, Dr Nyx McLean and co-researcher Thurlo Cicero received a grant from the Association for Progressive Communication's for their project: The Left-Out Project: The case for an online gender-based violence framework inclusive of transgender, non-binary and gender-diverse experiences. This research centres transgender, non-binary and gender-diverse (TNBGD) people's experiences of online gender-based violence (OGBV) with the intention to challenge and re-conceptualise current framings of OGBV. In order to do so, the research draws on experiences of TNBGD people living in Botswana, Rwanda, South Africa and Uganda. This research builds a broader, more inclusive and intersectional framing of OGBV to imagine better protections for TNBGD people who largely continue to be excluded in interventions and responses to OGBV. The project has since been published: <https://firm.genderit.org/research/left-out-project-report-case-online-gender-based-violence-framework-inclusive-transgender>.

Dr Theodora Adjin-Tettey was invited as a guest speaker at the International Association of Media Communication Research Emerging Scholars Network on the theme Navigating the challenges of Postgraduate/Doctoral studies.

PhD candidate Bella Boqo was selected along with two (2) other students from Wits to collaborate on concept papers for journalism and safety with other doctoral candidates from selected countries as part of the OsloMet Safety Matters PhD program in Norway. Following their workshop, the PhD candidates successfully presented their proposals at the 8th annual Media, War, and Conflict (MEKK) conference.

School of Journalism and Media Studies

PUBLICATIONS

Books/Chapters/Monographs

Dalvit, L.

Dalvit, L. (2022) From PowerPoint to Zoom: interrogating gaze in teaching at a small South African University. In: Bolt, D. (ed.). *Finding Blindness: International Constructions and Deconstructions*. London: Routledge. p.19-27. ISBN: 9781032229720.

Dalvit, L. (2022) Differently included: a decolonial perspective on disability and digital media in South Africa. In: Tsatsou, P. (ed.). *Vulnerable People and Digital Inclusion: Theoretical and Applied Perspectives*. Switzerland: Palgrave Macmillan. p.301-319. ISBN: 9783030941222.

Dugmore, H.

Dugmore, H. (2022) Endogenous "precarious professionalism" in African news work. In: Chadha, K. and Steiner, L. (eds.). *News work and Precarity*. London: Routledge. p.151-169. ISBN: 9780367523039.

Garman, A.

Garman, A. (2022) "Deeper and deeper and deeper": narrative nonfiction and the interiority of the other in South Africa. In: Bak, J. and Reynolds, B. (eds.). *The Routledge Companion to World Literary Journalism*. London: Routledge. p.118-128. ISBN: 9780367355241.

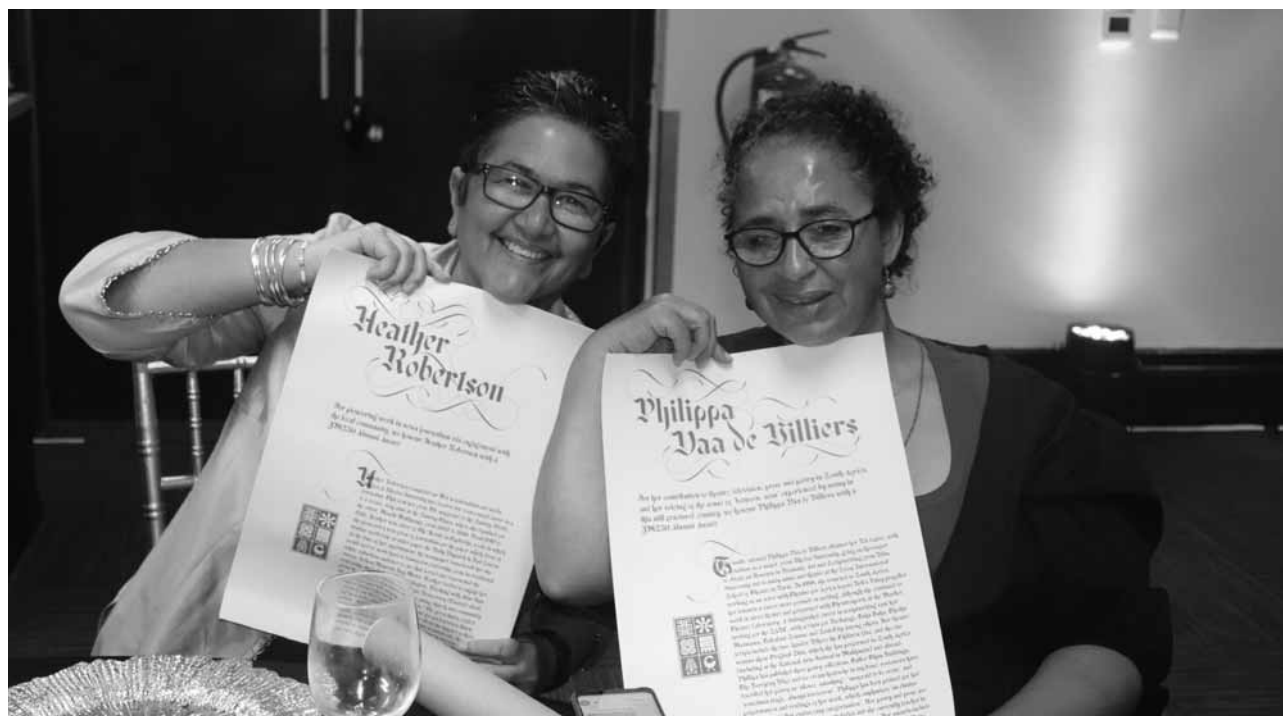
Garman, A. and Ponono, M.

Garman, A. and Ponono, M. (2022) Not clowns but capable agents: tapping into subaltern theory to centralise the marginalised. In: *Decolonising Journalism Education in South Africa*. Pretoria: UNISA Press. p.149-162. ISBN: 9781776150946.

Ndlovu, N.

Tshuma, B.B, Tshuma, L.A and Ndlovu, N. (2022) Media discourses on gender in the time of COVID-19 pandemic in Zimbabwe. In: Dralega, C.A. and Napakol, A. (eds.). *Health Crises and media discourses in Sub-Saharan Africa*. Online: Springer, Cham. p.267-283. ISBN: 9783030951009.

Heather Robertson and Phillippa Yaa de Villiers, Johannesburg 2022. Photo: School of Journalism and Media Studies



Concerts, Exhibitions, Performances, Workshops, Events

Schoon, A.

Schoon, A. Screening. Intellectual Giants of the Eastern Cape. *Manuscript Development Workshop, African Humanities Project*. Montfleury Conference Centre, Stellenbosch. South Africa. 17 October 2022.

Schoon, A. Screening. Intellectual Giants of the Eastern Cape. *Visible Evidence XXVII Screening Programme*. University of Gdansk, Gdansk. South Africa. 13 August 2022.

Schoon, A. and Kunju, H.W. Screening. Intellectual Giants of the Eastern Cape. *Africa Day: Zanzibar International Film Festival*. The Old Fort, Zanzibar. Tanzania. 21 June 2022.

Kunju, H.W. and Schoon, A. TV Interview. Intellectual Giants of the Eastern Cape. *The Watchdog*. SABC2, Auckland Park. South Africa. 23 September 2022.

Creative Writing

Rennie, G.

Rennie, G. (2022) Memo to the Eastern Cape: Regarding your assets. In: *The Garden of the Beloved: McGregor Poetry Festival 2021 Anthology*. Cape Town: African Sun Press.

Distinguished Visitors

Adjin-Tettey, T.

T. Adjin-Tettey. Columbia University, New York City, USA. *Invited speaker*. October 2022.

T. Adjin-Tettey. IAMCR Emerging Scholars Network, Online. *Guest speaker on the theme: Navigating the challenges of postgraduate/doctoral studies*. February 2022.

Other Publications

Adjin-Tettey, T.

Adjin-Tettey, T. (2022). In: *Saving journalism 2: Global strategies and a look at investigative journalism*. Washington, DC: Konrad-Adenauer-Stiftung USA.

McLean, N.

McLean, N. 2022. *Feminist Internet Research Network Meta-Research Project Report*. Association for Progressive Communications.

Peer Reviewed Non-Subsidy-Earning Journal Research Publications

Adjin-Tettey, T. and Garman, A.

Adjin-Tettey, T. and Garman, A. Lurking as a mode of listening in social media: Motivations-based typologies, *Digital Transformation and Society*. 2 (1). p. 11-26.

McLean, N.

McLean, N. 2022. Feminist Internet Research is Messy. In *Feminist by Design*, Aavriti N., Hussien, T.S., Fossati, M (eds), *APRIA journal, Issue 4*.

Ogundaini, O., de la Harpe, R., and **McLean, N.** 2022. Unintended Consequences of Technology-enabled Work Activities Experienced by Healthcare Professionals in Tertiary Hospitals of Sub-Saharan Africa. In *African Journal of Science, Technology, Innovation and Development*. Pp. 1-10.

McLean, N. 2022. A Feminist Backpack for Crises: Care-fullness, Messiness and Responsive Knowledge. In *Global Information Society Watch 2021 - 2022: Digital Futures for a Post-Pandemic World*. Pp. 56-9.

De Doncker, K. and **McLean, N.** 2022. Social Media, Sleep Difficulties and Depressive Symptoms: A Case Study of South African Youth in Cape Town. In *Technology in Society, Vol 70*.

Peer Reviewed Subsidy-Earning Journal Research Publications

Adjin-Tettey, T.

Adjin-Tettey, T. (2022) Teenagers and new media technologies: Gratifications obtained as a factor for adoption. *Communicare Journal for Communication Sciences in Southern Africa*. 41 (2). p.11-30.

Adjin-Tettey, T. (2022) Combating fake news, disinformation, and misinformation: Experimental evidence for media literacy education. *Cogent Arts and Humanities*. 9 (1). p.1-17.

From left to right, Rich Mkhondo, Zikhona Tshona, Haru Mutasa, Kathryn Cleary, Krivani Pillay and Vice-Chancellor Professor Sizwe Mabizela. Photo: School of Journalism and Media Studies



Aiseng, K.M.

Aiseng, K.M. (2022) Linguistic dominance and translanguaging: Language issues in Generations: The Legacy. *Frontiers in Communication*. 7 (2022). p.1-10.

Aiseng, K.M. (2022) The emergence of isiZulu in *Skeem Saam* (2011): sociolinguistics factors and the politics of the loss of ethnolinguistic pluralism at the SABC 1. *Social Identities*. 28 (4). p.1-18.

Akpojivi, U. and Aiseng, K.M. (2022) Framing of political leaders during the #BringBackOurGirls campaign by the Nigerian Press: A comparative study of Guardian and Vanguard Newspapers. *Frontiers in Communication*. 7 (2). p.1-10.

Aiseng, K.M. (2022) Language, Music, Self-Representation and Claiming the Space: Artists from Limpopo Province in South Africa. Imbizo: *International Journal of African Literary and Comparative Studies*. 13 (2). p.1-25.

Boshoff, P. and Mabasa, X.

Boshoff, P. and Mabasa, X. (2022) Liberatory violence or the gift: paths to decoloniality in Black Panther. *Image and Text*. 2022 (36). p.1-21.

Dalvit, L.

Dalvit, L. (2022) Mobile Communication and Urban/Rural Flows in a South African Marginalised Community. *American Behavioural Scientist*. 2022 (2022). p.1-13.

Dalvit, L. (2022) A Decolonial Perspective on Online Media Discourses in the Context of Violence Against People with Disabilities in South Africa. *Communication & Sociedade*. 41 (2022). p.169-187.

Dugmore, H.

Graham, P. and Dugmore, H. (2022) Public pedagogies in post-literate cultures. *Discourse & Society*. 33 (6). p.819-832.

Barnes, R., Dugmore, H., Peter, P., Natoli, R. and Stephens, E.J. (2022) This is ridiculous - I need to start a paper: An exploration of aims and intentions of regional print proprietors of post-COVID start-up newspaper. *Media International Australia*. 184 (1). p.21-34.

Uzuegbunam, C.E.

Uzuegbunam, C.E. (2022) Assessing Rural and Urban Teenagers' Domestication of Technology: The Role of Digital Literacy. *International Journal of Mobile and Blended Learning*. 14 (3). p.1-15.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Adjin-Tettey, T.

Adjin-Tettey, T. Exploring media development initiatives in Africa during the Covid-19 pandemic. *Workshop on Current Challenges in Media Development at Daystar University, Nairobi, Kenya* (23 - 25 March 2022). Daystar University, Nairobi. Kenya. March 2022.

Adjin-Tettey, T. Sustainable Journalism in SSA. *Sustainable Journalism Partnership Conference*. Linnaeus University, Kalmar. Sweden. June 2022.

Adjin-Tettey, T. Ghana's RTI law: Probing implementation shortcomings, prospects and opportunities for improvement. *SACOMM 2022*. University of the Witwatersrand, Johannesburg. South Africa. September 2022.

Adjin-Tettey, T. Who funds media in Africa? Evidence from Ghana. *IAMCR Conference 2022*. Online. July 2022.

Aiseng, K.M.

Aiseng, K.M. Media in Times of Crisis: The Media Coverage of the 2022 KZN Floods in South Africa. *The 2nd International Conference on Media Science and Digital Communication*. Virtual. December 2022.

Boshoff, P.

Boshoff, P. Big Tech Magic: Celebrity healers on Instagram. *SACOMM*. Wits University, Johannesburg. South Africa. September 2022.

Boshoff, P. and Dalvit, L.

Boshoff, P. and Dalvit, L. identity, context and mobile media: a critical digital literacy service-learning course in a south African township. *edulearn22 (14th annual International Conference on Education and New Learning Technologies)*. Online, Palma de Mallorca (Spain). Spain. July 2022.

Boshoff, P. and Dalvit, L. Identity, context and mobile media: a critical digital literacy service-learning course in a South African township. *14th international conference on Education and New learning technologies*. Palau de Congressos de Palma, Palma de Mallorca. Spain. July 2022.

Carolus, S.K.

Carolus, S.K. Using video ethnography as a decolonizing strategy to investigate Coloured identities in the Eastern Cape. *SACOMM*. Wits University, Johannesburg. South Africa. September 2022.

Chatikobo, T.

Chatikobo, T. Big tech and big compromises: to what extent are our digital relations reciprocal? *South African Communications Association*. University of the Witwatersrand, Johannesburg. South Africa. September 2022.

Chatikobo, T. and Dalvit, L.

Chatikobo, T. and Dalvit, L. The story of an African living lab: a critical and decolonial reflection on an ICT intervention in a South African rural area. *International Communication Association (ICA)*. Virtual, Paris. France. June 2022.

Dalvit, L.

Dalvit, L. Towards a decolonial curriculum for a Critical Digital Media Masters course in South Africa. *9th Annual International Conference on Social Sciences*. Athens. Greece. October 2022.

Dalvit, L. Online stories of inclusion and exclusion of learners with disabilities in South Africa. *14th international conference on Education and New learning technologies*. Palau de Congressos de Palma, Palma de Mallorca. Spain. July 2022.

Dalvit, L. Digital inclusion, decoloniality and (dis)ability in South Africa: challenges and opportunities of social media. *Technology Justice conference*. Coventry University, Coventry. United Kingdom. June 2022.

Dalvit, L. Same difference: a multiverse perspective on digital inclusions and exclusions of South Africans with disabilities during lockdown. *2nd Society for the Social Study of Science Conference*. Virtual, Cholula. Mexico. December 2022.

Dalvit, L. The upside of lockdown: (dis)ability and new forms of inclusion through digital communication during the pandemic. *Media, Communication and Cultural Studies*. University of Aberdeen, Aberdeen. United Kingdom. September 2022.

Dalvit, L. A critical exploration of YouTube texts by and about people with disabilities in South Africa. *Communication, Capitalism and Critique*. University of Turin, Turin. Italy. September 2022.

Dalvit, L. The invisible colonies: an introduction to coloniality and disability in the digital domain. *International Communication Association (ICA)*. Virtual, Paris. France. June 2022.

Dalvit, L. Disabled online masculinities in South Africa: A Global South perspective. *Gendercom*. Virtual, Seville. Spain. April 2022.

Fafowora, B. L.

Fafowora, B. L. What happens in the bedroom stays in the bedroom: Soliciting a regulatory framework against revenge porn in the Nigerian cyberspace. *SACOMM*. WITS, Johannesburg. South Africa. September 2022.

Garman, A.

Garman, A. Journalism teaching in Africa: digital tools and challenges. *SACOMM*. Wits University, Johannesburg. South Africa. September 2022.

Garman, A. Teaching and researching literary journalism in a digital environment. *SACOMM*. Wits University, Johannesburg. South Africa. September 2022.

Garman, A. Terrorists, torture, the turned and the truth: the mugshot archive at the heart of Jacob Dlamini's *The Terrorist Album*. *International Association of Literary Journalism Studies*. Universidad Alberto Hurtado, Santiago. Chile. May 2022.

Garman, A. The survival of journalism in a time of planetary crisis. *Eco-communications*. Stellenbosch University, Stellenbosch. South Africa. October 2022.

Garman, A. Poetry and power. *Out of the Ordinary: on poetry and the world*. University of Canberra, Canberra. Australia. November 2022.

Garman, A. and Adjin-Tettey, T.

Garman, A. and Adjin-Tettey, T. Sustainable journalism in Sub-Saharan Africa: a north-south, global-local dialogue. *International Association for Media and Communication Research*. Tsinghua University, Beijing. China. July 2022.



Noxolo Grootboom hugs Yolisa Njamela.

Photo: School of Journalism and Media Studies

Isaacs De Vega, T.J.

Isaacs De Vega, T.J. South African Media Councils in the Digital Age. *SACOMM*. WITS, Johannesburg. South Africa. September 2022.

Isaacs De Vega, T.J. Decolonising Journalism Education in South Africa: Critical perspectives. *SACOMM*. WITS, Johannesburg. South Africa. September 2022.

Isaacs De Vega, T.J. Decoloniality, relevance and curricular today. *Decolonial Approaches to Journalism Colloquium*. Rhodes University, Makhanda. South Africa. October 2022.

Macuacua, C.H. and Dalvit, L.

Macuacua, C.H. and Dalvit, L. Mais do que apenas vítimas da insurgência islâmica: evidências do uso do Facebook por organizações da sociedade civil lideradas por mulheres Moçambicanas. (More than just victims of the Islamic insurgency: evidence of Facebook use by Mozambican women-led civil society organisations). *Gendercom Conference*. Virtual, Viterbo. Italy. October 2022.

Mukurunge, T. and Dalvit, L.

Mukurunge, T. and Dalvit, L. Self-censorship and social media in Zimbabwe. Media, *Communication and Cultural Studies*. University of Aberdeen, Aberdeen. United Kingdom. September 2022.

Ndlovu, N.

Ndlovu, N. Of Nehanda bae and slay queen statues: a decolonial feminist analysis of the Mbuya Nehanda statue. *SACOMM Annual conference- Unravelling Big Tech: Power and the global South*. University of the Witwatersrand, Johannesburg. South Africa. September 2022.

Rennie, G.

Rennie, G. Do you ever live: Poetry as method. *International Symposium on Poetic Inquiry*. Orange Hotel, Cape Town. South Africa. May 2022.

Schoon, A.

Schoon, A. The Underground YouTube: Sharelt and its Algorithmic Video Feed for the Less-Connected in the Global South. *SACOMM 2022*. Wits University West campus, Johannesburg. South Africa. September 2022.

Schoon, A. and Kunju, H.W. Critical Screening: Intellectual Giants of the Eastern Cape. *Soga Studies Conference*. JIAS, Johannesburg. South Africa. March 2022.

Schoon, A. and Bosch, T. 'Let's make this trend, we're tired of racist people: The Stellenbosch Incident and Disrupting the TikTok algorithm. *SACOMM 2022*. Wits University West campus, Johannesburg. South Africa. September 2022.

Schoon, A. Representing the Intellectual Giants of the Eastern Cape. *Visible Evidence XXVIII*. University of Gdansk, Gdansk. Poland. August 2022.

Faculty of Law

INTRODUCTION

Although the Faculty had numerous vacancies and were understaffed, the Law Faculty staff and students excelled on the research front. We hosted several exciting research seminars in 2022, including presentations on The Impact of Deepfakes on the right to identity and The South African legal response to organ trafficking and transplant tourism in international perspective. We also held a very successful Postgraduate Supervision Roundtable on 17 August 2022. We had a small panel comprising students, Faculty Higher Degrees Committee members and experienced supervisors, who shared some of their supervision experiences with us.

We congratulated several staff members on their research achievements.



Professor Laurence Juma - Dean

The University promoted four (4) Faculty of Law staff members at the beginning of 2022. Dr Noma Mashinini from Lecturer to Senior Lecturer, Dr Helen Kruuse from Senior Lecturer to Associate Professor and two promotions to the rank of full professors, Professor Helena van Coller and Professor Graham Glover.

- Professor van Coller delivered her inaugural lecture on 26 April 2022 on *Secular or Sacred? Regulating Religion in South Africa*.
- Professor Glover delivered his inaugural lecture on 7 September 2022 on *'Please call me' agent. The taxonomy of Agency Law in South Africa*.

Postgraduates / Graduations

Two (2) staff members graduated in 2022. Dr Nomalanga Mashinini graduated with her Doctorate from the University of Pretoria in April 2022. Her supervisor was Professor SJ Cornelius, and the title of her thesis is *The Recognition of Image Rights in the Context of Memes Shared on Social Media*. Two (2) of her LLM students also graduated from Rhodes during the April graduation, one (1) with a distinction.

Associate Professor Helen Kruuse completed her PhD thesis at Rhodes University in 2021 and graduated on 14 October 2022. The title of her thesis is *Legal ethics and the lawyer-client relationship in South Africa: A proposal for reform using local values*. Her thesis has been described as 'long-awaited' and "...there is no doubt that this [thesis] represents a significant contribution to knowledge in this discipline. It represents a more inclusive, community-based, and historically and culturally rooted conception of legal ethics than any of the major alternative theories currently on offer. I hope to see it published in book form, and would expect that it will attract many readers and be frequently cited".

Distinguished Visitors / International Visits

On Wednesday, 27 July 2022, Professor Oluyemisi Bambhose (Deputy Vice Chancellor Research, Innovation and Strategic Partnerships, University of Ibadan, Nigeria) delivered a Public Lecture on *Good Offices and Mini Trial: ADR Mechanics for Peace and Nation Building*.

Significant Research Aligned Events

A significant research event is when the Faculty awards an annual prize for the Faculty of Law Researcher of the Year to give formal recognition to those members of the faculty who have made a significant contribution in the research area of academic excellence.



Faculty of Law Researcher of the Year Award, *from left to right*: Professor Helena van Collier (Deputy Dean), Associate Professor Helen Kruuse (recipient) and Professor Laurence Juma (Dean).

Photo: Faculty of Law

The faculty awards an annual prize for the 'Faculty of Law Researcher of the Year' to encourage staff in their research endeavours and to give formal recognition to those members of staff who have contributed to the research area of academic excellence. During the challenging last two years of the Covid-19 pandemic, academic staff had to adjust to the changed circumstances, online teaching challenges, and limited time for research. Despite this, Professor Kruuse still excelled on the research front through her research outputs and conference participation. She has written several articles and book chapters, explicitly focusing on Legal Ethics and Professional Responsibility, lawyers and access to justice. Professor Kruuse has also presented several conference papers, often by invitation, ranging from issues of ethics, legal education, and customary marriage disputes. She is also the Review Editor for the *South African Law Journal*.

Her most significant achievement is completing her PhD thesis at Rhodes University in 2021 on *Legal ethics and the lawyer-client relationship in South Africa: A proposal for reform using local values*.

Faculty of Law

PUBLICATIONS

Books/Chapters/Monographs

Kruger, R.

Kruger, R. (2022) The South African Legal Response to Organ Trafficking and Transplant Tourism in International Perspective. In: Jones, C., Kruger, M. and Van den Heever, J. (eds.). *Challenges in Medical Ethics: The South African context*. Cape Town: African Sun Media. p.121-140. ISBN: 9781991201959.

Kruuse, H.

Kruuse, H. (2022) Vuk'uzenzele, Arise and Act: Lawyers and Access to Justice in South Africa. In: WHALEN-BRIDGE, H. (ed.). *The Role of Lawyers in Access to Justice Asian and Comparative Perspectives*. Cambridge: Cambridge University Press. p.327-343. ISBN: 9781009042253.

Lubaale, E.C.

Lubaale, E.C. and Carkeek, J. (2022) African Restorative Justice Approaches as Complementarity: The Case of Libya. In: Lubaale, E.C. and Dyani-Mhango, N. (eds.). *National Accountability for International Crimes*. Basingstoke: Palgrave Macmillan. p.207-246. ISBN: 9783030880439.



Professor Helena van Collier delivered her inaugural lecture on 26 April 2022 on *Secular or Sacred? Regulating Religion in South Africa*, pictured here with Professor Sizwe Mabizela (left) and Professor Mabokang Monnapula-Mapesela (right).

Photo: Faculty of Law



Professor Glover delivered his inaugural lecture on 7 September 2022 on *‘Please Call Me’ Agent: The Taxonomy of Agency Law in South Africa.*

Photo: Faculty of Law

Lubaale, E.C. (2022) Now Available but Still Not Accessible to the ICC: Bashir and Africa's Politics. In: Lubaale, E.C. and Dyani-Mhango, N. (eds.). *National Accountability for International Crimes*. Basingstoke: Palgrave Macmillan. p.207-246. ISBN: 9783030880439.

Lubaale, E.C. and Dyani-Mhango, N. (2022) Introduction: Relevance of Debates on National Accountability for International Crimes in Africa. In: Lubaale, E.C. and Dyani-Mhango, N. (eds.). *National Accountability for International Crimes*. Basingstoke: Palgrave Macmillan. p.1-30. ISBN: 9783030880439.

Lubaale, E.C. (2022) Africa's human rights framework as an entry-point to decolonising education. In: Viljoen, F., Sipalla, H. and Adegalu, F. (eds.). *Exploring African Approaches to international law Essays in honour of Kéba Mbaye*. Pretoria: PULP. p.305-328. ISBN: 9781776411696.

Lubaale, E.C. (2022) The Psychosocial Well-Being of the African Child in Criminal Proceedings. In: Adeola, A. and Mutua, M.W. (eds.). *The Palgrave handbook of democracy, governance and justice in Africa*. Switzerland: Palgrave Macmillan. p.319-348. ISBN: 9783030740139.

Dyani-Mhango, N. and **Lubaale, E.C.** (2022) Conclusion: Where to, Now? In: Lubaale, E.C. and Dyani-Mhango, N. (eds.). *National Accountability for International Crimes*. Basingstoke: Palgrave Macmillan. p.639-646. ISBN: 9783030880439.

Lubaale, E.C. and Dyani-Mhango, N. (ed.) (2022) *National Accountability for International Crimes*. Basingstoke: Palgrave Macmillan. ISBN: 9783030880439.

Van Collier, H.

Van Collier, H. (2022) Religion, Law and COVID-19 in South Africa. In: Sibanda, F., Muyambo, T. and Chitando, E. (eds.). *Religion and the Covid-19 Pandemic in Southern Africa*. London: University of London - SOAS, Routledge, Taylor & Francis Group. p.89-102. ISBN: 9781032147833.

Van Collier, H. (2022) Administrative Law. In: Tait, M., Mujuzi, J., Njotini, M., Osode, P. and Slade, B. (eds.). *Yearbook of South African Law Volume 2*. Cape Town: Juta & Co. p.72-100. ISBN: 9781485139119.

Van Collier, H. (2022) Medical Treatment and Religious Objections in South Africa: The Best Interest of the Child. In: Green, M.C. and Kabata, F. (eds.). *Law, Religion and the Family in Africa*. Cape Town: African Sun Media. p.171-185. ISBN: 9781991201560.

Peer Reviewed Subsidy-Earning Journal Research Publications

Mashinini, T.N.

Mashinini, T.N. (2022) Unauthorised use of images in memes: Revisiting the privacy and identity debate. *Stellenbosch Law Review*. 33 (4). p.657-670.

Van Collier, H.

Van Collier, H. (2022) Religious Freedom in South Africa. *Studies in Religion, Secular Beliefs and Human Rights*. 15 (2022). p.217-233.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Lubaale, E.C.

Lubaale, E.C. Insights from international criminal law on enhancing accountability for gender-based crimes amidst the limits of the double criminality principle. *South African Law Teachers Conference*. Virtual. South Africa. July 2022.

Department of Linguistics and Applied Language Studies

INTRODUCTION

Professor Ron Simango retired as Head of Department but was appointed Professor Emeritus along with Professor Emeritus Ralph Adendorff.

Our staff made noteworthy contributions in a variety of areas. Tracy Bowles is a research consultant with the VW foundation on a schools project in the Uitenhage region.



Professor Mark De Vos - Head of Department

Dr Ian Siebörger regularly writes opinion pieces about his research on South African political news discourses for the *Mail & Guardian*. In 2022, three (3) of his pieces were published in the paper, entitled '*Sisulu vs. Ramaphosa: the ANC's war of (stolen) words*', '*Ramaphosa: Reminded, lobbied and plotted against*' and '*Eskom caught in a web of dysfunctionality*'.

Professor Will Bennett and Professor Mark de Vos were invited to teach at the first Seshegopuo Linguistics Winter School funded and hosted by Dr Kristina Riedel of the Department of Linguistics and Language Practice at the University of the Free State. This was the first ever Linguistics school of its kind and it was attended by a select group of Postgraduate students from Southern Africa including Zimbabwe, Lesotho, Eswatini and Mozambique.

Postgraduates / Graduations

The department has a healthy Postgraduate programme. We graduated one (1) PhD, two (2) Masters and five (5) Honours students. In particular we want to draw attention to Dr Christie's seminal work in the sociolinguistics of Khoe language Contact in the Richtersveld. Her work focussed on the diffusion of click loans via Afrikaans and how the remnants of these clicks, although much changed through language contact, can be used to postulate the existence of now-extinct Khoe dialects.

Significant Research Aligned Events

We celebrated our annual Linguistics Postgraduate Conference in hybrid form with lively participation from Postgraduates as far afield as Israel and Palestine, Jordan and Germany.

Books/Chapters/Monographs

De Vos, M.

De Vos, M., Nevins, A., Willer Gold, J. and Peti-Stantic, A. (ed.) (2022) *Angles of Object Agreement*. New York: Oxford University Press. ISBN: 9780192897749.

Concerts, Exhibitions, Performances, Workshops, Events

Bennett, W. Instructor. Seshegopuo Linguistics Winter School 2022. *The Phonology of Clicks*. UFS, Bloemfontein. South Africa. 4 - 8 July 2022.

De Vos, M.

De Vos, M. Instructor. Seshegopuo Linguistics Winter School 2022. *Introduction to Topics in Minimalist Syntax*. UFS, Bloemfontein. South Africa. 4 - 8 July 2022.

Peer Reviewed Subsidy-Earning Journal Research Publications

Adendorff, R.D.

Smith, J. and Adendorff, R.D. (2022) A sign of The Times: an Appraisal analysis of the imagined community's bonding in letters to a South African newspaper. *Stellenbosch Papers in Linguistics Plus*. 64 (2022). p.29-47.

Christie, C.R.

Christie, C.R. (2022) Khoekhoe Lexical Borrowing in Regionalised Afrikaans. *Stellenbosch Papers in Linguistics Plus*. 64 (2022). p.133-143.

Daries, M.A. and Probert, T.

Daries, M.A., Probert, T. and Schaefer, M.N. (2022) The contributions of reading and phonological awareness for spelling in grade three isiXhosa learners. *Reading and Writing (South Africa)*. 13 (1). p.1-14.

Kilian, K.

Kilian, K. (2022) The Phonological System of Tumi. *Stellenbosch Papers in Linguistics Plus*. 64 (2022). p.111-131.

Probert, T. and De Vos, M.

Probert, T. and De Vos, M. (2022) Creating an Epistemically Diverse Undergraduate Linguistics Curriculum. *Educational Research for Social Change*. 11 (2). p.57-75.

Siebörger, I. and Adendorff, R.D.

Siebörger, I. and Adendorff, R.D. (2022) Constellations, technicality, iconisation and Eskom: A case from South Africa's Business Day. *Southern African Linguistics and Applied Language Studies*. 40 (2). p.145-161.

Siebörger, I. and Adendorff, R.D. (2022) Development of a translation device for axiological-semantic density in political news articles: wording and charging. *Text & Talk*. 43 (2). p.1-24.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

De Vos, M.

De Vos, M. An asymmetry in present-prefect constructions in Afrikaans. *Tense, Time, Aspect, Mood, Modality in African Languages*. Stellenbosch University, Stellenbosch. South Africa. April 2022.

Siebörger, I.

Siebörger, I. A family affair: iconisation and the jailing of former South African president Jacob Zuma. *European Systemic Functional Linguistics Conference 2022*. Online. August 2022.

Knoetze, R., Clarence, S., van Heerden, M., Carver, A. and Siebörger, I. Axiology in action: tacit but noisy. *Legitimation Code Theory 3.5 Conference*. Online. January 2022.

Simango, S.R.

Simango, S.R. Monosyllabic verbs in ciNsenga and the minimality puzzle. *9th International Conference on Bantu Languages*. Malawi University of Science and Technology, Blantyre. Malawi. June 2022.

Simango, S.R. and Slater, O.M.

Simango, S.R. and Slater, O.M. On the pragmatics of negation in isiXhosa. *10th Southern African Microlinguistic Workshop*. North West University, Potchefstroom. South Africa. December 2022.

Simango, S.R. and Slater, O.M. On the pragmatics of negation in isiXhosa. *9th International Conference on Bantu Languages*. Malawi University of Science and Technology, Blantyre. Malawi. June 2022.

Department of Literary Studies in English

INTRODUCTION

For three (3) years, we have had to deal with effects of a global pandemic. In 2022, we witnessed an increase in research activities, including face-to-face events. In addition, members of staff, Postdoctoral fellows and Postgraduate students increased their research output, Postgraduate supervision, and undergraduate teaching. The highlight of the year was the visit of a cohort of academics from Sweden led by Professor Ashleigh Harris.



Associate Professor Lynda Gichanda Spencer
- Head of Department

Postgraduates / Graduations

Heartfelt congratulations to our Honours students and their supervisors. In the aftermath of the pandemic, we have seen a drop in our Postgraduate numbers. We only had three (3) Honours who graduated.

Significant Research Aligned Events

On 5 October, Dr Jamie McGregor launched his new book *Going Through Hell: The Self-help Secrets of Dante's Inferno* at the Amazwi South African Literary Museum. The book is aimed at a general readership and offers an accessible introduction to the first part of Dante's *Divine Comedy*, which it irreverently -- but only half-jokingly -- promotes as the mediaeval equivalent of a self-help book.

In 2019, six (6) Postgraduate students and one (1) academic attended the African Today Archives workshop in Sweden. In November 2022, four Postdoctoral fellows and two academics from Sweden visited Rhodes University. This was the second workshop organised by the Contemporary African Texts and Contexts: Decolonising the Archive, Genre and Method research project. This is a collaborative endeavour that brings together two (2) established research projects: 'African Street Literature and the Future of Literary Form', financed by the Swedish Research Council (2017-2022) and led by Professor Ashleigh Harris from Uppsala University and 'Urban Connections in African Popular Imaginaries' funded by the Andrew W. Mellon Foundation (2017-2024), and headed by Associate Professor Lynda Gichanda Spencer from Rhodes University.

On the first day of the workshop five (5) Postgraduate students delivered 20-minute presentations on their research. Pearl Munemo presented a paper titled "Counterstorytelling on Wattpad and JAYLit: Reimagining Representations of Disability and Poverty". This was followed by Shilika Chisoko's paper which interrogated the relationship between humour and violence in Zambia's tradition of chimbuya. Kananelo Tsuene presented a paper exploring three texts that narrativize the roles and experiences of women in Ethiopian war narratives. Catherine Bloy's read a paper titled "Chick Lit in the Diaspora: An Inexhaustive Study of Muslim Romance in Canada and Australia".

On second day of the workshop, the Swedish cohort presented their recent research. Dr Sanja Nivesö presented her ideas the representation of interracial love in South African literature. Dr Tasnim Qutait's project centred around memoirs and writers who write from a state of insecurity. She also spoke about the different ways in which writers create archives as history unfolds, and what that means for the writer's text and the implications on their country of origin. Dr Maria Zirra's



On the right, Emeritus Professor Dan Wylie introducing Dr Jamie McGregor at the launch of *Going Through Hell: The Self-help Secrets of Dante's Inferno*.

Photo: Department of Literary Studies in English

paper focussed on the production of South African literary magazines in the apartheid era. Dr Oulia Makkonen's paper concentrated on the complexities of representing religion in African filmmaking and she highlighted the trends and challenges of the film industry in Africa.

On the third day, we met at Amazwi, The Museum of South African Literature. Kudzai Barure presented a paper highlighting the necessity of a more comprehensive understanding of the influence of print cultures, particularly post/colonial popular magazines in Zimbabwe. The paper also examined the rhetoric and reality of circular migration in three post-2000 Zimbabwean popular Magazines. Later Professor Harris introduced her project on African Literary Metadata and stressed the importance of a systematic study of categorising books and emerging creative works in indigenous languages that are not officially catalogued. On the fourth day of the workshop Dr Nicklas Hållén's paper titled "Silences and The Unsayable", analysed the novel form and how it adapts and compromises between the formal, Western space and the local, lived experiences, and Dr Gibson Ncube spoke extensively about Queer Bodies in African Film and the body as a site of knowledge and meaning-making.

Department of Literary Studies in English

PUBLICATIONS

Books/Chapters/Monographs

Helgesson, A.S.

Helgesson, A.S. (2022) *Decolonisations of Literature: Critical Practice in Africa and Brazil after 1945*. Liverpool: Liverpool University Press. ISBN: 9781802070651.

Helgesson, A.S. (2022) The Little Magazine as a World-Making Form: Literary Distance and Political Contestation in Southern African Journals. In: Helgesson, S., Bodin, H. and Mörté Alling, A. (eds.). *Literature and the Making of the World: Cosmopolitan Texts, Vernacular Practices*. p.215-248. ISBN: 9781501374197.

Helgesson, A.S. (2022) African Angles on World Literature. In: D'haen, T., Damrosch, D. and Kadir, D. (eds.). *The Routledge Companion to World Literature*. London: Routledge. p.416-424. ISBN: 9781032075389.

Helgesson, A.S., Bodin, H. and Mörté Alling, A. (ed.) (2022) *Literature and the Making of the World: Cosmopolitan Texts, Vernacular Practices*. ISBN: 9781501374197.

Kiguru, D.W.

Kiguru, D.W. (2022) Scandals, Controversies and African Literary Prizes: Between Intertextuality and Plagiarism. In: *Routledge Handbook of African Popular Culture*. London: University of London SOAS, Routledge, Taylor & Francis Group. p.132-151. ISBN: 9780367483869.

Lumasia, P.C.

Lumasia, P.C. (2022) Sex Humour: Purveyor of Sex Mores and Power Matrices. In: Chukwumah, I. (ed.). *Sexual Humour in Africa: Gender, Jokes and Societal Change*. London: Routledge. p.23-37. ISBN: 9780367776244.

Naidu, S.

Naidu, S. (2022) A Border-Crossing Teaching Body: Reflections on a Decolonial Pedagogy for Literary Studies in a South African Context. In: Beyer, C. (ed.). *Decolonising the Literature Curriculum*. Switzerland: Springer Nature Switzerland. p.153-170. ISBN: 9783030912895.

Njovane, T.

Njovane, T. (2022) (Un)Homing and the Uncanny: The (Auto) Biographical Eskia Mphahlele. In: Peterson, B. and Mkhize, K. and Xaba, M. (eds.). *The Meaning of Foundational Writers Across a Century: Peter Abrahams, Noni Jabavu, Sibusiso Nyembezi, Eskia Mphahlele*. Johannesburg: Wits University Press. p.157-170. ISBN: 9781776147519.

Phiri, A.

Phiri, A. (2022) The Ludic Impulse: Race Narratives 'at play' in Toni Morrison's *Playing in the Dark* and Zoe Wicomb's *Playing in the Light*. In: Colvin, S. and Galasso, S. (eds.). *Epistemic Justice and Creative Agency: Global Perspectives on Literature and Film*. London: Routledge. p.151-175. ISBN: 9781032183923.

Phiri, A. (2022) Trumping the House that Race Built: Deracinating Twenty-First-Century American Politics. In: Williams, M.A. (ed.). *Cultures of Populism: Institutions, Practices and Resistance*. London: Routledge. p.100-113. ISBN: 9780367715625.

Phiri, A. (2022) Coloured by history, shaped otherwise: A decolonial reading of Zoë Wicomb. In: *The Short Story in South Africa Contemporary Trends and Perspectives*. London: Routledge. p.46-62. ISBN: 9781003226840.

Primorac, R.

Primorac, R. (2022) Against African Popular Literature or: *The Weeping Woman*. In: *Routledge Handbook of African Popular Culture*. London: London: University of London SOAS, Routledge, Taylor & Francis Group. p.92-109. ISBN: 9780367483869.

Spencer, L.G.

Spencer, L.G. (2022) Gendering the popular: Making a case for FEMRITE in Uganda and Beyond. In: *Routledge Handbook of African Popular Culture*. London: London: University of London SOAS, Routledge, Taylor & Francis Group. p.110-131. ISBN: 9780367483869 .

Concerts, Exhibitions, Performances, Workshops, Events

Njovane, T.

Njovane, T. Panelist. Intersectionality in the Academy and in Research. *Exploring the Impact of Intersectionality in academia and research*. University of Lagos, Lagos. Nigeria. 23 November 2022.

Phiri, A.

Phiri, A. Guest Speaker/Invited Papers Presented at Specialist Conferences. 'All right, then, I'll go to hell!': Huckleberry Finn, Cross border Pedagogy and the Ethics of Passing'. *Adelaide and Flinders Universities seminar series*. Adelaide. Australia. 29 April - 6 May 2022.

Distinguished Visitors

Hällén, N.

Dr N Hällén. Karlstad University, Karlstad, Sweden. *Collaboration*. November 2022.

Harris, A.M.

Professor AM Harris. Uppsala University, Uppsala, Sweden. *Collaboration*. November 2022.

Makkonen, O.M.

Dr OM Makkonen. Uppsala University, Uppsala, Sweden. *Collaboration*. November 2022.

Nabutanyi, E.F.

Dr EF Nabutanyi. Makerere University, Kampala, Uganda. *Research*. December 2022.

Navesjo, S.N.

Dr SN Navesjo. University of Salford, Salford, United Kingdom. *Research*. September 2022.

Nicholls, B.L.

Professor BL Nicholls. University of Leeds, Leeds, United Kingdom. *Hugh Le May Research Fellow*. July 2022.

Ong, J.M.

Dr JM Ong. University of Salford, Salford, United Kingdom. *Research*. September 2022.

Qutait, T.

Dr T Qutait. Uppsala University, Uppsala, Sweden. *Collaboration*. November 2022.

Remmington, J.

J Remmington. University of York, York, United Kingdom. *Research*. September 2022.

Zirra, M.

Dr M Zirra. Stockholm University, Stockholm, Sweden. *Research*. January 2022.

Peer Reviewed Non-Subsidy-Earning Journal Research Publications

Klopper, D.

Klopper, D. and Sekwiha-Gwajima, E. (2022) A life elsewhere: figurations of the journey in Wilma Stockenström's. *The Expedition to the Baobab Tree*. *Journal of the African Literature Association*. 16 (2022). p.39-53.

Naidu, S.

Naidu, S. (2022) Intersecting Crime: South African State Capture and the Hero-Criminal Binary in Deon Meyer's *The Last Hunt* (2019). *CLUES A Journal of Detection*. 40 (2). p.18-28.

Peer Reviewed Subsidy-Earning Journal Research Publications

Barure, W.K.

Barure, W.K. and Tivenga, D.R. (2022) Life Writing During a Pandemic: Making Sense of the New Normal in Lockdown Extended: Corona Chronicles (2020). *Journal of Literary Studies*. 38 (1). p.1-16.

Bosman, S.J.

Bosman, S.J. (2022) '[T]o Make us Complete as Human Beings': Soil as the Bedrock of Collected Memories in Niq Mhlongo's *Paradise in Gaza*. *English Studies in Africa*. 66 (1). p.45-53.

Helgesson, A.S.

Helgesson, A.S. (2022) Världslitteraturteori. *Agora*. 2 (3). p.8-23.

Kiguru, D.W.

Kiguru, D.W. (2022) Journeying through Nairobi: Mapping the City through Prize-Winning Stories. *English Studies in Africa*. 66 (1). p.124-137.

Klopper, D.

Klopper, D. (2022) Ghosts of Books: Rereading Thomas Pringle's *African Sketches*, with Matthew Shums Improvisations of Empire and Zoë Wicomb's *Still Life*. *Current Writing*. 34 (2). p.140-155.

Naidu, S.

Naidu, S. (2022) How black is African Noir: Defining blackness through Crime Fiction. *Cultural Studies*. 2022 (1). p.1-18.

Nicholls, B.L.

Nicholls, B.L. (2022) Rethinking Freud and Marx through Afro-Atlantic Religions: The Fetish Revisited: Marx, Freud, and the Gods Black People Make by J. Lorand Matory. Durham: Duke University Press, 2018. *Cultural Critique*. 117 (1). p.145-155.

Phiri, A.

Phiri, A. (2022) "Reframing the Black Atlantic". *Cultural Studies*. 2022 (2022). p.1-13.

Phiri, A. (2022) Migrating narratives: re-inscribing black diaspora cultures. *Cultural Studies*. 2022 (2022). p.1-18.

Phiri, A. and Wright, M.M. (2022) Interview: The elephant in the room: talking (physics of) blackness with Michelle M Wright. *Cultural Studies*. 2022 (2022). p.1-9.

Pillay, K.S.

Pillay, K.S. (2022). Driven by and Blinded by Our Desperation: Religious Exploitation of Vulnerable Women in Amma Darko's *Not Without Flowers*. *English in Africa*. 49 (2). p.71-90.

Ugwanyi, D.M.

Ugwanyi, D.M. (2022) Ecological Violations and Anthropogenic Pollution in Ngugi wa Thiong'o's *Wizard of the Crow*. *Eastern African Literary and Cultural Studies*. p.1-12.

Research Papers Presented at Academic /Scientific Conferences (Non-peer-reviewed Proceedings)

Barure, W.K.

Barure, W.K. From transgressive experimentation to literary products of resilience: Reframing the position of Zitoriebhuku in Zimbabwe. *Disobedient Forms: The Textual Worlds of South-Eastern Africa*. Stellenbosch Institute of Advanced Study, Stellenbosch. South Africa. April 2022.

Barure, W.K. Searching for Comfort: The rhetoric and reality of circular migration in post-2000 short fiction. *Feminist Solidarities and Archival Methodologies*. Rhodes University, Makhanda. South Africa. November 2022.

Bloy, C.S.

Bloy, C.S. Chick Lit in the Diaspora: An Inexhaustive Study of Muslim Romance in Canada and Australia. *Feminist Solidarities and Archival Methodologies*. Rhodes University, Makhanda. South Africa. November 2022.

Lumasia, P.C.

Lumasia, P.C. Mediated Life Writing on the Screen and/or online. *Disobedient Forms: The Textual Worlds of South-Eastern Africa*



Some of the participants at the Solidarity Workshop.

Photo: Department of Literary Studies in English

Network Workshop. Stellenbosch Institute of Advanced Study, Stellenbosch. South Africa. April 2022.

Munemo, P.B.

Munemo, P.B. Counter storytelling on Wattpad and JAYLit: Reimagining Representations of Disability and Poverty. *Feminist Solidarities and Archival Methodologies*. Rhodes University, Makhanda. South Africa. November 2022.

Munemo, P.B. Self-publishing and Translated Texts: A Comparison between Wattpad and FunDza. *Disobedient Forms: The Textual Worlds of South-Eastern Africa Network*. Stellenbosch Institute of Advanced Study, Stellenbosch. South Africa. April 2022.

Naidu, S.

Naidu, S. "A tough, principled cookie": African noir and the ambiguous female detective? *Captivating Criminality 8 Conference*. Bamberg, Bamberg. Germany. June 2022.

Njovane, T.

Njovane, T. Disrupting the Colonial in Postcolonial: The New African Historical Novel. *3rd Annual Cluster Conference of the Africa Multiple Cluster of Excellence*. Rhodes University and University of Bayreuth, Makhanda and Bayreuth. South Africa and Germany. July 2022.

Njovane, T. Linguistic Trauma, Fragmenting French: Ahmadou Kourouma's Allah is Not Obligated. *47th Annual Meeting of the African Literature Association*. Online. USA. May 2022.

Njovane, T. Epistemology and Ontology in African Studies Collaborations. *African Studies Association Germany (VAD) Conference 2022: Africa-Europe: Reciprocal Perspectives*. Freiburg University, Freiburg. Germany. June 2022.

Spencer, L.G.

Spencer, L.G. "Walk like the chameleon": Reflecting on my teaching journey at a South African University. *The formal opening of the national graduate school CuEEd-LL - Culturally Empowering Education through Language and Literature*. Jönköping University, Jönköping. Sweden. March 2022.

Spencer, L.G. Reading Nollybooks as a disobedient form of the romance genre. *Disobedient Forms*. Stellenbosch Institute of Advanced Study, Stellenbosch. South Africa. April 2022.

Spencer, L.G. Conspicuous consumption in Happiness is a Four-Letter Word and An African City. *4th Biennial Conference 2022 African Studies Association of Africa*. University of Cape Town, Cape Town. South Africa. April 2022.

Tsuene, K.

Tsuene, K. Were More Than This: Exploring the Roles and Experiences of Women in Selected Ethiopian War Narratives. *Feminist Solidarities and Archival Methodologies*. Rhodes University, Makhanda. South Africa. November 2022.

Tsuene, K. Ethiopian Women Under Fire: Exploring selected narratives on the Second Italo-Ethiopian War. *Es'Kia Mphahlele colloquium*. Wits University, Johannesburg. South Africa. September 2022.

Department of Management

INTRODUCTION

During 2022, the Department of Management continued to promote and develop a research culture and capability by integrating research thinking and skills into its teaching, particularly at the fourth-year level, where students are exposed to a research methodology module and produce a research report. The Department also offers a structured research component in the Masters and PhD programmes.



Mr Trevor Amos - Head of Department

In addition, the Department integrates an academic writing programme into its first-year course to develop the writing ability of students.

Staff continued their research, supervision and authoring with several contributions to books published in 2022 and a number to be published in 2023.

Chaired by Mattheus Louw, staff in the Department served on the organising committee of the *33rd Annual Southern Africa Institute of Management Scientists Conference* hosted by the Department of Management at the Mpekweni Beach Resort 11 - 13 September 2022.

Dr Xolile Antoni, a Senior Lecturer in the Department, was awarded the Faculty of Commerce "Researcher of the Year" Award for 2022.

Significant Research Aligned Events

The Department of Management hosted the *33rd Annual Southern Africa Institute of Management Scientists Conference* at the Mpekweni Beach Resort 11 - 13 September 2022. At the conference, ninety-six (96) papers were presented and attended by one hundred and fifty (150) delegates.

Department of Management PUBLICATIONS

Books/Chapters/Monographs

Amos, T.

Amos, T. (2022). Chapter 11: Motivation. In: D. Hellriegel, J. Slocum, S. Jackson, L. Louw, G. Staude (Editors). *Management*. 6th South African Edition. South Africa: Oxford University Press. p.321-358. ISBN: 9780190748159.

Amos, T. (2022). Chapter 12: Leadership. In: D. Hellriegel, J. Slocum, S. Jackson, L. Louw, G. Staude (Editors). *Management*. 6th South African Edition. South Africa: Oxford University Press. p.359-393. ISBN: 9780190748159.

Amos, T. (2022). Chapter 11: Human Resource Management. In: De Beer, A. and Nel, J. (Editors). *Business Management: A contemporary approach*. 4th Edition. South Africa: Juta and Company (Pty) Ltd. p.337-389. ISBN: 9781485132547.

Amos, T. and Pearse, N.

Amos, T. and Pearse, N. (2022). Chapter 5: The external context of strategic planning. In: Venter, P and Botha, T (Editors). *Practising Strategy: A southern African context Third edition*. South Africa: Juta and Company (Pty) Ltd. p.119-158. ISBN: 9781485132649.

Louw, L.

Louw, L. (2022). Chapter 2: Managerial competencies. In: D. Hellriegel, J. Slocum, S. Jackson, L. Louw, G. Staude (Editors). *Management*. 6th South African Edition. South Africa: Oxford University Press. p.26-53. ISBN: 9780190748159.

Louw, L. (2022). Chapter 3: Evolution of management thought. In: D. Hellriegel, J. Slocum, S. Jackson, L. Louw, G. Staude (Editors). *Management*. 6th South African Edition. South Africa: Oxford University Press. p.54-85. ISBN: 9780190748159.

Louw, M.

Louw, M. (2022). Chapter 10: Culture and diversity. In: D. Hellriegel, J. Slocum, S. Jackson, L. Louw, G. Staude (Editors). *Management*. 6th South African Edition. South Africa: Oxford University Press. p.295-318. ISBN: 9780190748159.

Louw, M. (2022). Chapter 13: Organisational communication. In: D. Hellriegel, J. Slocum, S. Jackson, L. Louw, G. Staude (Editors). *Management*. 6th South African Edition. South Africa: Oxford University Press. p.394-427. ISBN: 9780190748159.

Louw, M. and Amos, T.

Louw, M. and Amos, T. (2022). Chapter 15: International Human Resource Management. In: Adewale, A.R. (Editor). *Global Business Management in Emerging Markets - An African Imperative*. 1st Edition. South Africa: Juta and Company (Pty) Ltd. p.361-384. ISBN: 978148513213 4.

Maritz, M.

Maritz, M. (2022) Chapter 10: Logistics Management. In: JP Bruwer (Editor) *Principals of Business Management*. 5th Ed. South Africa: Oxford University Press. p.226-246. ISBN: 9780190743307.

Peer Reviewed Subsidy-Earning Journal Research Publications

Oosthuizen, N.

Babirye, H., Tait, M. and Oosthuizen, N. (2022) Creating a suitable contract compliance environment in state departments in Uganda: A developing economy perspective. *Journal of Contemporary Management*. 19 (1). p.381-411.

Babirye, H., Tait, M. and Oosthuizen, N. (2022) The Process of Contract Compliance: A Public Procurement Perspective. *Southern African Business Review*. 26 (2022). p.1-21.

Peer-reviewed Proceedings

Antoni, X.L.

Antoni, X.L. The factors influencing consumers to seek professional financial advice. *Southern African Institute for Management Scientists (SAIMS) Conference*. Mpekweni Beach Resort, Port Alfred. South Africa. September 2022.

Chigwendere, F.B. and Louw, L.

Chigwendere, F.B. and Louw, L. Intercultural communication awareness in a Sino-African context. *33rd Southern African Institute for Management Scientists (SAIMS) Conference*. Mpekweni Beach Resort, Port Alfred. South Africa. September 2022.

Louw, M. and Temme, T.

Louw, M. and Temme, T. A business simulation game to enhance learning: student perceptions. *33rd Southern African Institute for Management Scientists (SAIMS) Conference*. Mpekweni Beach Resort, Port Alfred. South Africa. September 2022.

Ngobeni, M.P.S., Oosthuizen, N. and Williams, A.S.

Ngobeni, M.P.S., Oosthuizen, N. and Williams, A.S. The role of social media influencer's credibility on the purchase intentions of young adults. *33rd Southern African Institute for Management Scientists (SAIMS) Conference*. Mpekweni Beach Resort, Port Alfred. South Africa. September 2022.

Department of Mathematics (Pure and Applied)

INTRODUCTION

Our continuous effort in extending research collaboration locally and internationally showed further progress in 2022, marked by international visits and international visitors.



Associate Professor Eric Andriantiana
- Head of Department



Mr Xhanti Sinoxolo (right), a PhD candidate at the Department of Mathematics of Rhodes University, receiving the PhD best presentation award during the 2022 congress of the South African Mathematical Society.

Photo: Department of Mathematics (Pure and Applied)

We consistently contributed to organising research related events in national conferences and workshops. Professor Eric Andriantiana was part of the organising committee of the Graph Theory special session of the South African Mathematical Society congress in 2022. He also led the organising committee of the annual research retreat of the Coe-Mass's Graph Theory Focus Area in 2022.

The Increased participation of our Postgraduate students in our internal research seminars boosted the confidence of our students when presenting in conferences and lead to an obtention of the PhD best presentation award by one of our PhD candidates during the annual congress of the South African Mathematics Society in December 2022.

Distinguished Visitors / International Visits

Professor Eric Andriantiana visited Professor Stephan Wagner at the Uppsala University of Sweden from the 25 September to the 08 October 2022, maintaining a more than a decade long collaboration.

Dr Ing Franklin Tchakounté, Senior Lecturer, Head of Distance Learning, University of Ngaoundéré Cameroon, visited our Artificial Intelligence Research Group. This was a long visit: March to August 2022. His visit was funded by the DAAD.

PUBLICATIONS

Peer Reviewed Non-Subsidy-Earning Journal Research Publications

Olonijju, S.D.

Olonijju, S.D. (2022) MHD Powell Eyring nanofluid motion with convective surface condition and Dufour Soret impact past a vertical plate: Lie group analysis. *Partial Differential Equations in Applied Mathematics*. 6 (2022). p.1-10.

Peer Reviewed Subsidy-Earning Journal Research Publications

Andriantiana, E.O.D.

Andriantiana, E.O.D. and Wagner, S. (2022) Trees with minimum number of infima closed sets? *Discrete Mathematics*. 346 (5). p.112793-112796.

Atemkeng Teufack, M.

Ianjamasimanana, R., Jozsa, G.I.G., Namumba, B., Smirnov, O.M., Hugo, B., Maina, E.K., Andati, L.A.L., Ramatsoku, M. and Atemkeng Teufack, M. (2022) The extended HI halo of NGC 4945 as seen by MeerKAT. *Monthly Notices of the Royal Astronomical Society*. 513 (2). p.1-20.

Fendji, J.L.K.E., Tala, D.M., Yenke, B.O. and Atemkeng Teufack, M. (2022) Automatic Speech Recognition using limited vocabulary: A survey. *Applied Artificial Intelligence*. 36 (1). p.1-35.

Atemkeng Teufack, M. and Okouma, P.M.

Atemkeng Teufack, M., Okouma, P.M., Maina, E.K., Ianjamasimanana, R. and Zambou, S. (2022) Radio Astronomical Antennas in the Central African Region to Improve the Sampling Function of the VLBI Network in the SKA Era? *Sensors*. 22 (21). p.1-16.

Atemkeng Teufack, M., Okouma, P.M. and Nandutu, I.

Atemkeng Teufack, M., Okouma, P.M. and Nandutu, I. (2022) Intelligent Systems Using Sensors and/or Machine Learning to Mitigate Wildlife Vehicle Collisions: A Review, Challenges, and New Perspectives. *Sensors*. 22 (7). p.2-47.

Bishop, N.T. and Pollney, D.

Giannakopoulos, T., Bishop, N.T., Hilditch, D., Pollney, D. and Thanasis, M. (2022) Gauge structure of the Einstein field equations in Bondi-like coordinates. *Physical Review D*. 105 (084055). p.1-24.

Bishop, N.T., Van Der Walt, P.J. and Naidoo, M.

Bishop, N.T., Van Der Walt, P.J. and Naidoo, M. (2022) Effect of a viscous fluid shell on the propagation of gravitational waves. *Physical Review D*. 106 (084018). p.1-10.

Murali, V. and Nkonkobe, S.

Adell, J.A., Benyi, B., Murali, V. and Nkonkobe, S. (2022) Generalized barred preferential arrangements. *Transactions on Combinatorics*. 12 (1). p.1-17.

Nandutu, I., Atemkeng, M.T. and Okouma, P.M.

Nandutu, I., Atemkeng, M.T., Mgqatsa, N., Sari, S.T., Okouma, P.M., Rockefeller, R., Ansah-Narh, T., Kedieng Fendji, J.L.E. and Tchakounte, F. (2022) Error Correction Based Deep Neural Networks for Modelling and Predicting South African Wildlife Vehicle Collision Data. *Mathematics*. 10 (2022). p.1-31.

Olonijju, S.D.

Tijani, Y.O., Olonijju, S.D., Kasali, K.B. and Akolade, M.T. (2022) Non-similar solution of a boundary layer flow of a Reiner-Philippoff fluid with nonlinear thermal convection. *Heat Transfer*. 51 (2022). p.5659-5678.

Lekoko, M.L., Olonijju, S.D. and Magalakwe, G. (2022) Analysis of buoyancy driven flow inside a vertical filter chamber. *Chaos, Solitons and Fractals*. 161 (2022). p.112292.

Lekoko, M.L., Olonijju, S.D. and Magalakwe, G. (2022) Injection driven flow in a dilating or contracting filter chamber with parabolic left inlet velocity. *International Journal of Non-Linear Mechanics*. 142 (2022). p.1-12.

The nine (9) participants of the Research Retreat of the Coe-Mass Graph Theory focus area, on the 5-7 September 2022 at the Mpekwani beach resort, with organising committee led by Associate Professor Eric Andriantiana (far right).

Photo: Department of Mathematics (Pure and Applied)



Department of Music and Musicology

INTRODUCTION

2022 was a very productive year for the Department of Music and Musicology as can be seen by the recorded output. Not only did lecturers and students produce creative and written research output of excellent quality but also in exciting and challenging areas of musical research which have placed us at the cutting edge of South African academic inquiry. We bid Jo-Nette Lekay, our singing lecturer, farewell as she moved on to other opportunities and welcomed musicologist Dominic Daula to the Department.



Dr Boudina McConnachie - Head of Department



Collaboration with SASRIM: Departmental presenters with the SASRIM committee and NIHSS sponsor.

Photo: Department of Music and Musicology

We partnered with local schools, community organisations and individuals to form the Makana Community Orchestra (MCO) which held its first concert to a packed audience in Makhanda at the end of 2022, took part in the Eastern Cape based Imbumba Freedom Orchestra's performance of Ed Sarraths' composition 'His Day is Done' and co-hosted the annual Rhodes University orchestral performance with Nelson Mandela University, where Professor Catherine Foxcroft performed Moments for Orchestra (World premier) by Arthur Feder.

Postgraduates / Graduations

Our Postgraduate cohort continues to grow, and we saw eight (8) Postgraduate students (one (1) PhD, three (3) Masters, four (4) Honours) complete their music degrees. The Rhodes University Chamber Choir performed at both the April and October 2022 ceremonies and we look forward to celebrating their 70th anniversary in 2023. PhD candidate Thandeka Mfinyongo was invited to perform at the National Arts Festival in Makhanda to sold out shows and also appeared on national television where she show-cased new amplification technology for the *uhadi* (Xhosa musical bow) developed by fellow PhD candidate, and ILAM sound engineer, Elijah Madiba. As part of the 2022 National Arts Festival exhibition title 'Our Ocean is Sacred, You Can't Mine Heaven' co-curated by Dr McConnachie and Dr Dylan McGarry, the podcast series 'Songs of the Ocean' was launched. This was co-hosted by Kuhle Ngezana and Dr McConnachie with research and production assistance by Masters candidates Nombasa Maqoko and Praise Mathebula.

Distinguished Visitors / International Visits

This year we hosted a number of world-leading scholars in music studies via the online Music Postgraduate Colloquium Series run by Dr William Fourie. These included Professor Martin Scherzinger (New York University), Professor Robert Adlington (Huddersfield University), Professor Nina Eidsheim (University of California, Los Angeles), Professor Alexandra Lamont (Keele University), and Professor Kofi Agawu (City University of New York). In addition, we had several African scholars spend time with us as part of the Bayreuth University funded Africa Multiple Cluster project titled 'Sonic Approaches



Rhodes University officially Robes Honorary Doctorate Recipient Dr Latozi Madosini Mpahleni.

From Left to Right: DSRAC MEC Nonceba Khontsiwe, Arts & Culture Minister Nathi Mthethwa, Honorary doctorate recipient Dr Latozi Madosini Mpahleni, Vice-Chancellor Professor Sizwe Mabizela and Music and Musicology, HOD Dr Boudina McConnachie.

Photo: Department of Music and Musicology

to Africa Pedagogy'. Dr Eric Otchere and Dr John Doe Dordzro (Cape Coast University, Ghana), Dr Dominic Makwa (Makerere University, Uganda) and Dr Jane Sinyei-Mwonga (Moi University, Kenya) each spend a one-month residency where they worked with Dr McConnachie and scholars and students at the International Library of African Music (ILAM).

Professor Foxcroft attended the 14th World Piano Conference in Novi Sad, Serbia where she gave a public masterclass and performed a piano recital which featured South African composers Bongani Ndodana-Breen and Alexander Johnson. Dr McConnachie was head-adjudicator at the National Institute of the Allied Arts eisteddfod in Zimbabwe where she was assisted by PhD candidate Garreth Roberston. Dr McConnachie also presented at the International Council for Traditional Music (ICTM) conference in Portugal later in the year.

Significant Research Aligned Events

In partnership with the International Library of African Music, the Department hosted the 16th Annual Conference of the South African Society for Research in Music (SASRIM) from 25 - 27 August 2022. The conference drew over a hundred-and-fifty (150) delegates from across the globe and partnered with the national Music Schools of the Future (MSoF) conference hosted by Kingswood College to draw in educators from the secondary education sector. Professor Angela Impey (SOAS) gave the keynote address for SASRIM while Dr Boudina McConnachie (RU) gave the keynote for the MSoF. Mr Daula and Professor Foxcroft performed together at the event and four Rhodes University lecturers and nine (9) Postgraduate students presented papers at the conference. Dr Fourie led the programme committee and was assisted by Dr McConnachie, Elijah Madiba, Dominic Daula and a number of students in organising the conference.

Various other research events were held by staff members which included the inaugural workshop for the NRF funded Indigenous Marine Innovations for Sustainable Environments and Economies (IMIsEE) project in partnership with the South African Institute for Aquatic Biodiversity (SAIAB) (Dr McConnachie); the NIHSS funded Indigenous Music

Technologies working group workshops (Dr Fourie and ILAM sound engineer and PhD candidate Elijah Madiba); and the inter-university Black Music Matters Colloquium held at Nelson Mandela University in partnership with the University of Michigan and Rhodes University (Dr McConnachie).

Department of Music and Musicology PUBLICATIONS

Books/Chapters/Monographs

Daula, D.H.H.

Daula, D.H.H., Stove, R.J., Langfield, V., French, E., Miller, T., Hyde, T. and Dickinson, P. (ed.) (2022) *British Music: The Journal of the British Music Society, volume 43 (2021)*. London: British Music Society. ISBN: 9781870536431.

Concerts, Exhibitions, Performances, Workshops, Events

Daula, D.H.H. and Foxcroft, C.

Daula, D.H.H. and Foxcroft, C. Convener and performer. Hubert du Plessis: Sonata no. 2, opus 40 (1975). Duration: 15 minutes. Introduced and performed by Dominic Daula (piano). Bongani Ndodana-Breen: Isiko (2019) and Umdlalo Emlanjeni (2013). Duration: 15 minutes. Introduced and performed by Catherine Foxcroft (piano). *100 years of composition at Rhodes (delivered during the Sixteenth Annual Congress of the South African Society for Research in Music)*. Beethoven Room, Makhanda. South Africa. 25 August 2022.

Fourie, W.E.

Fourie, W.E. Workshop Leader. IMT Workshop 4: Codifying IK in music technology. *Codifying IK in music technology*. Rhodes University, Makhanda. South Africa. 25 - 28 August 2022.

Fourie, W.E. Conference host and organizer. Sixteenth Annual Conference of the South African Society for Research in Music. *Sixteenth Annual Conference of the South African Society for Research in Music*. Rhodes University, Makhanda. South Africa. 25 - 28 August 2022.

Fourie, W.E. Workshop Leader. IMT Workshop 3: Student development and consolidation. *Student development and consolidation*. Rhodes University, Makhanda. South Africa. 5 - 7 August 2022.

Fourie, W.E. and Madiba, E.M. Concert curation. Sixteenth Annual Congress of the South African Society for Research in Music. *Indigenous Music Technologies Concert*. Rhodes University, Makhanda. South Africa. 26 August 2022.

Fourie, W.E. Workshop Leader. IMT Workshop 2: Indigenous music technologies and sustainability. *Indigenous music technologies and sustainability*. Rhodes University, Makhanda. South Africa. 10 - 12 June 2022.

Fourie, W.E. Workshop Leader. IMT Workshop 1: Technology in Practice. *Technology in Practice*. Rhodes University, Makhanda. South Africa. 11 - 13 February 2022.

Foxcroft, C.

Foxcroft, C. Collaborative pianist. Moments for Orchestra (World premier) by Arthur Feder. *NMU and RU Symphony Concert*. Guy Butler Hall, Settler's Monument, Makhanda. South Africa. 25 September 2022.

Foxcroft, C. Pianist. SUN 8th International Piano Symposium. Faculty Concert No 3. Piano Extravaganza: Tchaikovsky 1812 Overture: Arranged for 10 pianos. *Faculty collaborative performance*. Endler hall, Stellenbosch. South Africa. 25 March - 3 April 2022.

Foxcroft, C. Soloist. SUN 8th International Piano Symposium. Faculty concert No 1. Isoldens Liebestod by Franz Liszt. *Faculty solo performances*. Endler hall, Stellenbosch. South Africa. 30 March - 3 April 2022.

Foxcroft, C. Pianist. SUN 8th International Piano Symposium. Faculty Concert No 2: Russlan and Ludmilla Overture by Glinka 4 piano collaboration with Erika Bothma (NMU), Malcolm Nay (Wits), Esthea Kruger (UCT). *Faculty collaborative performance*. Endler hall, Stellenbosch. South Africa. 25 March - 3 April 2022.

Foxcroft, C. Soloist. Solo Piano Recital. *Humansdorp Music Society*. Moederkerk, Humansdorp. South Africa. 6 November 2022.

McConnachie, B.

McConnachie, B. Workshop presentation. Intellectual Property (IP) rights and ethical implications in the use of Indigenous Knowledge (IK) and Traditional Cultural Expressions (TCEs) in curriculum development. *TAU 3*. Karidene Hotel, Durban. South Africa. 21 - 25 June 2022.

McConnachie, B. Workshop co-ordination and presentation. Black Music Matters. *Black Music Matters*. Nelson Mandela University, Gqeberha. South Africa. 5 December 2022.

Distinguished Visitors

Fourie, W.E.

Fourie, W.E. University of the Western Cape, Cape Town, South Africa. Contemporary History and Humanities Seminar. August 2022.

Foxcroft, C.

Foxcroft, C. Muzicka skola Isidor Bajic, Novi Sad, Serbia. *Piano Masterclasses 14th World Piano Conference*. Serbia. July 2022.

Foxcroft, C. Stellenbosch University, Stellenbosch, South Africa. *Piano Masterclasses SUN 8th International Piano Symposium*. March 2022.

McConnachie, B.

McConnachie, B. National Institute of the Allied Arts, Harare, Zimbabwe. *Head adjudicator*. March 2022.

Peer Reviewed Non-Subsidy-Earning Journal Research Publications

Fourie, W.E.

Fourie, W.E. (2022) Xavier Livermon, Kwaito Bodies: Remastering

Space and Subjectivity in Post-Apartheid South Africa Durham and London, Duke University Press, 2020, 288 p. *Transposition Musique et Sciences Sociales*. 10 (1). p.1-5.

Fourie, W.E. (2022) Spectral Resistance in Andile Khumalo's 'Bells Die Out'. *Perspectives of New Music*. 59 (2). p.147-171.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Daula, D.H.H.

Daula, D.H.H. Finding One's Voice: Hubert du Plessis's Four Piano Pieces, opus 1 (Lecture-recital. Duration: 1 hour). *Sixteenth Annual Congress of the South African Society for Research in Music*. Rhodes University, Makhanda. South Africa. August 2022.

Fourie, W.E.

Fourie, W.E. Postcolonial Misrepresentation and the ISCM. *58th Annual Conference of the Royal Musical Association*. Durham University, Durham. United Kingdom. September 2022.

Fourie, W.E., Ncanywa, S. and Mfinyongo, T.L.

Fourie, W.E., Madiba, E.M., Ncanywa, S., Mfinyongo, T.L., Molikeng, M., Stacey, C. and Van Rhyn, C. Indigenous Music Technologies - Panel Discussion. *Digital Humanities in Precarious Times*. North-West University, Potchefstroom. South Africa. November 2022.

Fourie, W.E., Madiba, E.M., Stacey, C., Ncanywa, S., Mfinyongo, T.L. and Molikeng, M. Indigenous Music Technologies. *Bowed Electrons Symposium*. University of Cape Town, Cape Town. South Africa. September 2022.

Foxcroft, C.

Foxcroft, C. Solo recital featuring SA composers. Compositions by Schubert, Liszt, Debussy, Ndodana-Breen (Isiko) and Johnson (Jazz Impromptu No 1). *14th World Piano Conference*. Amphitheatre Muzicka skola Isidor Bajic, Novi Sad. Serbia. June 2022.

Foxcroft, C. Introduction and performance of 2 compositions by Bongani Ndodana-Breen: Isiko (2019) and Umdlalo Emlanjeni (2013). *SASRIM 16th annual conference*. Rhodes University, Makhanda. South Africa. August 2022.

McConnachie, B.

McConnachie, B. and Cruywagen, S. MusEd of Note: An Online Teacher Learning Environment. *South African Society for Research in Music*. Rhodes University, Makhanda. South Africa. August 2022.

McConnachie, B. Relying on Collaboration and Making Music.

Unsettling Paradigms - Decolonial Conference. University of Pretoria, Pretoria. South Africa. November 2022.

McConnachie, B. Relying on Collaboration and Making Music: Developing an Accessible African Musical Arts Curriculum in South Africa. *International Council for Traditional Music*. Almada Negreiros College, Lisbon. Portugal. July 2022.

McConnachie, B. Valuing the Ocean through Traditional Cultural Expressions. *South African Society for Research in Music*. Rhodes University, Makhanda. South Africa. August 2022.

McConnachie, B. Inspired? Creativity in the classroom and your life. *Music School of the Future Conference*. Kingswood, Makhanda. South Africa. August 2022.

Makana Community Orchestra practicing at the Beethoven Room. Photo: Department of Music and Musicology



International Library of African Music (ILAM)

INTRODUCTION

ILAM is moving away from the idea of an archive as being merely a repository and is making significant strides towards reimagining the space as one of transformation in which ideas of knowledge and accessibility are key intellectual concerns. It is situated in the nexus between being a centre for research, a site of community engagement, a hub of activities related to music education and conservation, and, the development of new relationships which draw in particularly those who have different approaches to knowledge production and knowledge outputs.



Dr Lee Watkins - Director

In view of the history of archives in general, a key question remains, that of accessibility: accessibility in relation to the transference and development of new skills, particularly in the communities we serve, keeping the doors to the archive and its holdings wide open, and interrogating notions of archives and archiving practices. A main focus is making ILAM relevant to its socio-economic context, and in using the music heritage of the Eastern Cape as a forum for engagement through performance and research. Although ILAM has a footprint in much of sub-Saharan Africa and other parts of the globe, the Eastern Cape is its immediate environment. Its services are tailored accordingly. Widespread consultations with colleagues and members of the community are additional ways in which ILAM retains its position as the leading music archive on the continent.

Significant Research Aligned Events

ILAM is a member of the Rhodes African Studies Centre (RASC) at Rhodes University. RASC is funded by the Africa Multiple Cluster of Excellence at Bayreuth University. Since 2020, ILAM has been engaged in two projects supported by RASC. This is the "Sounding Africa on the Indian Ocean Littoral and in the Southwestern Indian Ocean", and "Beyond Digital Return." ILAM is also a member of a research project called "Inaudible Pasts."

The first part of the project dealing with the Indian Ocean was completed. A major part of this project was initially to document the remaining music cultures of African origins in the Indian Ocean World on digital formats. After a few visits to many locations, including Tanzania, Zanzibar and based on hearsay about collections in Madagascar, it became apparent that digitisation of existing materials was a more urgent requirement. Our Research Associate in Dar es Salaam has collected a substantial amount of recordings on cassettes, vinyl records, and VHS cassettes. The next step is to digitise this collection as a precursor to the second project supported by RASC, "Beyond Digital Return." It became obvious that it is pointless thinking about 'Beyond' when most collections in southern Africa and in the Indian Ocean World are not digitised. A PhD candidate, Rakesh Kumar, assisted and completed a phenomenal research project on the Siddi community in Gujarat. The Siddi community is of African descent and arrived in India approximately 800 years ago.

In the "Beyond Digital Return Project", the first team meeting was held in August 2022 at Rhodes University. Our partners from Moi University in Kenya, the University of Ghana and one of the team leaders from Bayreuth University attended the workshop. Among participants there were four (4) PhD candidates: one from Rhodes University, one (1) from Moi University and two (2) from the University of Ghana. The team members introduced themselves and discussed their research projects and plans. Following the workshop, the supervisors at these respective universities participated in a panel at the South African Society for Research in Music Conference, held at Rhodes University in August 2022.

The Director of ILAM also attended a workshop on the theme of “Inaudible Pasts” at Basel University in July 2022. This project is managed through UFH-History and is supported by the National Research Foundation in South Africa and the Swiss National Science Foundation in Switzerland. This project deals with sound as a site of political and cultural struggle, and social and identity formation. The project looks at sound archives located in South Africa (Alice, Makhanda) and Namibia (Windhoek) where colonialism left deep imprints on social, cultural and physical landscapes. One key interest is to understand sound archives as part of institutionalised mechanisms through which black South African and Namibian connections to land are ‘legislated’ to the past and written out of the future.

Another research project at ILAM deals with the jazz heritage of the Eastern Cape. The project is now in its final year. Members of this project include a research associate at the Mlungisi Music Academy in Queenstown, a PhD candidate who is due to complete her thesis in 2023 and a Masters degree student who recently submitted her thesis. On 29 October 2022 ILAM held a third workshop for rural based musicians in King Williamstown. The workshop dealt with the rights of musicians, copyright issues and how to manage a music career successfully. The workshop was facilitated by the musician and entrepreneur, Concorde Nkabinde.

ILAM secured a partnership with the Global Music Vault (GMV), an online, digital platform which is dedicated to sourcing, safeguarding, and celebrating the world’s most valuable music. The GMV is employing the latest repository technology offered by Microsoft which is using recent discoveries in ultrafast laser optics and machine learning to store data in glass. Their research project, “Project Silica”, is the first-ever storage technology designed and built from the media up, specifically for the cloud. Elire Group has collaborated with Microsoft to create a dedicated Proof of Concept (PoC) glass platter, where a sample selection of some of the world’s most important music data and files is curated, ensuring it is stored in the platter for posterity.

<https://www.billboard.com/pro/norway-global-music-vault-microsoft-silica-glass-storage-elire-group/>

<https://www.fastcompany.com/90757574/with-glass-buried-under-ice-microsoft-plans-to-preserve-music-for-10000-years>

<https://coolhunting.com/tech/global-music-vaults-mission-to-preserve-music-for-10000-years/>

International Library of African Music (ILAM)

PUBLICATIONS

Concerts, Exhibitions, Performances, Workshops, Events

Madiba, E.M.

Fourie, W.E. and Madiba, E.M. Concert curation. Sixteenth Annual Congress of the South African Society for Research in Music. *Indigenous Music Technologies Concert*. Rhodes University, Makhanda. South Africa. 26 August 2022.

Peer Reviewed Subsidy-Earning Journal Research Publications

Watkins, L.W.

Watkins, L.W. (2022) Notes from the field: Making applied ethnomusicology count for students and communities in Keiskammahoek, South Africa. *SAMUS South African Music Studies (Formerly South Africa Journal of Musicology)*. 41-42 (2021/2022). p.327-337.

Peer-reviewed Proceedings

Watkins, L.W.

Watkins, L.W. Digital Return as a Question of Ethics. *Frontiers in African Digital Research*. Iwalewe House, Bayreuth. Germany. January 2021.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Watkins, L.W.

Watkins, L.W. “Bra”, we are the archive! The representation of African traditional sounds in the very modern genre of rap. *South African Society for Research in Music*. Rhodes University, Makhanda. South Africa. August 2022.

Madiba, E.M.

Fourie, W.E., Madiba, E.M., Ncanywa, S., Mfinyongo, T.L., Molikeng, M., Stacey, C. and Van Rhyn, C. Indigenous Music Technologies - Panel Discussion. *Digital Humanities in Precarious Times*. North-West University, Potchefstroom. South Africa. November 2022.

Fourie, W.E., Madiba, E.M., Stacey, C., Ncanywa, S., Mfinyongo, T.L. and Molikeng, M. Indigenous Music Technologies. *Bowed Electrons Symposium*. University of Cape Town, Cape Town. South Africa. September 2022.

PhD candidate, Rakesh Kumar, with Siddi, Goma - Dhamal performers in Gujarat.
Photo: ILAM



Faculty of Pharmacy

INTRODUCTION

The Faculty of Pharmacy is committed to providing excellence in research. It continues to build on its reputation for training and developing competent and exceptional pharmacists and pharmaceutical scientists at Postgraduate level for South Africa and the rest of the world. While only the highlights are included here, it is also recognised that many other individual accomplishments were realised this past year.

I could not be prouder of all our staff who demonstrate every day their level of commitment, student service, work ethic, responsibility, and teamwork. These values are of utmost importance to our success as we strive for continuous improvement. We still have a lot of work to do before we get to the point where we are providing all the services that we should in a consistent and effective way. This includes having the right number of academic staff PhD qualified, making sure we have the right systems and processes in place, and ensuring accountability.



Professor Sandile Khamanga - Dean

This past year saw us focus on three (3) main themes: growing research, expansion of laboratory spaces, and ensuring we graduate competent and relevant graduands.

Postgraduates / Graduations

The Faculty of Pharmacy offers Postgraduate training primarily in Pharmaceutics, Pharmacology, Pharmaceutical Chemistry and Pharmacy Practice. Students pursue thesis-based MSc, MPharm and PhD degrees across a range of areas such as novel drug delivery systems, screening for novel synthetic or natural compounds as potential agents for diabetes mellitus, design of new (chemical) bioactive compounds, and Pharmacy Practice related research. The Faculty continues to develop Postgraduate opportunities that emphasize multidisciplinary, collaboration, and engagement as reflected in published manuscripts. Such research is not only vital to the areas and strategies set out in our strategic plan, but also essential to a global understanding of the diseases, healthcare needs that affect humanity and animals. Not many of our Postgraduates were successful in receiving scholarships or bursaries, and the Faculty did not host any Postdoctoral fellows. Many of our Postgraduates have gone on to prominent careers in academia, government, and industry. These are the statistics for 2022:

	COMPLETED	ACTIVE
Postdoctoral Fellows	0	0
PhD	0	9
Masters	10	21

Distinguished Visitors / International Visits

In 2022 the Faculty of Pharmacy academics, students and alumni were actively involved in initiating collaborations in both practice and research. We saw the visit by Professor Piotr Lulinski, Dean of the Faculty of Pharmacy at the Medical University of Warsaw, who presented a talk at the Faculty of Pharmacy and delivered a plenary lecture at the Academy of Pharmaceutical Sciences in South Africa (APSSA) conference. He eloquently espoused the potential role of molecularly imprinted polymers as novel drug delivery technologies in his well-received presentation. A number of academic staff and Postgraduate students delivered presentations at the same conference.

Professor Walker was Chairperson of a Higher Education Commission of Mauritius Panel (July to December 2022) for the Development of Guideline for Postgraduate Education in Pharmacy in that country.

Andy Gray visited the faculty in 2022. He is a visiting fellow of the faculty, and gave several lectures to our final year students, held meetings with academic staff, and presented a Continuing Professional Development (CPD) event for pharmacists in Makhanda and surrounding areas.

Significant Research Aligned Events

The Academy of Pharmaceutical Sciences of South Africa (APSS) held their annual conference at Rhodes University in Makhanda. The theme of the conference was 'Back to the Future'. The academic programme was very successful for our Faculty with thirteen (13) posters, sixteen (16) young scientists and twenty-three (23) podium presentations.

The International Pharmaceutical Federation (FIP) published Dr Carmen Oltmann's case submission on examples of education and practices in Sports Pharmacy. Her report was one of four (4) case reports that were included to demonstrate operational success in Sports Pharmacy globally. The others were from Australia, Japan and the UAE.

Faculty of Pharmacy PUBLICATIONS

Books/Chapters/Monographs

Dowse, R.

Dowse, R. (2022) Designing, evaluating and applying pictograms in pharmacy practice research. In: Desselle, S., Cardenas, V.G., Anderson, C. and Chen, P.A.A. (eds.). *Contemporary Research Methods in Pharmacy and Health Services*. The Netherlands: Elsevier Ltd. p.183-199. ISBN: 9780323918886.

Goosen, E.D. and Kima, T.M.

Goosen, E.D. and Kima, T.M. (2022) Ondongdong si (Acmella caulirhiza Delile), a Medicinal Plant from Cameroon. In: Siwe-Noundou, X. (ed.). *Natural Products Chemistry of Botanical Medicines from Cameroonian Plants*. USA: CRC Press. p.141-182. ISBN: 9781138581425.

Kanfer, I.

Kanfer, I. (2022) Bioequivalence, Pharmaceutical Equivalence and Biowaivers Topical Dosage Forms for Local Action. In: Dragievi, N. and Maibach, H.I. (eds.). *Percutaneous Absorption: Drugs, Cosmetics, Mechanisms, Methods*. 5th Ed. Boca raton London New York: CRC Press. p.903-913. ISBN: 9781138351233.

Peer Reviewed Non-Subsidy-Earning Journal Research Publications

Dowse, R.

Sletvold H and Dowse, R. (2022) Pictograms in medicine information and counselling. *Norwegian Pharmaceutical Journal*. 8 (2022). p.42-46.

Sibiya, N.H.

Siboto, A., Akinnuga, A.M., Ismail, M.B., Booyesen, I., Sibiya, N.H., Ngubane, P. and Khathi, A. (2022) Investigating the Protective Effects of a Rhenium (V) Compound with Uracil-Derived Ligands on Liver Damage Associated with Prediabetes in Diet-Induced Prediabetic Rats. *Diabetology*. 3 (2022). p.524-538.

Peer Reviewed Subsidy-Earning Journal Research Publications

Ayodele, O.O., Khanye, S.D., Mothibe, M.E. and Sibiya, N.H.
Ayodele, O.O., Khanye, S.D., Mothibe, M.E. and Sibiya, N.H. (2022) Fluoroquinolone-Induced Glycaemic Aberrations: Could Quinolones Be Repurposed to Serve as New Antidiabetic Agents? *Current Reviews in Clinical and Experimental Pharmacology*. 18 (2023). p.12-21.

Burton, S.F.

Fogarty, T.L. and Burton, S.F. (2022) Using content analysis software to compare pharmacy support qualifications in South Africa. *Pharmacy Education*. 22 (1). p.390-403.

Dasram, M.H., Walker, R.B. and Khamanga, S.M.

Dasram, M.H., Walker, R.B. and Khamanga, S.M. (2022) Recent advances in endocannabinoid system targeting for improved specificity: Strategic approaches to targeted drug delivery. *International Journal of Molecular Sciences*. 23 (21). p.1-42.

Dludla, S.B.K. and Makoni, P.A.

Dludla, S.B.K., Mashabela, L.T., Makoni, P.A., Witika, B. and Ng'andwe, B. (2022) Current Advances in Nano-Based and Polymeric Stimuli-Responsive Drug Delivery Targeting the Ocular Micro-environment: A Review and Envisaged Future Perspectives. *Polymers*. 14 (17). p.3580.

Dowse, R., Okeyo, S., Sikhondze, S. and Khumalo, N.

Dowse, R., Okeyo, S., Sikhondze, S. and Khumalo, N. (2022) Methodology of an approach for modifying pictograms showing medication side effects or indication. *Journal of Communication in Healthcare*. 2022 (2022). p.1-10.

Glass, B.D.

Knott, G.J., Mylrea, F.M. and Glass, B.D. (2022) Pharmacy Student Perceptions of the Roles and Attributes of Pharmacist Preceptors in Australia. *Pharmacy*. 10 (6). doi.org/10.3390/pharmacy10010015.

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Knott G, Mylrea, M., Glass, B.D. (2022) What do preceptors want? A mixed methods study exploring pharmacist preceptor perceptions of their training and support needs at a regional Australian University. *Pharmacy Education*. 22(4) 7-18.

Keene, M.R., Heslop, I.M., Sabesan, S.S. and Glass, B.D. (2022) Knowledge, attitudes, and practices of Australian oncology health professionals on complementary medicines. *Journal of Pharmacy Practice and Research*. doi.org/10.1002/jppr.1838

Keene, M.R., Heslop, I.A., Sabesan, S.S. and Glass, B.D. (2022) Perspectives of Complementary and Alternative Medicine use by cancer patients in a regional hospital in North Queensland, Australia. *Complementary Therapies in Medicine*. 71 (2022). p.1-6.

Hays, C., Devine, S. and Glass, B.D. (2022) Exploring the nursing student experience at a remote Australian university campus: a qualitative study. *BMC Nursing*. 21 (2022). p.1-10.

Anthony P. Ma, A.P., Robertson, S.G. and Glass, B.D. (2022) Telmisartan Tablets Repackaged into Dose Administration Aids: Physicochemical Stability under Tropical Conditions. *Pharmaceutics*. 14 (8) 1667 doi.org/10.3390/pharmaceutics14081667.

Davey, B.J., Lindsay, D., Cousins, J. and Glass, B.D. (2022) Scoping the required business management skills for community pharmacy: Perspectives of pharmacy stakeholders and pharmacy students. *Currents in Pharmacy Teaching and Learning*. 14 (7). p.909-928.

Drovandi, A., Glass, B.D. and Malau Aduli, B.S. (2022) Australian Perceptions of Warnings on Cigarette Sticks. *International Journal of Mental Health and Addiction*. 21 (2022) doi.org/10.1007/s11469-021-00605-z.

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Chaudhary S, Ray R, Glass B.D. (2022) Treat us as a person: A narrative inquiry of experiences and expectations of interactions with pharmacists and pharmacy staff among people who are transgender. *Exploratory Research in Clinical and Social Pharmacy*. 8: 100198. doi.org/10.1016/j.rcsop.2022.100198. eCollection 2022 December.

Khamanga, S.M.
Chatterjee, B., Reddy, A., Santra, M. and Khamanga, S.M. (2022) Amorphization of Drugs for Transdermal Delivery-a Recent Update. *Pharmaceutics*. 14 (2022). 3;14(5):983. doi.org/10.3390/pharmaceutics14050983.

Khamanga, S.M. and Makoni, P.A.
Witika, B., Poka, M.S., Demana, P.H., Matafwali, S.K., Melamane, S., Khamanga, S.M. and Makoni, P.A. (2022) Lipid-Based Nanocarriers for Neurological Disorders: A Review of the State-of-the-Art and Therapeutic Success to Date. *Pharmaceutics*. 14 (4). p.836.

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Hulushe, S.T., Malan, F.P., Hosten, E.C., Lobb, K.A., Khanye, S.D. and Watkins, G.M. (2022) Photo- and thermoresponsive N-salicylideneaniline derivatives: solid-state studies and structural aspects. *New Journal of Chemistry*. 46 (43). p.20940-20950.

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Madondo, R., Mutingwende, N., Shwababa, S., Bayne, R.J., Restas, A. and Tandlich, R. (2022) Analyses of Trends in the Fire Losses and the Fire-Brigade Call-Outs in South Africa between 2004 and 2017. *Geographia Technica*. 17 (2). p.54-68.

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Mapfumari, N.S., Nogbou, N.D., Musyoki, A.M., Gololo, S., Mothibe, M.E. and Bassey, K. (2022) Phytochemical Screening, Antioxidant and Antibacterial Properties of Extracts of *Viscum continuum* E. Mey. Ex Sprague a South African Mistletoe. *Plants*. 11 (16). p.1-27.

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Luo, Y., Shan, L., Xu, L.i.p.e.n., Patnala, S., Kanfer, I., Li, J.i.a.h.a.o., Yu, P.e.i. and Jun, X.u. (2022) A network pharmacology-based approach to explore the therapeutic potential of *Sceletium tortuosum* in the treatment of neurodegenerative disorders. *PLoS ONE*. 2022 (2022). p.1-21.

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Rath, S., Zvidzayi, K.M., Bon, C. and Kanfer, I. (2022) Application of Emax model to assess the potency of topical corticosteroid products. *Basic and Clinical Pharmacology and Toxicology*. 131 (3). p.165-173.

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A conference medal was awarded to Professor Sandile Khamanga by the Chairperson of the APSSA, Dr Ilze Vermaak, for successfully hosting the 41st Conference of the APSSA at Rhodes University. Photo: Faculty of Pharmacy



chromatography and ultraviolet detector. *Journal of Separation Science*. 45 (16). p.3187-3196.

Peer-reviewed Proceedings

Dube, C.S. and Tandlich, R.

Dube, C.S., Wilhelmi, B. and Tandlich, R. Microbial quality of clay minerals from a local municipality in South Africa. *24th International Scientific Conference "Solutions for crisis situations in specific environments"*. University of Ilina, Ilina. Slovakia. May 2022.

Madikizela, P. and Mutingwende, N.

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Madondo, R., Mutingwende, N., Shwababa, S., Bayne, R.J., Maguire, K.A. and Tandlich, R. Values of the statistical lives lost due to fire deaths in South Africa between 2004 and 2017/8. *CRISCON 2022*. Univerzita Toméa Uherskéhradit 2. Czech Republic. September 2022.

Maguire, K.A. and Tandlich, R.

Maguire, K.A., Restas, A. and Tandlich, R. Ethical considerations of a DRS of BRG vaccine during the Covid-19 pandemic. *24th International Scientific Conference "Solutions for crisis situations in specific environments"*. University of Ilina, Ilina. Slovakia. May 2022.

Research Papers Presented at Academic/ Scientific Conferences (Non-peer-reviewed Proceedings)

Arineitwe, C., Sibiya, N.H. and Khanye, S.D.

Arineitwe, C., Sibiya, N.H. and Khanye, S.D. Discovery of Novel Thiazolidinedione-Derivates with multimodal antidiabetic activities. *APSSA conference*. Rhodes University, Makhanda. South Africa. August 2022.

Dasram, M.H., Walker, R.B. and Khamanga, S.M.

Dasram, M.H., Walker, R.B. and Khamanga, S.M. The design and manufacture of a targeted drug delivery system to treat glioblastoma tumours. *The 41st Annual Congress of the South African Academy of Pharmaceutical Sciences*. Rhodes University, Makhanda. South Africa. August 2022.

Kakono, C., Makoni, P.A. and Walker, R.B.

Kakono, C., Makoni, P.A. and Walker, R.B. Optimization of an intranasal levodopa nanocrystalline formulation for delivery to the brain. *The 41st Annual Congress of the South African Academy of Pharmaceutical Sciences*. Rhodes University, Makhanda. South Africa. August 2022.

Khanye, S.D.

Khanye, S.D. Antimalarial activity of novel ferrocene-based; amino cresols. *Academy of Pharmaceutical Sciences*. Rhodes University, Makhanda. South Africa. August 2022.

Naidoo, P., Walker, R.B. and Khamanga, S.M.

Naidoo, P., Walker, R.B. and Khamanga, S.M. Use of thermal nanofluids to optimize the phase inversion manufacturing process. *The 41st Annual Congress of the South African Academy of Pharmaceutical Sciences*. Rhodes University, Makhanda. South Africa. August 2022.

Tandlich, R.

Oosthuizen, R.C. and Tandlich, R. Strategic plan for the 2023 TIEMS Annual Conference in South Africa. *The International Emergency Management Society (TIEMS) Conference*. Kennesaw State University/ Hybrid, Atlanta. USA. October 2022.

Oosthuizen, R.C. and Tandlich, R. What is a crisis, an emergency or a disaster? Theoretical analysis of three recent examples and the lessons going forward. *The International Emergency Management Society (TIEMS) Conference*. Kennesaw State University, Atlanta. USA. October 2022.

Walker, R.B.

Walker, R.B. Pharmacists (Young Pharmacists Group) partnering for the profession. *Young Pharmacists Group Pharmaceutical Society of South Africa Business Meeting*. Virtual Meeting, Pretoria. South Africa. June 2022.

Walker, R.B. Assay. Evaluation of biological potential, drug metabolism and pharmacokinetics. *Centre for Chemico- and Biomedical Drug Discovery Workshop*. Rhodes University, Makhanda. South Africa. May 2022.

Walker, R.B. Quality by Design: Concepts and applications. *Centre for Chemico- and Biomedical Research, Symposium*. Rhodes University, Makhanda. South Africa. May 2022.

Witika, B., Smith, V.J. and Walker, R.B. The development of a novel nano co-crystal-in-stimuli responsive hydrogel for management of HIV/AIDS. *The 41st Annual Congress of the South African Academy of Pharmaceutical Sciences*. Rhodes University, Makhanda. South Africa. August 2022.

Walker, R.B. Pharmacists "still" Partnering for the Pandemic. *The 41st Annual Congress of the South African Academy of Pharmaceutical Sciences*. Rhodes University, Makhanda. South Africa. August 2022.

Faculty of Pharmacy Postgraduate students who participated in the APSSA conference. Photo: Faculty of Pharmacy



Department of Philosophy

INTRODUCTION

In 2022, the Department of Philosophy continued in its mission to contribute to philosophical research through the supervision and completion of high-quality Postgraduate degrees, publications, presentations and serving the research community via its journal *Philosophical Papers*.



Professor Tom Martin - Head of Department

Postgraduates / Graduations

2022 was a good year for Postgraduate students. Michelle Brotherton and Genevieve Jacot-Guillarmod crossed the stage at graduation to receive their PhDs, as did Siphosihle Wotshela to receive his MA. A further PhD (Aderonke Ajiboro) and two (2) further MAs (Hadley Grecia and Lemogang Modisakeng) were completed, with graduation ceremonies to take place in 2023.

Distinguished Visitors / International Visits

The department benefitted from visits and presentations by Professor Catherine Botha (University of Johannesburg) and Professor Christopher Megone (University of Leeds).

Significant Research Aligned Events

Publication highlights for 2022 included a sole-authored monograph by Professor Uchenna Okeja and an edited collection by Dr Laurence Bloom (co-edited with his brother Daniel (West Texas A&M University) and Miriam Byrd (University of Texas at Arlington)), along with a number of articles and chapters.

Dr Bloom added to his status as an international scholar of Greek philosophy by presenting a paper at *Symposium Platonicum XIII* in Athens, Georgia. Mr Sabelo Ndwandwe was particularly active on the conference front, presenting papers at the *10th Annual Wild Coast Philosophy Symposium* in Chintsa (as did Professor Pedro Tabensky), the *8th Annual International Conference of the Centre for Phenomenology in South Africa* in Chintsa, and the *South African Society for Critical Theory 4th Annual Conference* at North West University.

Professor Ward Jones and Professor Okeja continued as co-editors of *Philosophical Papers*, South Africa's most highly rated philosophy journal, which has been produced by members of the Rhodes University Department of Philosophy for over fifty (50) years. 2022 saw the publication of a special issue on "Private and Public in the 21st Century," edited by our Eastern Cape colleague Professor Chris Allsobrook (University of Fort Hare).

Department of Philosophy

PUBLICATIONS

Books/Chapters/Monographs

Bloom, L.J.

Bloom, L.J., Bloom, M. and Byrd, M. (2022) Introduction: Edward Halper's unique contribution. In: Bloom, D., Bloom, L. and Byrd, M. (eds.). *Knowing and Being in Ancient Philosophy*. Switzerland: Palgrave Macmillan. p.1-8. ISBN: 9783030989033.

Bloom, D., Bloom, L.J. and Byrd, M. (ed.) (2022) *Knowing and Being in Ancient Philosophy*. Switzerland: Palgrave Macmillan. ISBN: 9783030989033.

Okeja, U.

Okeja, U. (2022) *Deliberative Agency A Study in Modern African Political Philosophy*. Bloomington and Indianapolis: Indiana University Press. ISBN: 9780253059918.

Tabensky, P.

Tabensky, P. (2022) The Revolutionary Impetus. In: Graneß, A., Etieyibo, E. and Gmainer-Pranzl, E. (eds.). *African Philosophy in an Intercultural Perspective*. Switzerland: Springer Nature. p.87-100. ISBN: 9783476058324.

Peer Reviewed Non-Subsidy-Earning Journal Research Publications

Kelland, L.

Macleod, C.I., Glover, J.M., Makuse, M.L., Kelland, L. and Paphitis, S.A. (2022) Male Peer Talk About Menstruation: Discursively Bolstering Hegemonic Masculinities Among Young Men in South Africa. *Women's reproductive health*. p.1-18.

Tabensky, P.

Tabensky, P. (2022) Freedom and Education Revisited. *Oxford Research Encyclopaedia of Education*.

Peer Reviewed Subsidy-Earning Journal Research Publications

Bloom, L.J.

Bloom, L.J. (2022) The Apology: Socrates' Argument for Inquiry as End. *Review of Metaphysics*. 76 (301). p.19-49.

Okeja, U.

Okeja, U. (2022) Corporate power and Billionaire agency in world politics. *Journal of Global Ethics*. 18 (2). p.1-8.

Onyishi, I.E., Ugwu, F.O., Ujoatuonu, I.V.N., Ugwu, L.E. and Okeja, U. (2022) The "African Time" Syndrome: Understanding Lateness among Nigerian Service Workers. *Journal of Social Service Research*. 48 (6). p.725-738.

Department of Physics and Electronics

INTRODUCTION

2022 was to many, a time to get back on our feet research wise. The list of peer-reviewed outputs and conference presentations listed here is evidence of continuing activity of our research groups.



Professor Makaiko Chithambo
- Head of Department

One of the highlights of the Radio Astronomy Research Group was the building and setting up of a transient array radio telescope (TART) at Rhodes University. This is a collaborative endeavor between Rhodes University, the University of Otago, and Stellenbosch University. The TART is designed as a low-cost, open-source 24-element radio interferometer. The project is overseen by Dr Stanley Kuja as the lead engineer. Dr Kuja is a Lecturer in the Department. The TART will be used for student training, research in machine learning, electromagnetic compatibility (EMC) metrology, and community engagement.

Professor Medved continued his longstanding collaborative link with Professor Brustein of Ben Gurion University. Professor Medved studies various aspects of Gravitation and Quantum Gravity related theoretical physics.

Professor M L Chithambo continued in his role as the President of the South African Institute of Physics (SAIP). His vision for his two-year term was to grow the membership of the SAIP, broaden its reach, and make it better able to fulfil its mission of being the voice of physics in the country, providing science policy advice and running various projects that contribute to national development. Professor Chithambo also presented an invited paper at the Brazilian Materials Research Society held in Foz do Iguaçu, Brazil, in September 2022.

Department of Physics and Electronics

PUBLICATIONS

International Visits

Knowles, K.L.

Knowles, K.L. EPFL and USI, Lugano, Lausanne, Switzerland. *Presented at Swiss SKA (SKACH) Days Workshop and discussed current and future collaboration with EPFL astronomers and data scientists.* 3 - 7 October 2022.

Kuja, S.O.

Kuja, S.O. Maseno University and the University of Eldoret, Kisumu and Eldoret, Kenya. *Presented at Maseno University and the University of Eldoret on "Recent Trends in Space Science Technologies in the Southern Hemisphere and Opportunities" and discussed possible collaborations.* 5 - 9 December 2022.

Medved, A.J.M.

Medved, A.J.M. Ben Gurion University, Beer Sheva, Israel. *Research Collaboration in Theoretical High Energy Physics.* 17 November - 30 December 2022.

Peer Reviewed Subsidy-Earning Journal Research Publications

Abdalla, F.B.

Novaes, C.P., Zhang, J., de Mericia, E.J. and Abdalla, F.B. (2022) The BINGO project VIII. Recovering the BAO signal in HI intensity mapping simulations. *Astronomy & Astrophysics*. 666 (83). p.1-17.

Costa, A.A., Landim, R.G., Novaes, C.P., Xiaoting, L.I., Ferreira, E.G.M. and Abdalla, F.B. (2022) The BINGO project: VII. Cosmological forecasts from 21 cm intensity mapping. *Astronomy and Astrophysics*. 664 (2022). p.1-21.

- Jiajun, Z., Pablo, M., Camila P. N., Abdalla, F.B. and *et al*, (2022) The BINGO project: VI. HI halo occupation distribution and mock building. *Astronomy and Astrophysics*. 664 (2022). p.1-11.
- Abdalla, F.B. and *et al*, 2.8. (2022) The BINGO Project: III. Optical design and optimization of the focal plane. *Astronomy and Astrophysics*. 664 (2022). p.1-22.
- Liccardo, V., de Mericia, E.J., Wuensche, C.A., Abdalla, E., Abdalla, F.B. and *et al*, (2022) The BINGO project: IV. Simulations for mission performance assessment and preliminary component separation steps. *Astronomy and Astrophysics*. 664 (2022). p.1-10.
- Abdalla, F.B. and *et al*, (2022) The BINGO project: II. Instrument description. *Astronomy and Astrophysics*. 664 (15). p.1-11.
- Abdalla, F.B. and *et al*, 4.2. (2022) The BINGO project: I. Baryon acoustic oscillations from integrated neutral gas observations. *Astronomy and Astrophysics*. 664 (2022). p.1-23.
- Fornazier, K.S.F., Abdalla, F.B. and *et al*, (2022) The BINGO project V. Further steps in component separation and bispectrum analysis. *Astronomy & Astrophysics*. 664 (18). p.1-19.
- Bernardi, G.
- Macario, G., Pupillo, G. and Bernardi, G. (2022) Characterization of the SKA1-Low prototype station Aperture Array Verification System 2. *Journal of Astronomical Telescopes Instruments and Systems*. 8 (1). p.1-11.
- Barry, N., Bernardi, G., Greig, B., Kern, N.S. and Mertens, F. (2022) SKA-low intensity mapping pathfinder updates: deeper 21 cm power spectrum limits from improved analysis frameworks. *Journal of Astronomical Telescopes Instruments and Systems*. 8 (1). p.1-11.
- Trudu, M., Pilia, M., Bernardi, G., Addis, A. and Bianchi, G. (2022) The northern cross fast radio burst project II. Monitoring of repeating FRB 20180916B, 20181030A, 20200120E, and 20201124A. *Monthly Notices of the Royal Astronomical Society*. 513 (2022). p.1858-1866.
- Nasirudin, A., Prelogovic, D., Murray, S., Mesinger, A. and Bernardi, G. (2022) Characterizing beam errors for radio interferometric observations of reionization. *Monthly Notices of the Royal Astronomical Society*. 514 (2022). p.1-14.
- Spinelli, M., Kyriakou, G., Bernardi, G., Bolli, P., Greenhill, L.J., Fialkov, A. and Garsden, H. (2022) Antenna beam characterization for the global 21-cm experiment LEDA and its impact on signal model parameter reconstruction. *Monthly Notices of the Royal Astronomical Society*. 515 (2022). p.1580-1597.
- Bernardi, G. and Smirnov, O.M.
- Cumner, J., Bernardi, G. and Smirnov, O.M. (2022) Radio Antenna Design for Sky-Averaged 21cm Cosmology Experiments: The REACH Case. *Journal of Astronomical Instrumentation*. 11 (1). p.1-11.
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- Ranchod, S., Deane, R., Obreschkow, D., Blecher, T. and Heywood, I. (2022) H i in and behind the Hubble Frontier Field clusters: A deep MeerKAT pilot search out to $z \sim 0.5$. *Monthly Notices of the Royal Astronomical Society*. 509 (4). p.5155-5165.
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- Charles, N., Bernardi, G., Bester, H.L., Smirnov, O.M., Carilli, C., Keller, H.A., Kern, N.S., Nikolic, B., Thyagarajan, N., de Lera Acedo, E., Fagnoni, N. and Santos, M.G. (2022) Simulations of primary beam effects on the cosmic bispectrum phase observed with the Hydrogen Epoch of Reionization Array. *Monthly Notices of the Royal Astronomical Society*. 512 (2). p.2716-2727.
- Chithambo, M.L.
- Herrera, J., Cogollo, R., Gutierrez, D. and Chithambo, M.L. (2022) Thermoluminescence of aquamarine: A preliminary study. *Radiation Measurements*. 155 (2022). p.1-5.
- Munoz, J.M., Yoshimura, E., Chithambo, M.L., Jacobsohn, L.G. and Trindade, N.M. (2022) The kinetic parameters of the main thermoluminescence glow peak of Al₂O₃:C,MG: A critical evaluation of different analytical methods. *Journal of Luminescence*. 247 (2022). p.1-6.
- Chithambo, M.L., Shinsho, K. and Polymeris, G. (2022) Properties of photo transferred thermoluminescence of Al₂O₃: Cr. *Physica B: Condensed Matter*. 650 (2023). p.1-10.

Professor Makaiko Chithambo explains elements of luminescence physics to students from Brazilian universities at the Brazilian Materials Research Society meeting held in September 2022 in Foz do Iguaçu, Paraná state, in southern Brazil.

Photo: Department of Physics and Electronics



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- Kalita, J.M. and Chithambo, M.L. (2022) Concerning a hole trap in a-Al₂O₃:C, Mg. *Journal of Applied Physics*. 132 (2022). p.1-10.
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- Chithambo, M.L., Kalita, J.M. and Trindade, N.M. (2022) Processes related to phototransfer under blue- and green-light illumination in annealed Al₂O₃:C, Mg. *Journal of Applied Physics*. 131 (2022). p.1-10.
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Glowacki, M., Collier, J.D., Heywood, I., *et al*, and Smirnov, O.M. (2022) Looking at the Distant Universe with the MeerKAT Array: Discovery of a Luminous OH Megamaser at $z>0.5$. *Astrophysical Journal Letters*. 931 (8). p.1-8.
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Dr Stanley Kuja (right), who has been setting up a research laboratory on electromagnetic compatibility, gives some background on signal detection instrumentation to fellow members of staff Mr Andy Youthed, Mr Anthony Sullivan, Professor Makaiko Chithambo and Professor David Roux. Photo: Department of Physics and Electronics

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Kuja, S.O.

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Department of Political and International Studies

INTRODUCTION

The department of Political and International Studies aims to be a place of thoughtful scholarly enquiry and robust intellectual debate. The return to face-to-face learning meant that we could resume most of our usual research-related activities in person. We ran our weekly Friday seminar series and introduced a masterclass element to it. This seminar series provides an opportunity for visiting scholars as well as colleagues and Postgraduate students from Rhodes University to present papers. As part of the seminar series, we asked visiting scholars from other universities to conduct a two-hour masterclass with the Postgraduate students about their research trajectory.



Associate Professor Siphokazi Magadla
- Head of Department

We also ran our usual week-long Teach In, during which we bring visitors to give lunch-time open lectures on a topical subject. The theme for 2022 was 'Southern Perspectives on the Russia-Ukraine Crisis'.

Postgraduates / Graduations

In April 2022, the department hosted a physical graduation celebration. Of the one hundred (100) third year students that graduated, two (2) were awarded the Terence Beard Award for the Best Student in Political and International Studies, which is awarded to the student with the highest average mark in Politics 3. The joint winners were Mazvita Bvudzijena and Naomi Sylvia Grewan. Of the twenty-two (22) Honours students that graduated, two (2) jointly won the John Daniel Award for the Best Postgraduate Honours Student in Political and International Studies, Ryan Malcolm Hand and Rutendo Faith Gandidze. One (1) Masters student graduated. In October 2022, two (2) Masters and one (1) PhD candidate graduated.

Distinguished Visitors / International Visits

We welcomed the 2020-2022 Nelson Mandela Visiting Professor Siba N'Zatioula Grovogui from Cornell University in the United States. He was able to teach an Honours course on 'African foreign policy: From Cairo to Cape Town' and delivered the Nelson Mandela Public Lecture in Makhanda. The department also organised for Professor Grovogui to deliver public lectures at three (3) other South African universities, the University of the Witwatersrand, University of South Africa and the University of the Western Cape. We also welcomed the physical return of two (2) of our African Peace and Conflict course visitors: Dr Andrews Atta-Asamoah, who is based at the Institute for Security Studies (ISS) in Ethiopia, department alumni Timothy Walker, who is the Maritime Project Leader and a Senior Researcher at the ISS in Pretoria and Dr Emma Birikorang from the Kofi Annan International Peacekeeping Training Centre in Ghana, who taught the section of her course virtually. Dr Shingi Mtero virtually delivered a Postgraduate course 'From Triple Oppression to Intersectionality': An Introduction to African Feminist Theory'.

Significant Research Aligned Events

The department hosted two (2) big events in the second semester, one (1) held in person and one (1) virtually. On the 18th July 2022, Professor Siba N'Zatioula Grovogui delivered the Nelson Mandela Public Lecture at Rhodes University. This marked the tenth anniversary of the Nelson Mandela Visiting Professorship. On the 15th September 2022, the department hosted a webinar on 'Women and Twenty Years of the African Union'. The event was co-hosted with the

Politics departments at the University of Cape Town and the University of Pretoria, and the Centre for Women and Gender Studies at Nelson Mandela University. The keynote speaker was the former chairperson of the African Union, Minister Dr Nkosazana Dlamini Zuma, who was then joined by two panellists from the African Union and Politics and International Studies at SOAS, University of London.

The 2020-2022 Nelson Mandela Visiting Professor Siba N'Zatioula Grovogui. Photo: Department of Political and International Studies



Prof. Siba N'Zatioula Grovogui
Rhodes University Nelson Mandela Professor
2020-2022

Department of Political and International
Studies

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Books/Chapters/Monographs

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Concerts, Exhibitions, Performances, Workshops, Events

Bischoff, P.H.

Bischoff, P.H. Presentation. Progress, Challenges and Prospects Finding Understanding in a Time of Turmoil: Reflections on Ukraine. Presentation. Stellenbosch Academy of Design and Photography, Stellenbosch. South Africa. 17 March 2022.

Creative Writing

Diaz Pabon, F.A.

Diaz Pabon, F.A. (2022) The African Centre for the Constructive Resolution of Disputes, March 2022:

<https://www.accord.org.za/conflict-trends/the-interaction-of-mass-media-and-social-media-in-fuelling-ethnic-violence-in-ethiopia/>. In: *The Interaction of Mass Media and Social Media in Fuelling Ethnic Violence in Ethiopia*. Durban, South Africa: ACCORD.

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<https://www.aljazeera.com/opinions/2022/4/28/the-perfect-storm>. In: *The Perfect Storm*. Doha: Aljazeera English.

Diaz Pabon, F.A. (2022) Mail & Guardian newspaper, 19 April 2022:

<https://mg.co.za/opinion/2022-04-19-the-perfect-storm-covid-19-war-and-inequality/>. In: *The perfect storm: Covid-19, war and inequality*. South Africa: Mail & Guardian Online Newspaper.

Distinguished Visitors

Grovogui, S.N.

Professor SN Grovogui. Cornell University, Ithaca, United States of America. Nelson Mandela Visiting Professor. July 2022.

Peer Reviewed Non-Subsidy-Earning Journal Research Publications

Salem, A.A.A.

Salem, A.A.A. (2022) Non-Western Contributions to Rid the International Relations Discipline from Western Epistemological Hegemony: Reform or Revolution? *Tajseer*. 4 (1). p.10-30.

Salem, A.A.A. (2022) The West and Africa: The Evolution of European Union and United States Policies Towards Africa. *Issues and Insights (Egypt)*. 7 (27). p.144-155.



Naomi Sylvia Grewan - Joint Terence Beard Award Winner.

Photo: Department of Political and International Studies



Mazvita Bvudzijena with her parents - Terence Beard Award for the Best Student in Political and International Studies.

Photo: Department of Political and International Studies

Peer Reviewed Subsidy-Earning Journal Research Publications

Acharya, A.

Acharya, A. (2022) Before the West: Recovering the Forgotten Foundations of Global Order: Review Essay. *Perspectives on Politics*. 20 (1). p.265-270.

Acharya, A. (2022) Race and Racism in the Founding of the Modern World Order. *International Affairs*. 98 (1). p.23-43.

Acharya, A. (2022) Hierarchies of Weakness: The Social Divisions that Hold Countries Back. *Foreign Affairs*. 101 (4). p.74-82.

Bell, J. and Matthews, S.

Bell, J. and Matthews, S. (2022) Dependency, Paternalism and Financial Control of Women on South African Wine Farms. *Gender Questions*. 10 (2). p.1-16.

Chiwandire, D.

Chiwandire, D. (2022) COVID-19 pandemic lockdown impact on parity of participation for students with mental health challenges in higher education. *SOTL in the South*. 6 (2). p.73-99.

Majavu, M.

Majavu, M. (2022) Orania: A white homeland in post-apartheid South Africa. *Sociology Compass*. 16 (7). p.1-19.

Mataruse, P.S. and Matthews, S.

Mataruse, P.S. and Matthews, S. (2022) Commercialising the Struggle: The Organisational and Ideological Effects of Democracy Assistance on Opposition Activism in Zimbabwe. *Review of African Political Economy*. 49 (173). p.452-471.

Nyoka, B.

Nyoka, B. (2022) Mafeje's Search for Africanity. *International Journal of African Renaissance Studies*. 17 (1). p.4-20.

Onokwai, J.C. and Matthews, S.

Onokwai, J.C. and Matthews, S. (2022) A Case Study of Country Ownership Over Donor Aid: The Global Fund and the Ghanaian Country Coordinating Mechanism. *Journal of Developing Societies*. 38 (2). p.166-183.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Diaz, F.A.

Diaz, F.A. The dissonances of poverty, growth, and inequality - Understanding the different trajectories of poverty, growth, inequality and development. *15th International Research Conference - Strong Sustainability*. 3 place Louis Armand, Paris. France. December 2022.

Diaz, F.A. Growth, Poverty, and Inequality in Africa. *UNU WIDER Development Conference: Reducing inequality - the great challenge of our time, 5 - 7 October 2022*. University of The Andes, Bogota. Colombia. October 2022.

Jordaan, E.

Jordaan, E. The UN Human Rights Council during the Trump presidency. *Academic Council of the United Nations Systems Annual Meeting 2022*. Geneva Graduate Institute, Geneva. Switzerland. June 2022.

Magadla, S.

Magadla, S. and Alonso-Sameño, E. Developing intercultural sensitivity through collaborative virtual exchange. *Intercultural Competence Conference: Decentering Mobility in Intercultural Education: Engagement, Equity, and Access*. University of Arizona, Tucson. United States of America. January 2022.

Magadla, S. Teaching and assessing International Relations in isiXhosa. *Colloquium on the Language Policy Framework for Public Institutions of Higher Education, 21 - 22 July 2022*. Amazwi South African Museum of Literature, Makhanda. South Africa. July 2022.

Maheve, N.B.

Maheve, N.B. Rethinking development and resistance in post-colonial Zimbabwe: the case of the CAMPFIRE project in Dande 1990-2016. *Global Partnership Network Conference*. University of Kassel, Kassel. Germany. October 2022.

Matthews, S.

Matthews, S. In Search of Post-Development Alternatives: Ubuntu and Development in South Africa. *Global Partnership Network Conference*. University of Kassel, Kassel. Germany. October 2022.

Matthews, S. Remaking Knowledge about Africa in the Classroom: Appropriating and Living Creatively with the Colonial Library. *African Studies Association of Africa Fourth Biennial Conference*. University of Cape Town, Cape Town. South Africa. April 2022.

Department of Psychology

INTRODUCTION

In 2022, the national Department of Social Development set in motion a public participation process in the lead up to the development of a multi-sectoral Sexual and Reproductive Justice Strategy Framework. A series of symposia were held in six (6) provinces.

Researchers from the Critical Studies in Sexualities and Reproduction research unit were commissioned to present papers at these symposia. Distinguished Professor Macleod co-chaired the scientific committee of the symposia and presented plenary papers at each of the symposia.



Associate Professor Liezille Jacobs
- Head of Department

Significant Research aligned Events

Sizwe Zondo Won a European Union Grant to conduct fNIRS research using Cortivision fNIRS Software and won a travel grant to present his PhD research at the 'Annual Society for Functional Near Infrared Spectrometry (fNIRS)' held at Boston University, USA (<https://www.cortivision.com/events/>) and Dr Duane Booysen was awarded a Y-2 NRF Rating (2023-2028).

Research associates, Dr Jabulile Mary-Jane Jace Mavuso and Dr Tracy Morison published an edited book *Sexual and Reproductive Justice: from the margins to the Centre*. This book was launched in September 2022 in a hybrid online and in-person discussion.

Between April and October 2022 Professor Campbell and the Psychology Department hosted PhD candidate Mr Adane Jarso from Ethiopia. On graduation Adane will be the first counselling psychologist at Hawassa University to hold a PhD. During his time in the Rhodes Psychology Department Adane made excellent progress on his PhD, having his proposal approved by HHDC. He also used his time to complete the Strengthening Postgraduate Studies (SPS) training and to network with the professional programme and internship site staff, exchanging knowledge and resources.

In October 2022, a number of Psychology Department staff and students presented their research at the 26th Psychological Society of South Africa (PsySSA) annual congress at Emperor's Palace in Johannesburg. There was strong representation of our counselling psychologists who participated in oral presentations and roundtable discussions about the professional identity and practice of counselling psychology in South Africa, and Africa more broadly. Lecturer and Rhodes Psychology Clinic Coordinator Nqobile Msomi participated in a round table discussion on "Counselling Psychology's Future: Challenges and Possibilities". Adane Jarso, a PhD candidate supervised by Professor Megan Campbell reflected on "The development of counselling psychology in Ethiopia: Achievements, challenges and future prospects." Phillipa Haine, a PhD candidate supervised by Dr Duane Booysen and Professor Charles Young, presented her recent publication "Looking back to move forward: A scoping review of counselling psychology in South Africa".

African psychology was another important theme where Dr Lumka Qangule, Clinical Associate on the Professional Masters in counselling psychology programme presented on "Ubuntu-centred Psychotherapy", while Nqobile Msomi presented her thoughts on "Moving towards practice informed by African psychology: A case of (re)positioning a professional training institution".

Siphuxolo Bikwe, a counselling psychology intern at the Rhodes Student Counselling Centre, presented her MAP research: “Constructions of ukuyalwa and marriage satisfaction: experiences of Xhosa couples”, supervised by Nqobile Msomi and Professor Campbell.

Within the themed presentations on trauma, Catherine Parkinson, counselling psychologist and PhD candidate, presented her research proposal: “Attachment styles, conflict resolution strategies and marital satisfaction as predictors or protective factors in intimate partner violence in South African couples”, supervised by Professor Campbell. Siyanda Shabalala, a clinical psychology intern at Fort England Hospital in Makhandla, presented their MA research on “Patterns of inclusion and exclusion among transgender women in South Africa: a critical narrative inquiry” supervised by Professor Campbell.

In October 2022 Professor Campbell and two (2) of her PhD candidates, Catherine Parkinson and Adane Jarsso travelled to Ethiopia to visit with academic staff at Addis Ababa University and Hawassa University. Meetings focused on relationship building between institutions, outlining prospective research areas and collaborations in the field of counselling psychology for future work. Specific research areas identified included: psychometric measurement and assessment (the translation and adaptation of tools for local use in local languages) and curriculum development.

Department of Psychology

PUBLICATIONS

Books/Chapters/Monographs

Akhurst, J.E. and Msomi, N.N.

Akhurst, J.E. and Msomi, N.N. (2022) Building Partnerships for Community-Based Service learning in Poverty-stricken and Systemically Disadvantaged Communities. In: Kagan, C., Akhurst, J., Alfaro, J., Lawthom, R., Richards, M. and Zambrano, A. (eds.). *The Routledge International Handbook of Community Psychology*. New York: Routledge. p.1-410. ISBN: 9780367344153.

Macleod, C.I. and Moore, S.

Macleod, C.I. and Moore, S. (2022) Refining youth sexualities empowerment programmes: the development of the Masizixhobise toolkit based on a critical sexual and reproductive citizenship framework. In: Bhana, D., Crewe, M. and Aggleton, P. (eds.). *Sex, Sexuality and Sexual Health in Southern Africa*. London: Routledge Taylor and Francis. p.145-158. ISBN: 9780367689582.

Mavuso, J. and Morison, T.

Mavuso, J. and Morison, T. (2022) Conclusion. In: Mavuso, J.M.J., Macleod, C. and du Toit, R. (eds.). *Sexual and reproductive justice: from the margins to the centre*. Plymouth UK: Lexington Books. p.267-280. ISBN: 9781793644206.

Mavuso, J., Macleod, C.I. and Du Toit, R.R.

Mavuso, J., Macleod, C.I. and Du Toit, R.R. (2022) Directive counselling undermines “safe” abortion: a critical discursive psychology approach to reproductive justice. In: Mavuso, J.M.J., Macleod, C. and du Toit, R. (eds.). *Sexual and reproductive justice: from the margins to the centre*. Plymouth UK: Lexington Books. p.227-247. ISBN: 9781793644206.

from the margins to the centre. Plymouth UK: Lexington Books. p.227-247. ISBN: 9781793644206.

Morison, T. and Mavuso, J.

Morison, T. and Mavuso, J. (2022) *Sexual and reproductive justice: from the margins to the centre*. Plymouth UK: Lexington Books. ISBN: 9781793644206.

Morison, T., Ndabula, Y. and Macleod, C.I. (2022) The contraceptive paradox, contraceptive agency, and reproductive justice: Women’s Decision-making about Long-Acting Reversible Contraception. In: Mavuso, J.M.J., Macleod, C. and du Toit, R. (eds.). *Sexual and reproductive justice: from the margins to the centre*. Plymouth UK: Lexington Books. p.227-246. ISBN: 9781793644206.

Mpofu, S.

Mpofu, S. (2022) Sexual Violence: Gukurahundi’s Public Secret. In: Mpofu, M. and Makombe, P.F. (eds.). *Memory and Erasure: Gukurahundi and the Culture of Violence in Zimbabwe*. Harare: Weaver Press. p.49-62. ISBN: 9781779274113.

Saville Young, L.

Saville Young, L. (2022) Narrative and Discursive Research. In: Frosh, S., Vyrigioti, M. and Walsh, J. (eds.). *Palgrave Handbook of Psychosocial Studies*. Switzerland: Palgrave Macmillan. p.1-30. ISBN: 9783030615109.

Creative Writing

Morison, T.

Morison, T. (2022) Who Decides Women’s Best Interests? Examining patient-provider power relations in contraceptive counselling. In: Morison, T. (ed.). *Who Decides Women’s Best Interests? Examining patient-provider power relations in contraceptive counselling*. Australia: Massey News.

International Visits

Campbell, M.M.

Campbell, M.M. University of Hawassa University of Addis Ababa, Hawassa and Addis Ababa, Ethiopia. *Networking with Ethiopian Counselling Psychology Programmes*. 15 - 24 October 2022.

Msomi, N.N.

Msomi, N.N. Queen’s University Belfast, Belfast, North Ireland. *Research into socio-educational challenges - Belfast Summer 2022*. 21 - 27 June 2022.

Other Publications

Macleod, C.I.

Macleod, C.I. and Delate, R. (2022). In: Macleod, C.I., Speciale, A. and Delate, R. (eds.). *Broadening the grounds on which abortion is legal: Effects on sexual and reproductive health indicators*. Grahamstown: Critical Studies in Sexualities and Reproduction.

Pinto, P., Macleod, C.I. and Jones, M.

Pinto, P., Macleod, C.I. and Jones, M. (2022). In: Pinto, P., Macleod, C. and Jones, M. (eds.). *Sexual Justice Review Report*. Grahamstown: Rhodes University.

Peer Reviewed Non-Subsidy-Earning Journal Research Publications

Diale, C.D.

Diale, C.D. (2022) Sense of Community: Perceptions of Inter-Intra Collaborations in an Academic Environment through the Lenses of Botho Principles and the Field of Industrial Psychology. *International Journal of Higher Education*. 11 (7). p.79-93.

Diale, C.D. (2022) Contextualising the Determinants of Job Embeddedness in the Higher Learning Institution with the Lenses of African Culture. *International Journal of Innovation, Creativity and Change*. 16 (1). p.474-491.

Peer Reviewed Subsidy-Earning Journal Research Publications

Akhurst, J.E.

Bobo, B. and Akhurst, J.E. (2022) 'Okokuqala ngokuya ndandiqala kwakungekho easy': Feeling empowered to take collective action through community engagement. *Journal of Community & Applied Social Psychology*. 2022 (2022). p.1-11.

Basterfield, C. and Zondo, S.

Basterfield, C. and Zondo, S. (2022) A Feasibility Study Exploring the Efficacy of Cognitive Rehabilitation Therapy for Paediatric HIV in Rural South Africa: A Focus on Sustained Attention. *Acta Neuropsychologica*. 20 (3). p.1-9.

Blaine, J. and Akhurst, J.E.

Blaine, J. and Akhurst, J.E. (2022) A journey to adolescent flourishing: Exploring psychosocial outcomes of outdoor adventure education. *South African Journal of Education*. 42 (3). p.1-12.

Booyesen, D.D. and Duiker, A.

Booyesen, D.D. and Duiker, A. (2022) It's just like a waiting room: The lived experiences of psychology students seeking professional training programme admission in South Africa. *Journal of Psychology in Africa*. 32 (3). p.298-302.

Booyesen, D.D. and Munishvaran, K.

Booyesen, D.D. and Munishvaran, K. (2022) The experiences of clinical psychologists in treating traumatic stress at a tertiary psychiatric hospital in the Eastern Cape: A qualitative study. *South African Journal of Psychiatry*. 28 (1). p.1-7.

Botha, D.

Botha, D. (2022) Mental Suffering: Buddhism, A Post Modernist Western View, and the Mutual? Path to Happiness? *Psychological Thought*. 15 (2). p.1-10.

Campbell, M.M.

Brohan, E., Thornicroft, G., Rusch, N., Lasalvia, A., Campbell, M.M., Yalcinkaya-Alkar, O., Bakolis, I., Reneses, B., Evans-Lacko, S. and *et al.* (2022) Measuring discrimination experienced by people with a mental illness: replication of the short-form DISCUS in six world regions. *Psychological Medicine*. 1 (2022). p.1-11.

Diale, C.D.

Diale, C.D. and Carrim, N.M. (2022) Experiences of black African women entrepreneurs in the South African male-dominated entrepreneurial environments. *Journal of Psychology in Africa*. 32 (3). p.216-223.

Edwards, D.J.A.

Edwards, D.J.A. (2022) Using Schema Modes for Case Conceptualization in Schema Therapy: An Applied Clinical Approach. *Frontiers in Psychology*. 12 (2022). p.1-17.

Edwards, D.J.A. (2022) Parts of the self, schema modes, alters, and narrative and pre-narrative selves: Understanding and working with multiplicity. *Pragmatic Case Studies in Psychotherapy*. 18 (3). p.287-309.

Edwards, D.J.A. (2022) Kelly's circle of safety and healing: An extended schema therapy narrative and interpretative investigation. *Pragmatic Case Studies in Psychotherapy*. 18 (3). p.210-261.

Groenewald, C.

Katoto, P.D.M.C., Parker, S., Coulson, N., Pillay, N., Cooper, S., Jaka, A., Mavundza, E., Houston, G., Groenewald, C., Essack, Z., Simmonds, J., Shandu, L.D., Couch, M., Khuzwayo, N., Ncube, M., Bhengu, P., Van Rooyen, H. and Wiysonge, C.S. (2022) Predictors of COVID-19 Vaccine Hesitancy in South African Local Communities: The Vax Scenes Study. *Vaccines*. 10 (2022). p.1-23.

Groenewald, C. and *et al.* 1.0. (2022) Sexual Risk among Pregnant Women at Risk of HIV Infection in Cape Town, South Africa: What Does Alcohol Have to Do with It? *AIDS and Behaviour*. 27 (2023). p.37-50.

Chimbindi, N., Ngema, U., Ngwenya, N., Gibbs, A., Groenewald, C., Harling, G., Mthiyane, N., Nkosi, B., Seeley, J. and Shahmanesh, M. (2022) The sexual and reproductive health needs of school-going young people in the context of COVID-19 in rural KwaZulu Natal, South Africa. *African Journal of AIDS Research*. 21 (2). p.162-170.

Haine, P.C., Young, C. and Booyesen, D.D.

Haine, P.C., Young, C. and Booyesen, D.D. (2022) Looking back to

move forward: a scoping review of counselling psychology in South Africa. *South African Journal of Psychology*. 0 (0). p.2-12.

Haselau, T.L. and Saville Young, L.

Haselau, T.L. and Saville Young, L. (2022) Co-Constructing Defensive Discourses of Service-Learning in Psychology: A Psychosocial Understanding of Anxiety and Service-Learning, and the Implications for Social Justice. *Teaching of Psychology*. 0 (00). p.1-11.

Jacobs, L. and Maseko, M.L.

Jacobs, L. and Maseko, M.L. (2022) Gender-Sensitivity Interventions for Mental Health Practitioners Working in Substance Use Disorder Treatment Facilities: A Systematic Review. *Gender & Behaviour*. 20 (2). p.19342-19352.

Kangaude, G. and Macleod, C.I.

Kangaude, G., Macleod, C.I., Coast, E. and Feters, T. (2022) Integrating child rights standards in contraceptive and abortion care for minors in Africa. *International Journal of Gynecology & Obstetrics*. 159 (0). p.998-1004.

Macleod, C.I.

Macleod, C.I., Reynolds, J. and Delate, R. (2022) Women who sell sex in eastern and southern Africa: a scoping review of non-barrier contraception, pregnancy and abortion. *Public Health Reviews*. 43 (7). p.1-19.

Macleod, C.I., Glover, J.M. and Makuse, M.L.

Macleod, C.I., Glover, J.M., Makuse, M.L., Kelland, L. and Paphitis, S.A. (2022) Male Peer Talk About Menstruation: Discursively Bolstering Hegemonic Masculinities Among Young Men in South Africa. *Women's reproductive health*. 0 (0). p.1-18.

Mitchell, J.L.G. and Meehan, T.

Mitchell, J.L.G. and Meehan, T. (2022) How art-as-therapy supports participants with a diagnosis of schizophrenia: A phenomenological lifeworld investigation. *Arts in Psychotherapy*. 80 (2022). p.1-13.

Morison, T.

Lestari, M.D., Stephens, C. and Morison, T. (2022) The Role of Local Knowledge in Multigenerational Caregiving for Older People. *Journal of Intergenerational Relationships*. 0 (0). p.1-21.

Healy-Cullen, S., Morison, T., Ross, K. and Taylor, J.E. (2022) How do Youth, Parents, and Educators use Discursive Sexual Scripts to Make Sense of Youth Engagement with Internet Pornography? *Porn Studies*. 9 (4). p.445-463.

Morison, T. (2022) Patient-provider power relations in counselling on long-acting reversible contraception: a discursive study of provider perspectives. *Culture, Health & Sexuality*. 0 (0). p.1-17.

Morison, T. (2022) Using reproductive justice as a theoretical lens in qualitative research in psychology. *Qualitative Research in Psychology*. 20 (1). p.172-192.

Pinto, P., Macleod, C.I. and Nhamo-Murire, M.

Pinto, P., Macleod, C.I. and Nhamo-Murire, M. (2022) The Binary Order of Things: A Discursive Study of Nursing Students' Talk on Providing, and Learning About, LGBT Patient Care. *Journal of Homosexuality*. 0 (0). p.1-32.

Toerien, M.

Yang, Z.I., Jackson, C. and Toerien, M. (2022) Is Solicitation of Problem Presentations Always Normative? How Chinese Patients Get to Present Their Reasons for Medical Visits. *Health Communication*. 1 (x1). p.1-12.

Peer-reviewed Proceedings

Diale, C.D.

Maladzi, R.W., Diale, C.D., Kanakana-Katumba, G.M. and Von der Ohe, H. Utilization of artificial intelligence in optimizing production processes within the green economy: A literature review. *Southern African Institute for Industrial Engineering Conference, Marvelous world of Industrials*. Zimbali, Durban. South Africa. October 2022.

Diale, C.D., Kanakana-Katumba, G.M., Maladzi, R.W. and Von der Ohe, H. Ecosystem for 4th Industrial revolution to accelerate Sustainable Development goals in South African context: A conceptual framework. *Proceedings of the International Conference on Industrial Engineering and Operations Management*. Nsukka, Nigeria, Nsukka. Nigeria. April 2022.

Diale, C.D., Kanakana-Katumba, G.M., Von der Ohe, H. and Maladzi, R.W. The influence of the 4th industrial revolution on green entrepreneurship in the South African Context: a scoping framework. *Southern African Institute for Industrial Engineering Conference, Marvelous world of Industrials*. Zimbali, Durban. South Africa. October 2022.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Bikwe, S., Msomi, N.N. and Campbell, M.M.

Bikwe, S., Msomi, N.N. and Campbell, M.M. Constructions of ukuyalwa and marriage satisfaction: experiences of Xhosa couples. *Psychological Society of South Africa (PsySSA) 26th Annual Conference*. Emperors Palace, Johannesburg. South Africa. October 2022.

Kalyanaraman, Y. and Macleod, C.I.

Kalyanaraman, Y. and Macleod, C.I. Actioning research: the training of nurses in client-centered abortion counselling using a reproductive justice framework. *Sexual and Reproductive Justice Build-up Seminars*. Sexual and Reproductive Justice Build-up Seminars, Pietermaritzburg. South Africa. October 2022.

Macleod, C.I.

Macleod, C.I. and Bhatia, S. The Politics of Decolonizing the Praxis of Psychology. *Society for Qualitative Inquiry in Psychology Virtual Salon*. Online, Makhanda. South Africa. June 2022.

Macleod, C.I. Feminisms and decolonising psychology: the example of abortion. *UNFPA, UNESCO, WHO 2together4SRHR Summit*. Victoria Falls, Victoria Falls. South Africa. January 2022.

Macleod, C.I. Framing sexualities and reproduction: from population control to rights to justice. *Department of Social Development Summit programme*. Johannesburg, Johannesburg. South Africa. August 2022.

Macleod, C.I. They all preached abstinence: how school-based sexuality education fails South African youth. *Friends of the Library*. Amazwi South African Museum of Literature, Makhanda. South Africa. May 2022.

Macleod, C.I. and Moore, S.

Macleod, C.I. and Moore, S. Introducing the Masizixhobise toolkit. *Sex, Sexuality and Sexual Health in Southern Africa*. University of Pretoria, Pretoria. South Africa. July 2022.

Morison, T.

Morison, T. "You can push them a little": Healthcare providers talk about contraceptive care. *36th Annual Conference of the European Health Psychology Society*. Bratislava, Bratislava. Slovakia. August 2022.

Mpofu, S.

Mpofu, S. Sexual Violence: Gukurahundi's Public Secret. *Symposium Honouring the Dead, Healing the Living and Reconciling for the Future*. Zimbabwe, Zimbabwe. Zimbabwe. December 2022.

Msomi, N.N.

Msomi, N.N. Prominent discourses in South African school education: implications for the liberation and well-being of our country's majority. *9th SAERA*. V & A Waterfront, Cape Town. South Africa. October 2022.

Msomi, N.N. Towards practice informed by African psychology: A case of repositioning a professional training institution. Tending to the seeds of crisis: Looking to a new horizon of African-centred psychology. *26th Annual South African Psychology Conference*. Emperor's Palace, Johannesburg. South Africa. October 2022.

Msomi, N.N. Roundtable: Counselling psychology's future: Challenges and possibilities. Tending to the seeds of crisis: Looking to a new horizon of African-centred psychology. *26th Annual South African Psychology Conference*. Emperor's Palace, Johannesburg. South Africa. January 2022.

Parkinson, C.A. and Campbell, M.M.

Parkinson, C.A. and Campbell, M.M. Attachment styles, conflict resolution strategies and marital satisfaction as predictors or protective factors in intimate partner violence in South African couples. *Psychological Society of South African 26th Annual Conference*. Emperor's Palace, Johannesburg. South Africa. October 2022.

Shabalala, S.B. and Campbell, M.M.

Shabalala, S.B. and Campbell, M.M. Patterns of inclusion and exclusion among transgender women in South Africa: a critical narrative inquiry. *Psychological Society of South Africa 26th Annual Conference*. Emperor's Palace, Johannesburg. South Africa. October 2022.

Tao, L., Pinto, P. and Macleod, C.I.

Tao, L., Pinto, P., Macleod, C.I. and Nhamo-Murire, M. The Binary Order of Things: A Discursive Study of Nursing Students Talk on Providing, and Learning About, LGBT Patient Care. *Sexual and Reproductive Justice Conference and Build-up Seminars*. Port Elizabeth, Port Elizabeth. South Africa. October 2022.

Rhodes Business School

INTRODUCTION

We are pleased to report another good year of research outputs, showing consistent and sustained improvement from 2020, which saw only four (4) being reported.

During 2022, we ran seventeen (17) short course programmes, with two-hundred and fifty-four (254) Certificates of Competence and eighty-four (84) Letters of Attendance being issued.



Professor Owen Skae - Director

Postgraduates / Graduations

One (1) Doctor of Philosophy (PhD), eleven (11) Master of Business Administration (MBA), eighteen (18 - (of whom nine (9) were part-time) Postgraduate Diploma in Enterprise Management (PGDipEntMgt), and twenty-one (21) (of whom ten (10) were part-time) Postgraduate in Business Analysis (PGDipBusAnalysis) candidates, graduated, giving a total of fifty-one (51), still down from our high of eighty-two (82) in 2020.

Despite the lower number of overall graduates, we had a pleasing number of distinctions and our first PhD graduate since 2018, Deon Engelke. Magdalena de Beer and John Rohlandt obtained the MBA with distinction. Helena Beck, Kudakwashe Chifamba, and Candice Jacobs obtained the PGDipBusAnalysis with distinction. The recipient of the Archbishop Thabo Makgoba Award for the MBA Responsible Leadership Essay was Lester Isaacs.

Distinguished Visitors / International Visits

Mavuso, B.

Ms Busisiwe Mavuso, *Archbishop Thabo Makgoba Development Trust Annual Lecture*. 4 October 2022.

Busisiwe Mavuso, the Chief Executive Officer of Business Leadership South Africa (BLSA), was the 8th Speaker at our annual Archbishop Thabo Makgoba Development Trust annual lecture on Values Based Leadership. She opened by saying, "You know one of the most valuable lessons most of us were taught as kids was that integrity is the best quality to possess for any human being. I grew up in a community with limited resources but despite our poor background thieves were shunned, and hard work and an honest living were valued. Over the years, we have sadly watched the moral degradation of our society where corruption and theft have been normalised the moral code in our society is on the decline, education in the home, school and community does not convey a positive value system. LAWLESSNESS is the order of the day; we have fallen from being a rainbow nation into a mafia state and to fix this we need leadership. But which leadership I ask myself because our biggest problem as a country is that this fish called SA has rotten from the head". She concluded by stressing, "Values based leadership is how we change our economic trajectory, it is how we give people a stake in the economy and it is how we choose our leaders".

Books/Chapters/Monographs

Moodly, A.L. and Skae, F.O.

Moodly, A.L. and Skae, F.O. (2022) Governance of Universities as Public Higher Education Institutions: A South African Context. In: Sengupta, E., Blessinger, P. and Nezaami, N. (eds.). *Governance and Management in Higher Education*. United Kingdom: Emerald Publishing Limited. p.125-142. ISBN: 9781800437296.

Lawton-Misra, N., Crosley, C., Moodly, A.L., Burger, K., Retief, R., Pillay, R., Mokoena, D., Dzingwa, S., De Koker, E., Bawa, A., Mosia, T., Parker, D., Lewin, T., Whittle, P., Vukea, P. and Skae, F.O. (2022) *A Registrar's Handbook*. Cape Town: UWC Press. ISBN: 9781990995088.

Skae, F.O.

Skae, F.O. (ed.) (2022) *Managerial Finance*. 9th Ed. Durban: LexisNexis (Pty) Ltd. ISBN: 9780639009780.

Concerts, Exhibitions, Performances, Workshops, Events

Moodly, A.L.

Moodly, A.L. Public Lecture. Women in leadership? A collective and individual journey. *Public lecture*. Rhodes, Makhanda. South Africa. 25 August 2022.

Peer Reviewed Subsidy-Earning Journal Research Publications

Cuthbert, C.E. and Pearse, N.J.

Cuthbert, C.E. and Pearse, N.J. (2022) Strategic Data Pattern Visualisation. *Journal of Systemics, Cybernetics and Informatics*. 20 (1). p.122-141.

Moodly, A.L.

Moodly, A.L. (2022) Exercising positional power to advance and support women in leadership - conversations with men in higher education. *Management in Education*. 0 (0). p.1-9.

Pearse, N.J.

Pearse, N.J. (2022) An Illustration of Teaching and Assessment Practices of the "Conceptual Framework" as a Threshold Concept.

The Electronic Journal of Business Research Methods (EJBRM). 20 (3). p.122-132.

Peer-reviewed Proceedings

Cuthbert, C.E. and Pearse, N.J.

Cuthbert, C.E. and Pearse, N.J. Strategic Use of Low Code Platforms. *International Conference on Education and Information Systems, Technologies and Applications (EISTA 2021) that took place as part of the 15th International Multi-Conference on Society, Cybernetics and Informatics (IMSCI 2021)*. SeaWorld Orlando, Florida. United States. July 2022.

Moodly, A.L.

Moodly, A.L. Leadership in Post-Democratic South Africa - Building Support Towards the Advancement of Women. *13th Women's Leadership and Empowerment Conference [WLEC2022]*. Virtual, Belgrade. Serbia. March 2022.

Pearse, N.J.

Pearse, N.J. The "Conceptual Framework" as a Threshold Concept for Investigating Processes in Leadership Research. *21st European Conference on Research Methodology for Business and Management Studies*. University of Aveiro, Aveiro. Portugal. June 2022.

Singh, N., Skae, F.O. and Pearse, N.J.

Singh, N., Skae, F.O. and Pearse, N.J. Systems Thinking and Integrated Thinking for Integrated Reporting. *18th European Conference on Management, Leadership and Governance*. ISCTE - Instituto Universitário de Lisboa, Lisbon. Portugal. November 2022.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Mbongwe, N.A. and Mohapeloa, M.M.E.

Mbongwe, N.A. and Mohapeloa, M.M.E. Global performance of SMEs and its influences: A view from the BRICS Lens. *BRICS Project 2.0 is a continuation of Project 1.0, successfully executed by the faculty of the Management Sciences (FMS) of the Durban University of Technology (DUT) together with the support team from other BRICS nations, supported by the National Institute of Humanities and Social Sciences (NIHSS) housing the South African BRICS Think Tank. The project research title is: "Growth and Sustainability of Livelihoods in the BRICS Countries: Knowledge Sharing in Social Justice, Governance, Multilateralism."* University of Campinas (Online), São Paulo, Brazil. September 2022.

Mbongwe, N.A. and Mohapeloa, M.M.E. Conceptualization of a Framework for a Regional manufacturing Entrepreneurial Ecosystem. *International Conference on Public Administration and Development Alternatives (IPADA)*. Premier Hotel, OR Tambo International Airport, Johannesburg. South Africa. September 2022.

ATMDT Annual Lecture. Photo: Rhodes Business School



School of Languages and Literatures

INTRODUCTION

The School of Languages and Literatures (SoLL) is made up of seven (7) sections: African Language Studies, Afrikaans and Netherlandic Studies, Chinese Studies, Creative Writing, French Studies and German Studies.

The SARChI Chair (Professor D. Nkomo) for The Intellectualisation of African Languages, Multilingualism and Education was renewed for the next five (5) years (2022 -2027). Affiliated with the School of Languages and Literatures we also have a Model Confucius Institute which successfully contributes to the imparting of many cultures, languages and literatures in the School.



Dr Bulelwa Nosilela - Head of School

Postgraduates / Graduations

Two (2) of our staff members who are also Section heads Daniel Malamis (Classical Studies) and Natasha Engelbrecht (German Studies) graduated with PhDs.

Distinguished Visitors / International Visits

BAQONDE (Boosting the Use of African Languages in Education) which is a Qualified Organized Nationwide Development Strategy for South Africa) a project that African Language Studies at Rhodes University is part of had International exchange workshops with the first one being at the University of Groningen in Netherlands in June 2022. The following ones were in Salamanca in Spain, Dublin in Ireland and in South Africa, UKZN and UWC. Sixteen (16) Rhodes academics from four (4) faculties have shared expertise and experiences of developing multilingual pedagogies and pedagogical materials with colleagues from local and international collaborating institutions.

In October we hosted our Visiting Professor H. Ekkehard Wolff who is an Emeritus Professor and Chair in African linguistics at Leipzig University in Germany. He gave a seminar titled: "In search of the proto-language ancestry of modern African languages".

Significant Research Aligned Events

In April 2022, Dr Engelbrecht and Professor Weber from the German Studies Section attended the 29th conference of the Association for German Studies in Southern Africa (SAGV) at UWC in Cape Town where both presented papers. In collaboration with DAAD-lecturers, Professor Weber organised a three-day workshop on teaching and learning German as a foreign language (GFL) at universities in Southern Africa, which took place in November 2022 on the Future Africa Campus (UP) in Pretoria. The aim of the workshop was to offer young lecturers of German as a foreign language in Southern Africa the opportunity for an intensive and scholarly exchange on matters related to their specific institutional contexts and the situation of GFL at Southern African universities. Dr Engelbrecht attended the workshop and, together with Professor Weber, participated in the fruitful and engaging discussions.

Marisa Botha from Afrikaans and Netherlands Section was a guest editor of the accredited journal, *Stilet* (34)1, March issue. She was also a panellist for the panel discussion on, "Die kartering van 'n unofficial taal: 'n Gesprek oor akademiese navorsing oor en in Kaaps" [The academic research on and in Kaaps] at the colloquium hosted by Rhodes University on 19 - 23 November 2022.

In January 2022 the SARCHI Chair Professor Nkomo from African Language Studies hosted a symposium on the new Language Policy Framework for Public Higher Education Institutions. The topic of the symposium was, *Two Decades of South Africa's Language Policy for Higher Education (2002) and Beyond*. Speakers came from different universities of South Africa. Another colloquium that discussed the Rhodes University internal issues of Language Policy Framework was held in July 2022. This colloquium was meant to seek ways of implementing the new Language Policy Framework.

School of Languages and Literatures PUBLICATIONS

Books/Chapters/Monographs

- Mukenge, A.N. and Dami, N.E.
Mukenge, A.N. and Dami, N.E. (2022) *William Sassine et l'humanisme*. Paris, France: L'Harmattan. ISBN : 9782140296222.
- Nkomo, D.
Nkomo, D. and Maseko, B. (2022) The Linguistic Dimensions of Gukurahundi in Zimbabwe. In: Mpofu, M. and Makombe, P.F. (eds.). *Memory and Erasure: Gukurahundi and the Culture of Violence in Zimbabwe*. Harare: Weaver Press. p.81-95. ISBN: 9781779274113.
- Fuzwayo, M., Hadebe, S. and Nkomo, D. (2022) Dismembering Memory of a Genocide: Contestations over Bhalagwe Mass Graves Memorial Site. In: Mpofu, M. and Makombe, P.F. (eds.). *Memory and Erasure: Gukurahundi the Culture of Violence in Zimbabwe*. Harare: Weaver Press. p.63-80. ISBN: 9781779224194.

Concerts, Exhibitions, Performances, Workshops, Events

- Engelbrecht, N.
Engelbrecht, N. Thesis paper. Workshop DaF im südlichen Afrika / Workshop German as a foreign language in Southern Africa. *Der Sprachunterricht muss umkehren! - Ein Beitrag zur Überburdenungsfrage (Wilhelm Viëtor, 1882) Bei der Dekolonisierungsfrage heißt umkehren umdenken*. UP - Future Africa Campus, Pretoria. South Africa. 16 - 19 November 2022.
- Kunju, H.W.
Schoon, A. and Kunju, H.W. Screening. Intellectual Giants of the Eastern Cape. *Africa Day: Zanzibar International Film Festival*. The Old Fort, Zanzibar. Tanzania. 21 June 2022.
- Kunju, H.W. and Schoon, A. TV Interview. Intellectual Giants of the Eastern Cape. *The Watchdog*. SABC2, Auckland Park. South Africa. 23 September 2022.
- Weber, U.S.
Weber, U.S. Organiser. Workshop DaF im südlichen Afrika / Workshop German as a foreign language in Southern Africa. *Organiser of this workshop*. Future Africa Campus, University of Pretoria, Pretoria. South Africa. 16 - 19 November 2022.

Peer Reviewed Non-Subsidy-Earning Journal Research Publications

- Hardy, S.
Hardy, S. (2022) Darkness Pass a Nocturn. *The Thinker: A Pan-African Quarterly for Thought Leaders*. 91 (2022). p.71-78.

Peer Reviewed Subsidy-Earning Journal Research Publications

- Engelbrecht, N.
Engelbrecht, N. (2022) Adopting social realism as a theoretical framework for critical scholarship of German foreign language teaching and learning. *Acta Germanica, German Studies in Africa*. 50 (1). p.42-56.
- Lambert, M.
Lambert, M. (2022) The sacred power of fat and honey in San and ancient Greek myth and ritual. *Akroterion, Journal for the Classics in South Africa*. 67 (1). p.101-117.
- Maseko, B.
Maseko, B. and Mlilo, S. (2022) Family language policy, school language practices and language socialisation among the Tonga. *South African Journal of African Languages*. 42 (2). p.225-233.
- Maseko, B. (2022) Family language policy in post-genocide Matabeleland: The case of a Ndebele family. *Southern African Linguistics and Applied Language Studies*. 40 (1). p.1-14.
- Nkomo, D.
Nkomo, D. (2022) Lexikos 33 (Editor). *Lexikos*. 32 (1). p.1-406.
- Nkomo, D. and Khumalo, L. (2022) The Intellectualization of African Languages through Terminology and Lexicography: Methodological Reflections with Special Reference to Lexicographic Products of the University of KwaZulu-Natal. *Lexikos*. 32 (2). p.133-157.
- Nkomo, D. and Nosilela, B.B.
Nkomo, D., Nosilela, B.B. and Gambushe, W. (2022) How Great is thy Dictionary? Cross-referencing as a Lexicographic Device in The Greater Dictionary of (Isi)Xhosa. *Lexikos*. 32 (3). p.166-190.
- Von Lengeling, V.H.C.
Von Lengeling, V.H.C. (2022) The distribution of fake British pounds in the biggest money counterfeiting scheme in history. *Journal of Intelligence History*. p.1-21.
- Von Lengeling, V.H.C. (2022) The Moral Example of the German Resistance Against the Nazi Regime. *Journal of Human Values*. 28 (3). p.234-246.
- Weber, U.S.
Weber, U.S. (2022) Co-Editor of *Acta Germanica* (accredited). *Acta Germanica, German Studies in Africa*. 50 (1). p.1-300.

Peer-reviewed Proceedings

- Mukenge, A.N.
Mukenge, A.N. L'ombre des tshitanshi : une figure de la monstruosité dans la Malédiction. *Colloque de l'Association des Professeurs de français des universités et des collèges canadiens (A.P.F.U.C.C)*. University of Calgary, Calgary. Canada. January 2022.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

- Engelbrecht, N.
Engelbrecht, N. Eurocentric social and educational environments in German foreign language textbooks - was tun? *SAGV 2022*. UWC, Cape Town. South Africa. April 2022.
- Hlithane, N. The paucity of scientific lexicon in isiXhosa vocabulary: The need to develop term-creation strategies to fill the language gap in the natural sciences. *African Languages Association of Southern Africa*. Stellenbosch University, Stellenbosch. South Africa. September 2022.
- Kwatsha, L.L.
Kwatsha, L.L. and Zumani, N. 2022. Figurative language used in selected isiXhosa poems about Covid-19. *African Languages Association of Southern Africa*. Stellenbosch University, Stellenbosch. South Africa. September 2022.
- Schoon, A. and Kunju, H.W. Critical Screening: Intellectual Giants of the Eastern Cape. *Soga Studies Conference*. JIAS, Johannesburg. South Africa. March 2022.

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- Mambambo J.**
Mambambo J. The ChiShona and isiXhosa linguistic matrimony through code-switching in Cape Town. *African Languages Association of Southern Africa*. Stellenbosch University, Stellenbosch. South Africa. September 2022.
- Mini B.M.**
Mini B.M. Historical account and contribution of the Greater Dictionary of IsiXhosa to Lexicography. *Association for African Lexicography (AFRILEX)*, Stellenbosch University, Stellenbosch, June 2022.
- Mukenge, A.N.**
Mukenge, A.N. La littérature congolaise d'hier et d'aujourd'hui. *Congo Research Network*. University of Milan, Milan. Italy. April 2022.
- Mukenge, A.N.** Samy Tchack : un Écrivain-profil ou prolifique. *Colloque international, autour de Tchack*. Université de Lomé, Lomé. Togo. May 2022.
- Mukenge, A.N.** Esthétique ou Écriture de la violence dans La Malédiction de Pius Ngandu Nkashama. *Violence, Identité et construction de la nation*. Université de Lubumbashi (UNILU), Lubumbashi. Congo. April 2022.
- Mvabaza, A.**
Mvabaza, A. A Critique of Translated (Isixhosa To English) Sworn Statements by the South African Police Services. *African Languages Association of Southern Africa*. Stellenbosch University, Stellenbosch. South Africa. September 2022.
- Mwepu, P.K.**
Mwepu, P.K. Slave Trade Memories at the Crossroads of Literature, Performance and History. *Slave Trade Memories Workshop*. University of Bayreuth, Bayreuth. Germany. June 2022.
- Mwepu, P.K.** Mise en récit des mémoires traumatiques. *Écriture du génocide*. University of Bayreuth, Bayreuth. Germany. July 2022.
- Mwepu, P.K.** Literature as a Medium: From the Ideal to the Empirical. *Africa Multiple Cluster of Excellence Annual Conference 2022: Medialities*. University of Bayreuth, Bayreuth. Germany. July 2022.
- Ndhlovu, K.**
Ndhlovu, K. Professional development of interpreting in South Africa. *Department of Justice Interpreter Conference*. Limpopo. April 2022.
- Ndhlovu, K.** Reimagining translator and interpreter training post-Covid-19. *African Languages Association of Southern Africa*. Stellenbosch University, Stellenbosch. South Africa. September 2022.
- Nkomo, D.**
Nkomo, D. For who* and for what? Motivations and pedagogical implications for English language teaching in multilingual Africa. *Africa ELTA 6th International Annual Conference*. Virtual conference. 12 - 13 August 2022.
- Nkomo, D. and Nosilela, B.B.**
Nkomo, D. and Nosilela, B.B. Cross-referencing Conditions in the Greater Dictionary of IsiXhosa. *African Association for Lexicography*. Stellenbosch University, Stellenbosch. South Africa. June 2022.
- Nosilela, B.B.**
Nosilela, B.B. 'This does not sound like my language': The Investigation of the Changing Phonotactics of isiXhosa. *African Languages Association of Southern Africa*. Stellenbosch University, Stellenbosch. South Africa. September 2022.
- Nosilela, B.B. and Nkomo, D.**
Nosilela, B.B. and Nkomo, D. Minding the Gaps: In Quest for a Holistic Approach in the Intellectualization of African Languages in South African Education. *South African Applied Linguistics Association*. University of North West, Potchefstroom. South Africa. June 2022.
- Phiwokuhe, T.**
Phiwokuhe, T. Evaluating the usefulness of isiXhosa online translation tools in language practice. *South African Applied Linguistics Association*. University of North West, Potchefstroom. South Africa. June 2022.
- Weber, U.S.**
Weber, U.S. Jenny Erpenbecks *Gehen, ging, gegangen* (2015): Richards verlorene Heimaten. *29th conference of SAGV - German Studies in Southern Africa*. University of the Western Cape UWC, Cape Town. South Africa. April 2022.
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Department of Sociology and Industrial Sociology

INTRODUCTION

The Department of Sociology had an exceptionally successful year in terms of research output and Postgraduate throughput. While all staff members and Associates contributed to this success, special mention must be made of the outstanding contributions to the Department's research output by Professors Kirk Helliker and Lucien van der Walt. In addition to their prodigious research outputs, Professors Helliker and Van der Walt did sterling work as the directors of the two (2) research units located in the Department. The academic staff in the Department also continued their extraordinary higher degree supervision record with forty-four (44) Postgraduate students graduating in 2022.



Professor Gilton Klerck - Head of Department

Postgraduates / Graduations

Twenty-six (26) Honours, fourteen (14) Masters by coursework and dissertation, and four (4) PhD candidates graduated in 2022. The range of topics addressed in the different dissertations and theses from Honours to PhD level testifies to the multiple areas in which the discipline is engaged and in which the Department has supervisory capacity. The PhD topics of those who graduated in 2022, for instance, included an analysis of the urban food system and household food security, land degradation and livelihood strategies, cross border trading and economic security, and an analysis of the experiences of Zimbabwean teachers in South Africa.

Significant Research-Aligned Events

The Neil Aggett Labour Studies Unit (NALSU), directed by Professor Lucien van der Walt, undertook extensive research and policy work, as well as public engagements. NALSU members' numerous publications included three (3) books: *Social Contracts and Informal Workers in the Global South* (co-edited by NALSU's Dr Laura Alfes), *Politics at a Distance from the State* (co-edited by NALSU's Professor Lucien van der Walt, and the Unit of Zimbabwean Studies' Professor Kirk Helliker); and *Labour Struggles in Southern Africa, 1919-1939: New Perspectives on the Industrial and Commercial Workers' Union (ICU)* (co-edited by Professor van der Walt). In addition, *Σπάζοντας τις Αλυσίδες Μια Ιστορία του Αναρχισμού* was published in Athens, a Greek translation of Professor van der Walt's earlier *Breaking the Chains: A History of Anarchism*, with a new introduction.

NALSU wrapped up a major project on the expansion of social protection for informal sector workers, by NALSU and UN Women, including workshops with stakeholders and policymakers. This intersected with NALSU research for the "Coping in Crisis: South African Workers Lives during COVID-19" series by WIEGO (Women in Informal Employment: Globalising and Organising). NALSU's Professor Mike Rogan was commissioned by the Department of Employment and Labour to work with the National Minimum Wage Commission, to conduct research on the earnings threshold of the Basic Conditions and Employment Act (BCEA). NALSU was part of an ongoing research programme on technical and vocational education and training, based at UWC (the Rhodes component is run by Professor Rogan) and the SA Cultural Observatory (headed at Rhodes by Professor Jen Snowball, also of NALSU). The Unit continued its work on labour history with the South African Municipal Workers' Union (SAMWU), and started a new project on the history of the 1980s South African Allied Workers Union (SAAWU), co-ordinated by Professor van der Walt. NALSU assisted the South African Heritage Resource Agency (SAHRA) on a forthcoming documentary on Neil Aggett.

NALSU continued its popular Labour Studies Seminar programme, based on blended events, linking to the Unit's ongoing series of podcasts and videos. More than one hundred (100) people attended NALSU's annual Neil Aggett Labour Studies Lecture. It was addressed by world-renowned Professor Emeritus (and Rhodes alumni) Eddie Webster. These public events were complemented by pieces in the popular media: *AwaaZ* (Kenya), *Business Day*, *Econ3x3* and *The Conversation*. The Unit also issued the revised edition of the booklet, *Building African Working Class Unity: The Makhan Singh Memorial Lectures* (co-edited by Professor van der Walt and *AwaaZ*'s Zarina Patel). It completed the first cycle of a multi-year Rhodes certificate programme in "Policy, Theory and Research for Labour Movements" for trade unionists, a partnership with the Manufacturing, Engineering and Related Services Sector Education Friedrich-Ebert-Stiftung (FES), was another resounding success. It was attended by delegates from the four main union federations, and the *Phakamani Siyephambile* farmworkers and -dwellers movement from the Sundays River Valley, and again attended by the sons of the martyred Vuyisile Mini. Professor van der Walt gave presentations to the COSATU National Education Committee (NEDCOM), Makukhanye Rural Movement, the South African Society of Bank Officials (SAABO), SAAWU veterans, and SAMWU, and joined the Global Labour University (GLU) committee developing a global labour history Massive Open Online Course (MOOC).

The Director of the Unit of Zimbabwean Studies, Professor Kirk Helliker, retired at the end of 2021, but he remains research active in the department. In 2022, he graduated four (4) PhD candidates. Professor Helliker also co-edited two (2) books in 2022: *Livelihoods of Ethnic Minorities in Rural Zimbabwe*, and *Capital Penetration and the Peasantry in Southern and Eastern Africa: Neoliberal Restructuring*. Another co-edited book (*Politics at a Distance from the State: Radical and African Perspective*), originally published by Routledge in 2018, was republished by PM Press in 2022. The Postdoctoral Fellow attached to the Unit (Dr Freedom Mazwi) published a book titled *The Political Economy of Contract Farming in Zimbabwe* (HSRC Press), co-edited a book with Professor Helliker and published two (2) journal articles. A PhD graduate (Dr Patience Chadambuka) also co-edited a book with Professor Helliker. Finally, former PhD candidates from the Unit wrote or co-wrote eight (8) journal articles and book chapters.

Department of Sociology and Industrial Sociology

PUBLICATIONS

Books/Chapters/Monographs

- Bhatasara, S.**
Bhatasara, S. and Nyamwanza, A.M. (2022) Climate injustice and the role of climate justice movements in Africa: The case of Zimbabwe. In: Etieyibo, E., Katsaura, O. and Musemwa, M. (eds.). *Africa's Radicalisms and Conservatisms II: Popculture, Environment, Colonialism and Migration*. Leiden: Brill. p.187-209. ISBN: 9789004523586.
- Bhatasara, S. and Chiweshe, M.K.**
Bhatasara, S. and Chiweshe, M.K. (2022) Locating women's land rights within Zimbabwe's changing agrarian sector post-November 2017 dispensation. In: Mkodzongi, G. (ed.). *The Future of Zimbabwe's Agrarian Sector*. London: Routledge. p.70-89. ISBN: 9781003158196.
- Chiweshe, M.K.**
Chiweshe, M.K. and Choto, T. (2022) Gender and the politics of patriarchy in Zimbabwean football administration. In: Molnar, G. and Bullingham, R. (eds.). *The Routledge handbook of gender politics in sport and physical activity*. London: Routledge. p.259-269. ISBN: 9780367555222.
- Hadebe, S.**
Hadebe, S. (2022) *In the Belly of the Beast: A History of NEHAWU 1987-2017*. Johannesburg: Chris Hani Institute. ISBN: 9780620962124.
- Fuzwayo, M., **Hadebe, S.** and **Nkomo, D.** (2022) Dismembering Memory of a Genocide: Contestations over Bhalagwe Mass Graves Memorial Site. In: Mpofu, M. and Makombe, P.F. (eds.). *Memory and Erasure: Gukurahundi the Culture of Violence in Zimbabwe*. Harare: Weaver Press. p.63-80. ISBN: 9781779224194.
- Helliker, K. and Alexander, T.**
Helliker, K. and Alexander, T. (2022) A feminist perspective on autonomism and commoning, with reference to Zimbabwe. In: Helliker, K.D. and van der Walt, L. (eds.). *Politics at a distance from the state: radical and African perspectives*. Oakland, USA: PM Press. p.96-110. ISBN: 9781629639437.
- Helliker, K. and Chadambuka, P.**
Helliker, K., Chadambuka, P. and Matanzima, J. (ed.) (2022) *Livelihoods of ethnic minorities in rural Zimbabwe*. Cham, Switzerland: Springer. ISBN: 9783030947996.
- Helliker, K. and Van Der Walt, L.**
Helliker, K. and Van Der Walt, L. (2022) Politics at a distance from the state: radical, South African and Zimbabwean praxis today. In: Helliker, K.D. and van der Walt, L. (eds.). *Politics at a distance from the state: radical and African perspectives*. Oakland, USA: PM Press. p.4-23. ISBN: 9781629639437.
- Helliker, K. and Van Der Walt, L.** (ed.) (2022) *Politics at a distance from the state: radical and African perspectives*. Oakland, USA: PM Press. ISBN: 9781629639437.
- Holloway, J.P.**
Holloway, J.P. (2022) Preface: at a distance from the state. In: Helliker, K.D. and van der Walt, L. (eds.). *Politics at a distance from the state: radical and African perspectives*. Oakland, USA: PM Press. p.1-3. ISBN: 9781629639437.
- Klerck, G.**
Maree, J., **Klerck, G.** and Benya, A. (2021). "Employment relations in South Africa", in G.J. Bamber, F.L. Cooke, V. Doellgast & C.F. Wright (eds.) *International and Comparative Employment Relations: Global Crises and Institutional Responses*. London: SAGE Publications. ISBN (Electronic): 9781529756067. ISBN (Print): 9781526499653.
- Jha, P.**
Jha, P. and Kumar, D. (2022) India's Automobile and Textile Industries in Global Value Networks: An Assessment. In: Teipen, C., Dunhaupt, P., Herr, H. and Mehl, F. (eds.). *Economic and social upgrading in global value chains*. Switzerland: Springer. p.197-225. ISBN: 9783030873202.



Professor Webster giving the Neil Aggett Lecture 2022. Photo: Department of Sociology and Industrial Sociology

Jha, P. and Yeros, P. (2022) Contemporary globalisation and value systems: what gains for developing countries. In: Teipen, C., Dunhaupt, P., Herr, H. and Mehl, F. (eds.). *Economic and social upgrading in global value chains*. Switzerland: Springer. p.35-53. ISBN: 9783030873202.

Mazwi, F.

Mazwi, F. (2022) *The Political Economy of Contract Farming in Zimbabwe*. Cape Town: HSRC Press. ISBN: 9780796926227.

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Mazwi, F., Mudimu, G.T. and Helliker, K. (ed.) (2022) *Capital Penetration and the Peasantry in Southern and Eastern Africa Neoliberal Restructuring*. Switzerland: Springer. ISBN: 9783030898243.

Mathekgga J.M.

Mathekgga, J.M. (2021). Reflections on Powers of Trade Union Federations in Democracies: A Comparative Discourse, in Ernest Tooichi Aniche and Toyin Falola (eds.), *Rethinking institutions, processes, and development in Africa*. Lanham, Maryland: Rowman & Littlefield.

Mnwana, S.C.

Bezuidenhout, A., **Mnwana, S.C.** and von Holdt, K. (2022) Introduction: Critical Engagement in South Africa and the Global South. In: Bezuidenhout, A., Mnwana, S. and Von Holdt, K. (eds.). *Critical Engagement with Public Sociology: A Perspective from the Global South*. Bristol: Bristol University Press. p.1-18. ISBN: 9781529221145.

Mnwana, S.C. (2022) The Antinomies and Opportunities of Critical Engagement in South Africa's Rural Mining Frontier. In: Bezuidenhout, A., Mnwana, S. and Von Holdt, K. (eds.). *Critical Engagement with Public Sociology: A Perspective from the Global South*. Bristol: Bristol University Press. p.106-122. ISBN: 9781529221145.

Bezuidenhout, A., **Mnwana, S.C.** and von Holdt, K. (ed.) (2022) *Critical Engagement with Public Sociology: A Perspective from the Global South*. Bristol: Bristol University Press. ISBN: 9781529221145.

Van Der Walt, L.

Van Der Walt, L. (2022) From Below: An Overview of South African Politics at a Distance from the State, 1917-2015, with Dossier of Texts. In: Helliker, K.D. and van der Walt, L. (eds.). *Politics at a distance from the state: radical and African perspectives*. Oakland, USA: PM Press. p.111-163. ISBN: 9781629639437.

Van Der Walt, L. (2022) Back to the Future: Revival, Relevance and Route of an Anarchist/Syndicalist Approach to 21st Century Left, Labour and National Liberation Movements. In: Helliker, K.D. and van der Walt, L. (eds.). *Politics at a distance from the state: radical and African perspectives*. Oakland, USA: PM Press. p.40-59. ISBN: 9781629639437.

Van Der Walt, L. (2022) Anarchism and Syndicalism in Southern Africa. In: Van Der Linden, M. (ed.). *The Cambridge History of Socialism*. Cambridge: Cambridge University Press. p.553-576. ISBN: 9781108481342.

Nieftagodien, N., **Van Der Walt, L.** and Johnson, D. (2022) Introduction. In: Nieftagodien, N., Johnson, and van der Walt, L.J.W. (eds.). *Labour Struggles in Southern Africa 1919-1949: New Perspectives on the Industrial and Commercial Workers' Union (ICU)*. Pretoria: HSRC Press. p.8-19. ISBN: 9780796926418.

Van Der Walt, L. (2022) The ICU, the Mines and the State in South West Africa, 1920-1926: Garveyism, Revolutionary Syndicalism and Global Labour History. In: Nieftagodien, N., Johnson, and van der Walt, L.J.W. (eds.). *Labour Struggles in Southern Africa 1919-1949: New Perspectives on the Industrial and Commercial Workers' Union (ICU)*. Pretoria: HSRC Press. p.2-17. ISBN: 9780796926418.

Van Der Walt, L. (2022) Posfácio: (Re)Construindo o Anarquismo Histórico, a História, a Historiografia e a Teoria do Anarquismo. In: Bandeira Negra: Rediscutindo o Anarquismo. 2nd Ed. São Paulo, Brazil: Autonomia Literária. p.413-468. ISBN: 1234567890123.

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Van Der Walt, L., Klerck, G. and Helliker, K.

Van Der Walt, L., Klerck, G. and Helliker, K. (2022) State capitalism in sub-Saharan Africa. In: Wright, M., Wood, G.T., Cuervo-Cazurra, A., Okhmatovskiy, I. and Grosman, A. (eds.). *The Oxford handbook of state capitalism and the firm*. Oxford: Oxford University Press. p.545-578. ISBN: 9780198837367.

Concerts, Exhibitions, Performances, Workshops, Events

Mathekgga, J.M.

Mathekgga, J.M. Presentation. Understanding the Economic and Political Context. *HSRC-CeSTII Lekgotla*. Pepper Club Hotel, Cape Town. South Africa. 2 February 2022.

Ngoma, A.L.

Ngoma, A.L. Presentation. Report on the Gauteng Provincial Government Partnership with Harambee Youth Employment Accelerator. *Gauteng Provincial Government including Director-Generals and Heads of Department*. Online, Johannesburg. South Africa. 15 June 2022.

Ngoma, A.L. Presentation. Report on the Gauteng Provincial Government Partnership with Harambee Youth Employment Accelerator. *Harambee Board of Directors*. Harambee, Braamfontein, Johannesburg. South Africa. 22 June 2022.

Ngoma, A.L. Presentation. The Political Economy of South Africa. *British High Commission*. Residence of British High Commissioner Anthony Phillipson, Tshwane. South Africa. 29 September 2022.

Ngoma, A.L. Presentation. Report on the Gauteng Provincial Government Partnership with Harambee Youth Employment Accelerator. *Gauteng Executive Council, including MPLs from the ANC caucus, the Premier and MECs*. Online, Johannesburg. South Africa. 29 June 2022.

Van Der Walt, L.

Van Der Walt, L. Presentation. Are Unions Still Relevant in 2022? Power, Prospects and Pitfalls. *Presentation to general secretariat, South African Society of Bank Officials (SASBO - The Finance Union)*. SASBO House, Johannesburg. South Africa. 6 September 2022.

Van Der Walt, L. Presentation. From 'The End of History' to the Problem of Liberal Democracy. *Vuyisile Mini Workers School (Neil Aggett Labour Studies Unit / NALSU)*. Graham Hotel, Makhandha. South Africa. 31 October - 4 November 2022.

Van Der Walt, L. Presentation. The Social Roots of 'Crisis Talk': The Neo-Liberal Subject. *Vuyisile Mini Workers School (Neil Aggett Labour Studies Unit / NALSU)*. Graham Hotel, Makhandha. South Africa. 31 October - 4 November 2022.

Van Der Walt, L. Presentation. Contextual Discussion: The Current Conjuncture and the Broad Working-Class. *Makukhanye Rural Movement: Strategic Workshop*. Khanyisa Educational and Development Trust, Port Elizabeth/ Gqeberha. South Africa. 23 July 2022.

Van Der Walt, L. Presentation. Positioning Young Workers for their Rightful Place in the Economy, Politics, Labour. *South African Municipal Workers Union (SAMWU) Young Workers workshop/ panel*. Online, South Africa. 28 June 2022.

Van Der Walt, L., Grinker, R., Alfors, L. and Makola, W.L. McGregor, W., **Van Der Walt, L., Grinker, R., Fryer, D., Mhlana, S., Rogan, M., Alfors, L.,** Jara, M., Kota, A. and **Makola, W.L.** Design, facilitation, presentation. *Crisis, Recovery and the Labour Movement. Vuyisile Mini Workers School (Neil Aggett Labour Studies Unit / NALSU)*. Graham Hotel, Makhandha. South Africa. 31 October - 4 November 2022.

Creative Writing

Sipungu, T.A.

Sipungu, T.A. (2022) Rewriting the script on patriarchal violence in South Africa. In: *Book review: rewriting the script on patriarchal violence in South Africa*. South Africa: *The Conversation*.

Other Publications

Ngoma, A.L.

Ngoma, A.L. (2022) Report on the Gauteng Provincial Government Partnership with Harambee Youth Employment Accelerator. In: *Report on the Gauteng Provincial Government Partnership with Harambee Youth Employment Accelerator*. Johannesburg: Mapungubwe Institute for Strategic Reflection (MISTRA).

Peer Reviewed Non-Subsidy-Earning Journal Research Publications

Hadebe, S.

Hadebe, S. and Xulu-Gama, N. (2022) Language of Instruction: A Critical Aspect of Epistemological Access to Higher Education in South Africa. *South African Journal of Higher Education*. 36 (5). p.291-307.

Mnwana, S.C.

Mnwana, S.C. and Bowman, A. (2022) Land, conflict and radical distributive claims in South Africa's rural mining frontier. *The Extractive Industries and Society*. 11 (2022). p.1-10.

Reynolds, J.

Macleod, C.I., **Reynolds, J.** and Delate, R. (2022) Women who sell sex in eastern and southern Africa: a scoping review of non-barrier contraception, pregnancy and abortion. *Public Health Reviews*. 43 (7). p.1-19.

Peer Reviewed Subsidy-Earning Journal Research Publications

Agbedahin, K.

Agbedahin, K. (2022) Africa's Code of Honor and the Protection of Women. *Peace Review*. 34 (2). p.214-226.

Agbedahin, K. (2022) Civic Friendship as a Remedy for the Cult of Mediocrity. *Peace Review*. 34 (3). p.402-412.

Alfers, L.

Chen, M., **Grapsa, G.**, Ismail, G., **Rogan, M.**, Valdivia, M., **Alfers, L.**, Harvey, J., Ogando, A.C., Reed, S. and Roevers, S. (2022) Covid-19 and informal work: Evidence from 11 cities. *International Labour Review*. 161 (1). p.29-58.

Moussié, R. and **Alfers, L.** (2022) Pandemic, informality and women's work: Redefining social protection priorities at WIEGO. *Global Social Policy*. 22 (1). p.190-195.

Gavrilovic, M., Rubio, M., Bastagli, F. and **Alfers, L.** (2022) Gender-responsive social protection post-Covid-19. *Science*. 375 (6585). p.1111-1113.

Bhatawara, S.

Manditsera, F.A., Mubaiwa, J., Matsungu, T.M., Chopera, P. and **Bhatawara, S.** (2022) Mopane worm value chain in Zimbabwe: Evidence on knowledge, practices, and processes in Gwanda District. *PLoS ONE*. 17 (12). p.1-17.

Chadambuka, P.

Chadambuka, P. (2022) (Re)Inventing Livelihoods Amid a Quest for Belonging. The Case of (Chewa) Ex-Farm Workers in Shamva's Communal Areas. *Springer Geography*. 2022 (2022). p.173-191.

Chitofiri, K.

Chitofiri, K. and Nkomo, L. (2022) Violence, Victimhood and Retaliation: The 2008 Elections and the Cyclic Nature of Political Violence in Norton, Zimbabwe. *Journal of Asian and African Studies*. p.1-17.

Chiweshe, M.K.

Chiweshe, M.K. and Choto, T. (2022) Women who watch and support English football in Zimbabwe: a transnational analysis of female fandoms. *Soccer and Society*. 23 (3). p.245-257.

Chirambaguwa, W., **Chiweshe, M.K.** and Choto, T. (2022) Exploratory analysis of the role of mediatization in the growth of transnational football fandoms in Africa. *Mediapolis*. 15 (0). p.75-96.

Drewett, M.

Drewett, M. (2022) All the Hits and More: Transkei's Capital Radio and Non-segregationist Playlisting. *SAMUS South African Music Studies (Formerly South Africa Journal of Musicology)*. 41/42 (2021/2022). p.217-234.

Drewett, M. (2022) 'I Will Do What I Can Do': Peter Gabriel and the Documentation of Human Rights. *Journal of Human Rights Practice*. 14 (1). p.1-16.

Hadebe, S.

Hadebe, S. (2022) Neoliberal Capitalism and Migration in the Global South: A Case of Post-ESAP Zimbabwe to South Africa Migration. *IMISCOE Research Series*. 2022 (2022). p.39-53.

Helliker, K. and Chadambuka, P.

Helliker, K. and Chadambuka, P. (2022) Two sides of the stream: the politics of belonging between foreign ex-farm workers and A1 farmers on a fast-track farm in Zimbabwe. *African Identities*. 2022 (2022). p.1-16.

Helliker, K., Matanzima, J. and Chadambuka, P. (2022) Theorising and Historicising the Livelihoods of Ethnic Minorities in Zimbabwe. *Springer Geography*. 2022 (2022). p.1-28.

Helliker, K. and Mwonzora, G.

Helliker, K. and Mwonzora, G. (2022) Truce and reconciliation in Zimbabwe: from Mugabe to Mnangagwa. *Critical African Studies*. 14 (2). p.124-137.

Jha, P.

Jha, P. and Mishra, P. (2022) Persistent vulnerabilities in the world of work and contemporary capitalism: some reflections on India. *Indian Journal of Labour Economics*. 65 (0). p.347-372.

Jha, P. and Yeros, P. (2022) The world of work in an age of permanent crisis. *Economic and Political Weekly*. 57 (42). p.39-45.



Professor Sonwabile Mnwana, Professor of Development Studies in the Department of Sociology at Rhodes University.
Photo: Chris Marais

Akrong, R., Akorsu, A.D., Jha, P. and Agyenim, J.B. (2022) Assessing the trade and welfare effects of certification schemes: The case of GlobalGAP in Ghana's mango sector. *Scientific African*. 18 (1425). p.1-12.

Jha, P. (2022) Repeal of the 'Black Farm Laws' A Momentous Battle Won, But the War Ahead Is Long and Hard. *Economic and Political Weekly*. 57 (5). p.10-13.

Klerck, G.

Klerck, G. (2022) Neoliberalisation and Regulatory Restructuring in South Africa's Commercial Agriculture. *Advances in African Economic, Social and Political Development*. 2022 (2022). p.25-53.

Lupindo, E.

Lupindo, E. and Qambela, G. (2022) Pandemics, routine death, and pleasure. *AGENDA*. 35 (4). p.78-85.

Mazwi, F.

Mazwi, F. (2022) Joint ventures and land rentals in tobacco: limitations of radical land reforms in a neoliberal economic environment - the case of Zvimba, Zimbabwe. *Journal of Southern African Studies*. 48 (2). p.317-333.

Mazwi, F. and Mudimu, G.T. (2022) A Review of State-Based Land Tenure: A Special Reference to Land Rights and Access to Rural Finance. *Economic Geography*. 2022 (2022). p.225-245.

Mazwi, F. and Helliker, K.

Mazwi, F., Mudimu, G.T. and Helliker, K. (2022) Capital Penetration and the Subordination of the Peasantry Under Neoliberalism in Africa. *Advances in African Economic, Social and Political Development*. 2022 (2022). p.3-24.

Sipungu, T.A.

Sipungu, T.A. (2022) Seeking Sanctuary: Stories of Faith, Sexuality and Migration. *South African Review of Sociology*. 2022 (3). p.1-3.

Sipungu, T.A. (2022) Exploring embodied differences in Xhosa manhood masculinity, and reflecting on thematic analysis. *Canadian Journal of African Studies*. 2022 (3). p.1-20.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Mnwana, S.C.

Mnwana, S.C. Rethinking the 'definition paradigm': 'community' and the local politics of distribution in South Africa's rural mining frontier. *Radical Politics beyond or through Representative Institutions*. Cape Town, Cape Town. South Africa. December 2022.

Mnwana, S.C. Disempowered: dispossession and conflict on the platinum belt. *The Failed Promise of Tenure Security: Customary land rights and dispossession*. Virtual, Cape Town. South Africa. August 2022.

Sipungu, T.A.

Sipungu, T.A. Social Representations of Covid-19 in Isilezwe LesiXhosa from March 2020 Until December 2020. *South African Sociological Association*. Sol Plaatje University, Kimberly. South Africa. July 2022.

Sipungu, T.A. Injury Before, And After Traditional Xhosa Initiation: Positioning Disabled Xhosa Men Subjectivities. American Men's Studies Association 2022 (VIRTUAL) Interdisciplinary Conference on Men and Masculinities. Virtual - University of Washington, Tacoma, Tacoma. USA. June 2022.

Van Der Walt, L.

Van Der Walt, L. Radical Encounters: Christianity, Garveyism and Revolutionary Syndicalism in the Industrial and Commercial Workers Union of Africa, 1919-1939. *Local paper presentation: Lucien van der Walt, 2022, "Radical Encounters: Christianity, Garveyism and Revolutionary Syndicalism in the Industrial & Commercial Workers Union of Africa, 1919-1939," Labour Studies Seminar Series: Neil Aggett Labour Studies Unit (NALSU), Rhodes University*. Rhodes University, Makhanda (blended). South Africa. August 2022.

Department of Statistics

INTRODUCTION

The faculty and students in the Department of Statistics express their gratitude to Dr Correa for his valuable contributions to the department. We extend our heartfelt congratulations on his well-deserved promotion and send our best wishes to him and his family as they embark on a new journey at the University of the Free State.



Mr Jeremy Baxter - Head of Department



Professor Raubenheimer and Dr Smit SASA 2022.
Photo: Department of Statistics

Postgraduates / Graduations

Mr Anele Sikhakhane, MSc student, attended the CIMPA Research School, hosted by AIMS in Cape Town from 18 - 29 July 2022. These seminars introduced students to the mathematical and statistical underpinnings of some of the latest Data Science methods that seek to address the challenge of Big Data analysis.

Ms Lahoud completed her Master of Science degree with distinction. Her research focused on evaluating the assessment validity of the grade 6 Mathematics annual national assessment through the application of multi-dimensional item response theory and related statistical techniques. Utilizing a two-parameter logistic item response theory model, Ms. Lahoud identified a clear alignment between the model parameters and the difficulty specifications of the assessment. Her analysis indicated that the test tended to favor learners within the central band on the ability scale. Moreover, she employed an exploratory five-dimensional item response theory model, which revealed significant discrepancies between the factor structure and the test's specifications. Some items measured abilities beyond pure mathematical skills, such as reading ability, thereby distorting the test's representation of Mathematics aptitude and potentially disadvantaging learners with lower English literacy. This situation posed a challenge to the construct validity of the test. Through differential item functioning analyses, Ms Lahoud discovered that fourteen (14) items exhibited bias against learners from different provinces. These findings have brought to light important issues related to educational evaluation not only in South Africa but also in developing countries at large. Ms Lahoud's research contributes significantly to the field, shedding light on crucial aspects of assessment validity and raising awareness of broader concerns in education evaluation within developing nations.

Mr Vele successfully completed his Master of Science degree, focusing on the topic "The application of statistical classification to predict sovereign default." His thesis delved into the crucial aspect of sovereign loans, emphasizing the significance of a financial institution's comprehension of the sovereign entities they engage with. To enhance the prediction of potential sovereign defaults, financial institutions, in collaboration with grading companies, employ sovereign default early warning systems (EWS) to quantify associated risks when issuing loans to sovereign nations. In his research, Mr Vele employed various classification models such as the binary logit model, probit model, Bayesian additive regression trees, and artificial neural networks to develop effective sovereign default early warning systems. Throughout the analysis, various techniques for handling missing data had to be considered due to challenges in data availability. Despite these obstacles, Mr Vele's research makes a substantial positive contribution to the field of modeling and predicting sovereign default occurrences.

Three (3) students graduated with a Bachelor of Science Honours in Mathematical Statistics. Mr Tegen de Wet attained a distinction.

Distinguished Visitors / International Visits

The department hosted Dr Neill Smit from North-West University on a research visit.

Significant Research Aligned Events

The Masters students attended Professor Lin's seminar on ghost data and Professor van Keilegom's seminar on nonparametric instrumental regression with right censored duration outcomes hosted at Nelson Mandela University in August 2022. Mr Jurie Schoeman and the BSG team discussed the BSG internship and graduate placement programs with the senior undergraduate and Postgraduate students.

Dr Correa has continued his active participation in the Doctoral Supervisor Capacity Development in Academic Statistics collaboration group with the objective of developing the capacity for supervision and curriculum construction in statistics. Mr Hamlomo presented his poster on low rank approximation and Gaussian noise estimation, an analysis of surgical imaging at the Deep Learning Indaba in Tunis, Tunisia (June 2022). Professor Raubenheimer, Ms Langston and Mr Hamlomo presented posters or papers at the annual South African Statistical Association conference (November 2022). Dr Chinomona represented the department at the StatCon 2022 Conference and Workshops in Kruger National Park (August 2022). Mr Izally, Mr Hamlomo and Ms Langston have made significant progress reading towards their PhD's. Professor Raubenheimer's NRF rating was renewed.

Department of Statistics

PUBLICATIONS

Peer Reviewed Non-Subsidy-Earning Journal Research Publications

Correa, F.M.

Fabris-Rotelli, I.F.R., von Maltitz, M.J.M., Smith, A.S., Das, S.D., Roberts, D.R., Maribe, G.M., Maposa, D.M. and **Correa, F.M.** (2022) Development of an early career academic supervisor in Statistics - a discussion on a guiding rubric. *Orion Journal of the Operations Research of South Africa*. 38 (1). p.29-51.

Peer Reviewed Subsidy-Earning Journal Research Publications

Correa, F.M.

Friderichs, T.J. and **Correa, F.M.** (2022) Measuring human capital in South Africa across socioeconomic subgroups using a latent-variable approach. *Social Indicators Research*. 2022 (2022). p.1-25.

Dannouf, R.D., Yong, B.Y., Ndehedehe, C.E.N., **Correa, F.M.** and Ferreira, V.F. (2022) Boosted Regression Tree Algorithm for the Reconstruction of GRACE-Based Terrestrial Water Storage Anomalies in the Yangtze River Basin. *Frontiers in Environmental Science*. 10 (1). p.1-12.

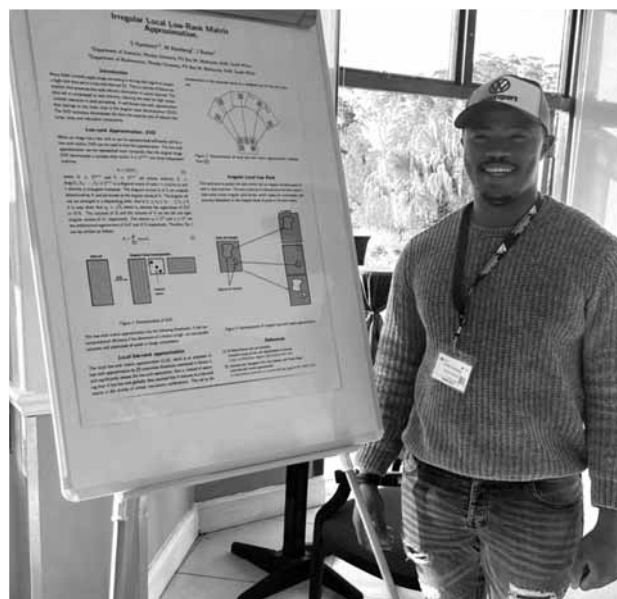
Garcia, C.G., Almeida, A.A.F.A., Costa, M.C., Britto, D.B., **Correa, F.M.**, Mangabeira, P.M., Silva, L.S., Silva, J.S., Royaert, S.R. and Marelli, J.P.M. (2022) Single-base resolution methylomes of somatic embryogenesis in *Theobroma cacao* L. reveal epigenome modifications associated with somatic embryo abnormalities. *Scientific Reports*. 12 (15097). p.1-19.

Langston, A.F.

Cha, J.H., Finkelstein, M. and **Langston, A.F.** (2022) Termination versus operation extension for degrading systems. *Proceedings of the Institution of Mechanical Engineers Part O-Journal of Risk and Reliability*. p.1-11.

Sisipho Hamlomo, SASA 2022.

Photo: Department of Statistics



Raubenheimer, L.

Smit, N. and Raubenheimer, L. (2022) Bayesian accelerated life testing: A generalised Eyring-Birnbaum-Saunders model. *Quality and Reliability Engineering International*. 38 (1). p.195-210.

Smit, N. and Raubenheimer, L. (2022) Bayes factors for accelerated life testing models, *Communications for Statistical Applications and Methods* (ISSN 2383-4757). DOI:10.29220/CSAM.2022.29.5.513, 29(5), 513- 532.

Southey, R.R., Raubenheimer, L. and Radloff, S.E.

Southey, R.R., Raubenheimer, L. and Radloff, S.E. (2022) Bayesian disease mapping: A literature review with an application, using Win Bugs software. *Statistics, Optimization and Information Computing*. 10 (3). p.829-857.

Research Papers Presented at Academic/ Scientific Conferences (Non-peer-reviewed Proceedings)

Hamlomo, S.

Hamlomo, S. Irregular Local Low Rank Approximation. *63rd Annual Conference of South African Statistical Association*. Protea Hotel King George, Gorge. South Africa. November 2022.

Hamlomo, S. Low-rank Approximation and Gaussian Noise Estimation. An Analysis with Surgical Imaging. *Deep Learning Indaba 2022*. SUP'COM, Tunis. Tunisia. August 2022.

Langston, A.F.

Langston, A.F., Cha, J.H. and Finkelstein, M. Termination versus operation extension for degrading systems. *63rd Annual Conference of the SASA (South African Statistical Association) 2022*. The Protea Hotel by Marriot King George, George. South Africa. November 2022.

Raubenheimer, L.

Raubenheimer, L. Does the undergraduate student really understand Bayesian Statistics. *International Conference on Teaching Statistics (ICOTS)*. Hybrid conference, Rosario. Argentina. September 2022.

Smit, N. and Raubenheimer, L. A comparison of Bayesian accelerated life testing models in the presence of dual stresses. *The Joint Statistical Meetings*. Walter E. Washington Convention Center, Washington DC. USA. August 2022.

Smit, N. and Raubenheimer, L. Dual-stress accelerated life testing using the generalised Eyring model. *The South African Statistical Association (SASA) Conference*. Protea Hotel, George. South Africa. November 2022.

Tamlyn Lahoud and Sisipho Hamlomo.

Photo: Department of Statistics



Amy Langston at SASA 2022.

Photo: Department of Statistics



Graduation 2022.

Photo: Department of Statistics



Department of Zoology and Entomology

INTRODUCTION

In 2022 the research activities of the department were both diverse and vibrant! Everyone welcomed the return of normalcy to our schedules and renewed interactions with students and researchers at local, national, and international levels. The staff, students, and research associates represented Rhodes University through one hundred and twenty (120) subsidy-earning publications, nine (9) book chapters, and over one hundred (100) conference presentations and research visits. We continue to forge new research-related connections and collaborations that augment our entire academic project.



Professor Nicole Richoux - Head of Department

Postgraduates / Graduations

We applauded seven (7) Honours, eleven (11) MSc, and four (4) PhD candidates as successful graduates of their Postgraduate programmes in 2022. We wish all of them the very best as they continue their journeys as young scientists.

Distinguished Visitors / International Visits

Students and researchers from the department represented Rhodes University at conferences around the world. Locations of international visits included:

- Helsinki, Finland
- Oostende, Belgium
- Victoria Falls, Zimbabwe
- Berlin, Germany
- Belgrade, Serbia
- British Columbia, Canada
- Mersin, Turkey
- Adelaide, Australia
- Madrid, Spain
- Windhoek, Namibia
- Brazil
- Philippines
- India
- United States of America

Invited Keynote Speakers

Professor N.B. Richoux PLENARY LECTURE, International Biodiversity Conference, Davao Oriental State University, Philippines (27 - 28 July). "Connectivity through allochthony: studies on trophic subsidies between rivers and land in South Africa".

Professor I.D. Paterson PLENARY LECTURE, Innovation in Invasive Species Management Conference, Nashville, USA. (14 - 15 December). "Biological control of weed: opportunities to control invasive alien plants through North American-African collaborations".

Professor M.P. Hill PLENARY LECTURE, 6th International Symposium on Biological Control of Arthropods. British Columbia, Canada (March). "The current status of biological control of arthropods".

Professor M.P. Hill PLENARY LECTURE, 3rd International Weed Conference, Anand Agricultural University, Anand, Gujarat, India. (20 - 23 December) "Current status of biological control of weeds and future perspectives".

Invited Presentations

Chari, L.D., Moyo, S., Villet, M.H., Richoux, N.B. INTECOL: Frontiers in Ecology: Science & Society. Geneva, Switzerland (28 August - 2 September). "Cross-boundary subsidies to riparian web-building spiders in an African temperate river".

Groth, O., Rahaus, S., Höft, V., Straflberger, A., Graw, M., Villet, M.H. 18th Meeting of the European Association for Forensic Entomology and 4th International Conference in Funerary Archaeoentomology. University of Alcalá, Alcalá de Henares, Madrid, Spain (15 - 17 June): Larvae of *Lucilia sericata* (Meigen 1826) metabolise the benzodiazepine diazepam (Valium®) in a similar fashion as humans: preliminary results of pharmacokinetic and developmental studies.

Significant Research Aligned Events

Two (2) past graduates were featured in *Entomology Today*, *Entomological Society of America*: Daniel Rogers and Dr Evans Mauda; <https://entomologytoday.org/2022/10/24/diversity-career-paths-five-entomologists/>

The Vice-Chancellor's Distinguished Research Award was presented to Professor Iain Paterson.

The Centre for Biocontrol and Citrus Research International convened the 54th Annual Meeting of the Society of Invertebrate Pathology in Nelson Mandela Bay.

The Centre for Biocontrol organised and hosted the annual weed workshops in October. It is an important event bringing biological control researchers together.

Department of Zoology and Entomology PUBLICATIONS

Books/Chapters/Monographs

Canavan, K.
Novoa, A., **Canavan, K.** and Canavan, S. (2022) *Tourism, Recreation and Biological Invasions*. Wallingford, UK: CABI. ISBN: 9781800620544.

Canavan, K. and Martin, G.D.
Canavan, K., Canavan, S., Clark, V.R., Gwate, O., Mapaura, A., Richardson, D., Steenhuisen, S. and **Martin, G.D.** (2022) *Exploring the multiple values of nature - connecting ecosystems and people across landscapes*. London: Springer. ISBN: 9783031019791.

Chari, L.D.
Chari, L.D., Sentis, S., Kaunisto, K., Morrill, M., Polpova, O., Pomeranz, P., Boukal, B., Nedim, N. and Stoks, R. (2022) Odonata trophic ecology from hunting behavior to cross-ecosystem impact. In: Cordoba-Aguilar, A., Beatty, C. and Bried, J. (eds.). *Dragonflies and Damselflies: Model Organisms for Ecological and Evolutionary Research*. 2nd Ed. New York: Oxford University Press. p.219-232. ISBN: 9780192898623.

Claassens, L. and Hodgson, A.N.
Claassens, L., **Hodgson, A.N.**, Short, G. and Harasti, D. (2022) Diversity, Distribution, Ecology and Conservation Status of the Family Syngnathidae in Sub-Saharan Africa and Adjacent Islands. In: S.J.

Hawkins, A.J. Lemasson, A.L. Allcock, A.E. Bates, M. Byrne, A.J. Evans, L.B. Firth, C.H. Lucas, E.M. Marzinelli, P.J. Mumby, B.D. Russell, J. Sharples, I.P. Smith, S.E. Swearer, and P.A. Todd (eds.). *Oceanography and Marine Biology: An Annual Review*. CRC Press 60. p.169-242 ISBN: 9781003288602. <https://doi.org/10.1201/9781003288602-4>.

Hodgson, A.N.

Zupo, V. and **Hodgson, A.N.** 2022. Sexual biology and reproduction. In: Zupo, V. (ed.). *Crustaceans: Endocrinology, Biology and Aquaculture*. CRC Press. pp. 18-39. ISBN 9780367420703. <https://www.routledge.com/Crustaceans-Endocrinology-Biology-and-Aquaculture/Zupo/p/book/9780367420703>.

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Emiel van Son examining field traps for fruit fly in the Addo region.
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Marcel van der Merwe spraying yeast and baculoviruses 1. Photo: Department of Zoology and Entomology

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Professor Richoux at the SciFest booth for DZE.

Photo: W Sexton



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- Marsberg, T. and Moore, S.D.** The interaction between a granulovirus and Neem oil for improved control of *Thaumetotibia leucotreta*. *International Congress of Invertebrate Pathology and Microbial Control and the 54th Annual Meeting of the Society for Invertebrate Pathology*. Virtual, Nelson Mandela Bay. South Africa. August 2022.
- Moore, S.D., Kirkman, W. and Cousins, L.E.**
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- Nkibi, E., Motitsoe, S.N. and Mlambo, M.C.** Phytoplankton and littoral aquatic macroinvertebrate species composition from coastal and inland lakes of South Africa. *Southern African Society of Aquatic Scientists (SASAqs)*. Amanzi Private Game Reserve, Brandfort Free State. June 2022.
- Campbell, K.M., Motitsoe, S.N., Mlambo, M.C., Kubheka, S.P. and Janse van Rensburg, S.** Population Dynamics of Caridina Shrimps of Lake Sibaya/Lake Mzingazi, KZN: 40 years on. *Southern African Society of Aquatic Scientists (SASAqs)*. Amanzi Private Game Reserve, Brandfort Free State. June 2022.
- Mdidimba, N., Mlambo, M.C., Motitsoe, S.N., Zengeya, T. and Barkhuizen, L.** DNA Barcodes reveal an alien hitchhiker in Mimosa Dam, Free State, South Africa. *Southern African Society of Aquatic Scientists (SASAqs)*. Amanzi Private Game Reserve, Brandfort Free State. June 2022.
- Moyo, S., Motitsoe, S.N., Mlambo, M.C. and Kubheka, P.S.** Macroinvertebrate diversity and their environmental drivers from temporary habitats of the Maloti-Drakensberg region, South Africa. *Southern African Society of Aquatic Scientists (SASAqs)*. Amanzi Private Game Reserve, Brandfort Free State. June 2022.
- Motitsoe, S.N., Mlambo, M.C. and Cornette, R.** Flies on rock pools: A new record of a desiccation resistant chironomid, *Polypendulum cranstoni* from South Africa. South Africa. *Southern African Society of Aquatic Scientists (SASAqs)*. Amanzi Private Game Reserve, Brandfort Free State. June 2022.
- Motitsoe, S.N., Paterson, I.D., Martin, G.D. and Hill, M.P.**
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- Muller, K., Hill, M.P. and Moore, S.D.**
Muller, K., Hill, M.P. and Moore, S.D. A comparison of IPM under nets and in open citrus orchards in Mpumalanga Province. *11th Citrus Research Symposium*. Champagne Sports Resort, KwaZulu-Natal. South Africa. August 2022.
- Mushore, T.G., Coombes, C.A. and Hill, M.P.**
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- Muskett, P.C. and Paterson, I.D.**
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- Owen, C.A. and Terblanche, J.S.**
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- Paterson, I.D.**
Paterson, I.D. Local adaptations or genetic diversity: which is more beneficial in a biocontrol agent population. *XXVI International Congress of Entomology (ICE)*. Messukeskus, Helsinki. Finland. July 2022.
- Mayonde, S.G., Paterson, I.D. and Byrne, M.J.** Tracking the origin of invasive *Opuntia engelmannii* lineages in South Africa. *National Symposium on Biological Invasions*. University of Fort Hare, Alice. South Africa. July 2022.
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Shuttleworth, A., Johnson, S.D., Heiduk, A., Peyper, M., Cousins, L.E. and Moore, S.D. Environmental SEM imaging of male false codling moth androconia and coremata. *11th Citrus Research Symposium*. Champagne Sports Resort, KwaZulu-Natal. South Africa. August 2022.
- Marsberg, T., Peyper, M., Cousins, L.E. and Moore, S.D.** The interaction between a granulovirus and two insect growth regulators: a possibility for improved control of false codling moth. *11th Citrus Research Symposium*. Champagne Sports Resort, KwaZulu-Natal. South Africa. August 2022.

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Prinsloo, S.L., Coombes, C.A., Moore, S.D., Malan, A. and Hill, M.P. Interaction between indigenous entomopathogenic nematodes and the fungus *Metarhizium anisopliae* against late instar false codling moth larvae. *11th Citrus Research Symposium*. Champagne Sports Resort, KwaZulu-Natal. South Africa. August 2022.

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Reid, M.K., Coetzee, J.A. and Hill, M.P. A native weevil exploring exotic cuisine: The host range expansion of *Bagous longulus* on an invasive waterlily in South Africa. *Sixth research symposium at Fountainhill Estate*. Fountainhill Estate, Wartburg. South Africa. October 2022.

Reid, M.K., Hill, M.P. and Coetzee, J.A. A native weevil and a foreign planthopper: could they control *Nymphaea mexicana* in South Africa. *National Symposium on Biological Invasions*. University of Fort Hare, Alice. South Africa. July 2022.

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Richardson, P.H.R., Terblanche, J. and Owen, C.A. Of moths and microbes: Insights into pest thermal physiology. *11th Citrus Research Symposium*. Champagne Sports Resort, KwaZulu-Natal. South Africa. August 2022.

Richoux, N.B.

Richoux, N.B. Connectivity through allochthony: studies on trophic subsidies between rivers and land in South Africa. *International Biodiversity Conference*. Davao Oriental State University, Mati City. Philippines. July 2022.

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Roberts, P.J., Druce, D., Mgqatsa, N. and Parker, D.M. Using camera traps and call-ups to estimate spotted hyaena (*Crocuta crocuta*) density and space use. *Southern African Wildlife Management Association*. Bonamanzi Game Reserve, KwaZulu-Natal, South Africa. September 2022.

Sutton, G.F., Yell, L.D., Van Steenderen, C.J.M., Canavan, K. and Paterson, I.D.

Sutton, G.F., Yell, L.D., Van Steenderen, C.J.M., Canavan, K., McConnachie, A. and Paterson, I.D. Biological control of *Eragrostis curvula* (African lovegrass): native-range surveys in Africa. *22nd Australasian Weeds Conference*. Adelaide Oval, Adelaide. Australia. September 2022.

Taylor, D.G., Hill, M.P., Moore, S.D. and Jukes, M.D.

Taylor, D.G., Hill, M.P., Moore, S.D., Knox, C. and Jukes, M.D. Investigating baculovirus synergism for improved management of false codling moth, *Thaumetotibia leucotreta*, in the field. *International Congress of Invertebrate Pathology and Microbial Control and the 54th Annual Meeting of the Society for Invertebrate Pathology*. Virtual, Nelson Mandela Bay. South Africa. August 2022.

Townsend, G.R. and Hill, M.P.

Townsend, G.R., Hurley, B., Hill, M.P., Roets, F. and de Beer, W. Initial assessment of the polyphagous shot hole borer (PSHB) in indigenous South African forests. *National Symposium on Biological Invasions*. University of Fort Hare, Alice. South Africa. July 2022.

Van Der Merwe, M., Jukes, M.D., Moore, S.D. and Hill, M.P.

Van Der Merwe, M., Jukes, M.D., Moore, S.D. and Hill, M.P. Selection of a UV-resistant isolate of *Cryptophlebia peltastica* nucleopolyhedrovirus for improved field persistence and efficacy against *Thaumetotibia leucotreta*. *International Congress of Invertebrate Pathology and Microbial Control and the 54th Annual Meeting of the Society for Invertebrate Pathology*. Virtual, Nelson Mandela Bay. South Africa. August 2022.

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Van Son, E.J.H., Kirkman, W., Coetzee, J.A. and Manrakhan, A. Alternate hosts of the oriental fruit fly, *Bactrocera dorsalis*, in the Sundays River Valley. *11th Citrus Research Symposium*. Champagne Sports Resort, KwaZulu-Natal. South Africa. August 2022.

Van Steenderen, C.J.M. and Sutton, G.F.

Van Steenderen, C.J.M. and Sutton, G.F. SPEDE-sampler: An R Shiny application to assess how methodological choices and taxon-sampling may affect DNA-based Generalised Mixed Yule Coalescent (GMYC) species delimitation. *International Statistical Ecology Congress (ISEC)*. Breakwater Lodge, Cape Town. South Africa. July 2022.

Van Steenderen, C.J.M., Peyper, M. and Hill, M.P.

Van Steenderen, C.J.M., Marsberg, T., Peyper, M., Kirkman, W. and Hill, M.P. The role of sterile females in the false codling moth sterile insect technique programme. *11th Citrus Research Symposium*. Champagne Sports Resort, KwaZulu-Natal. South Africa. August 2022.

Villet, M.H.

Feugang Youmessi, F.D., Nwane, P.B., DjîÈto-Lordon, C., Braet, Y., Villet, M.H., Bilong Bilong, C.F. Blowflies reared in laboratory conditions from maggots collected on rat (*Rattus norvegicus* Berkenhout, 1769, var Wistar) carions in Yaoundé (Cameroon, Central Africa). In: *Forensic Entomology. 18th Meeting of the European Association for Forensic Entomology (EAFE) & 4th International Conference in Funerary Archaeoentomology (ICFAE)*. Alcalá de Henares (Madrid), Spain: 15 - 17 June 2022; 2022. p. 71.

Wasserman R.J.

Wasserman, R.J., Keates, C., Dalu, T. Testudine endozoochory: first evidence for passive transportation of anostracan cysts by the Marsh Terrapin *Pelomedusa subrufa*. *South African Society for Aquatic Sciences (SASAqS) conference*. June 2022, oral presentation.

Dr Lenin Chari with Ice Plant on the West Coast.

Photo: Liam Yell



- Bute, T., Wasserman, R.J., Dalu, T.** Microbial functions and dynamics in semi-arid temporary pans of the Khakhea-Bray Transboundary Aquifer quantified using metagenomics. *5th SADC Groundwater Conference*. 16-18 November 2022, Windhoek, Namibia.
- Mungenge, C., Wasserman, R.J., Dondofema, F., Keates, C., Masina, F., Dalu, T.** Assessing chlorophyll-a and nutrient concentration dynamics in temporary pan systems along a disturbance gradient. *5th SADC Groundwater Conference*. 16-18 November 2022, Windhoek, Namibia.
- Keates, C., Wasserman, R.J., Conradie, W.** Phylogenetic structuring in sub-Saharan Natriciteres (*Colubridae: Natricinae*). *South African Society for Aquatic Sciences (SASAQs) conference*. June 2022, oral presentation.
- Mungenge, C., Wasserman, R.J., Dalu, T.** Increasing salinisation effects on crustacean hatching success from pan systems in the Khakhea Bray Transboundary region. *South African Society for Aquatic Sciences (SASAQs) conference*. June 2022, oral presentation.
- Bute, T., Dalu, T., Wyness, A., Wasserman, R.J.** Microbial Extracellular Polymeric Substances (EPS) in temporary pans of the Khakhea-Bray Transboundary Aquifer region. *South African Society for Aquatic Sciences (SASAQs) conference*. June 2022, oral presentation.
- Khosa, D., South, J., Matam, N.Y., Mofu, L., Wasserman, R.J., Weyl, O.L.F.** The current distribution of native and non-native fish in the Kowie River catchment, Makhanda, Eastern Cape. *South African Society for Aquatic Sciences (SASAQs) conference*. June 2022, oral presentation.
- Bird, M., Mlambo, M., Wasserman, R.J., Dalu, T., Holland, A., Day, J., Villet, M., Bilton, D., Barber-James, H., Brendonck, L.** Deeper knowledge of shallow waters: reviewing the invertebrate fauna of southern African temporary Wetlands. *South African Society for Aquatic Sciences (SASAQs) conference*. June 2022, oral presentation.
- Mofu, L., Dalu, T., Wasserman, R.J., Woodford, D.J., Weyl, O.L.F.** Patterns and size composition, catch per unit effort and biomass of four primary colonizers of artificial impoundments. *South African Society for Aquatic Sciences (SASAQs) conference*. June 2022, oral presentation.
- Wyness, A., van der Merwe, A., Kaiser, A., Dalu, T., Wasserman, R.J., Stutter, M., O'Brien, G.C.** Using artificial substrates to determine microbial ecosystem function. *South African Society for Aquatic Sciences (SASAQs) conference*. June 2022, poster presentation.
- Mpanza, N., Pegg, J., Magoro, M., Cuthbert, R., Wasserman, R.J.** Resource utilization and morphological trait differences between *Oreochromis mossambicus* and *Oreochromis niloticus* in the Eastern Cape Province. *South Africa. 22nd International Conference on Aquatic Invasive Species (ICAIS 2022)*. Oostende, Belgium, 18 - 22 April 2022. Oral presentation.
- Keates, C., Dalu, T., Dondofema, F., Wasserman, R.J.** Herpetofauna of the Khakhea-Bray Transboundary Aquifer Region: The Importance of Ephemeral Waterbodies. *Herpetological Association of Africa Mini Symposium (virtual conference)*. 9 - 10 May 2022.
- Webb, C.J. and Paterson, I.D.**
- Webb, C.J. and Paterson, I.D.** Potential biological control agents for Crystalline ice plant: a plant indigenous to South African but an invasive pest in U.S.A. *National Symposium on Biological Invasions*. University of Fort Hare, Alice. South Africa. July 2022.
- Wolmarans, A., Martin, G.D. and Paterson, I.D.**
- Wolmarans, A., Martin, G.D., Paterson, I.D. and Weyl, P.S.R.** Controlling the spread of the black locust. *Southern African Mountain Conference*. Champagne Sports Resort, KwaZulu-Natal. South Africa. March 2022.
- Yell, L.D., Sutton, G.F., Canavan, K., Van Steenderen, C.J.M. and Paterson, I.D.**
- Yell, L.D., Sutton, G.F., Canavan, K., Van Steenderen, C.J.M. and Paterson, I.D.** Utilising field-based methods for host-specificity testing prior to quarantine testing in weed biological control. *National Symposium on Biological Invasions*. University of Fort Hare, Alice. South Africa. July 2022.



Rhodes University Research Report 2022

Affiliates & Institutes

Demonstrators at the court appearance of Patrick Laurence.
Photo: TJ Lemon

Albany Museum

INTRODUCTION

The Albany Museum had a productive year, with the publication of thirteen (13) papers from five (5) research staff, some co-authored with students, Postdoctoral Fellows and curatorial staff, and fourteen (14) conference presentations of which ten (10) were at international conferences. Research in the Department of Earth Sciences continued to follow two main avenues: Permian plant and insect fossils and Devonian ecosystems. The main research highlight for Dr Rose Prevec (Head of department) was the publication of an overview of recent discoveries from a spectacular plant and insect fossil site near Sutherland. The richly illustrated paper appeared in the open access journal Communications Biology (Nature Portfolio), and was accompanied by a press release, several radio interviews and newspaper articles - a rare taste of glory for a palaeobotanist. Prevec also published an article in The Conversation, which was read over 5300 times in two (2) days, and over 12000 times in the first month.



Mr Manzi Vabaza - Director

Dr Robert Gess continued his groundbreaking research on high-latitude Devonian ecosystems, and co-supervised an Honours and two (2) PhD candidates. Dr Gess was invited to join a five (5) year ERC (European Research Council) funded project on tetrapod origins, based in Uppsala Sweden. As part of this program he spent time at Uppsala University with team leader Professor Per Ahlberg, examining collections and working on a description of *Hyneria*, a giant lobe finned fish from the Waterloo Farm site outside Makhanda. Dr Rob Gess presented his research on *Hyneria* at the 16th International Symposium on Early and Lower Vertebrates in Valencia, Spain, in June 2022 where he also presented a full sized reproduction of a 3.5 metre long Maggie Newman painting of the Waterloo Farm lagerstätte ecosystem, which was very well received. Dr Gess and his students presented their work at the local Palaeontological Society of South Africa conference, and PhD candidate Ryan Nel presented his work at the Annual Student Symposium for Natural Science in Pretoria in November 2022, where his presentation won second prize. An exciting development for the Department of Earth Sciences, was the official recognition of the Devonian Research and Education Centre, based at the Priest's House in Beaufort Street. An exhibition showcasing the Waterloo Farm fossils was opened in time for Scifest Africa in September, and Ms Khokela Camagu ran guided tours in English and isiXhosa for school groups and members of the public during the year.

On a far sadder note, July 2022 saw the passing of Dr William 'Billy' de Klerk, former head and Emeritus Curator of the department, and cherished member of the palaeontological community. He is greatly missed.

Research in the Department of Entomology and Arachnology at the Albany Museum currently focuses primarily on the systematics and taxonomy of pollinating true flies (*Diptera: Syrphidae*) and allied groups known to frequently visit flowers. A highlight this year for head of department Dr Terence Bellingan, was the identification of fruitfly specimens (*Diptera: Tephritidae*) reared from inflorescences of the ancient daisy species *Oldenburgia grandis* (Asteraceae). This was done in collaboration with Professor Craig Peter from the Rhodes University Botany Department, and taxonomist Dr Marc de Meyer from the Royal Museum for Central Africa (Africa Museum). Other key research activities included a visit to the collections of the Royal Museum for Central Africa, in Tervuren, Belgium, and the presentation of ongoing research on Afrotropical region hover flies at 11th International Symposium on Syrphidae, Barcelonnette, France. A fieldtrip to the Angolan highlands, to the source lake of the Cuanevale River, saw Dr Bellingan spend six (6) days collecting insects in and around the near-pristine Miombo sand forests of central Angola, as part of the Okovango Wilderness Project, funded by the Wild Bird Trust. This proved to be an extremely successful trip, with the collection of important specimens, particularly of the pollinating *Diptera* groups *Syrphidae*, *Rhiniidae*.

Head of the Department of Freshwater Invertebrates, Mr Musa Mlambo continued with his field-intensive research programme along with his cohort of interns and Postgraduate students. Dr Phindiwe Ntloko* joined the FWI team in the second half of the year, quickly making her mark as a dedicated and engaged curator and researcher. Her tireless involvement with the Natural Sciences Collection Facility is of particular note.

[*Tragically, and unexpectedly, Dr Ntloko passed away in mid-2023. She had recently graduated with her PhD in Entomology and was a respected and beloved staff member after less than a year at the Museum. We grieve for her and her family, especially her two young children].

Postgraduates / Graduations

Cait Reddy, supervised by Dr RW Gess graduated with a BSC Hons (Geology), and achieved a first for her project on Devonian *Ophiuroid* specimens in the collections of the Albany Museum.

Distinguished Visitors / International Visits

Retired Professor Connal Eardley, *Aculeate Hymenoptera* specialist, taxonomist, visited the Department of Entomology and Arachnology. Collection material was loaned to him to for the compilation of detailed images of the specimens housed at the Albany Museum, with the aim of generating keys to identify bees from the southern African region.

Dr Achik Dorchin, from the Royal Museum for Central Africa (AfricaMuseum), Tervuren, Belgium, also visited the Entomology collection during December of 2022, to further his research into bee systematics and taxonomy.

Cait Reddy making a latex cast of a brittle star fossil



ALBANY MUSEUM

PUBLICATIONS

Peer Reviewed Subsidy-Earning Journal Research Publications

Bellingan, T.A.

Bellingan, T. A., Hugo, Villet, M. H., and Weyl, O. L. F. 2022. Season and environment modulate aquatic invertebrates' responses to trout and indigenous fishes in three South African mountain streams. *Front. Environ. Sci.* 10:1004939. <https://doi.org/10.3389/fenvs.2022.1004939>

Polasek, O., **Bellingan, T.A.** and van Noort, S. 2022. A new species of paper wasp from the genus *Ropalidia* Guérin-Méneville from South Africa (*Hymenoptera, Vespidae*). *Journal of Hymenoptera Research*. (90), 213-222.

Cawood, R.

Cawood, R., Nel, A.P., Garrouste, R., **Moyo, S., Villet, M.H.** and **Prevec, R.** (2022) The first 'Grylloblattida' of the family *Liomopteridae* from the Middle Permian in the Onder Karoo, South Africa (Insecta: Polyneoptera). *Comptes Rendus Palevol.* 21 (22). p.451-461.

Gess, R.W.

Gess, R.W. (2022) Interaction with The Good Ancestor. *Acta Academica.* 54 (1). p.1-5.

Harris, C. and **Gess, R.W.** (2022) Insights from a monospecific lingulid brachiopod bed in the Late Devonian of South Africa. *Palaeos.* 37. 471-485. <https://dx.doi.org/10.2110/palo.2021.046>

Gess, R.W. and Prestianni, C. (2022) *Flabellopteris lococannensis* gen. et sp. nov.: A new fern-like plant from the Famennian of South Africa, *Review of Palaeobotany and Palynology.* 297(2):104585 : <https://doi.org/10.1016/j.revpalbo.2021>

James, H.

Prevec, R., Nel, R., Day, M.O., Muir, R.A., **Matiwane, A., Kirkaldy, A., Moyo, S.,** Staniczek, A., Cariglino, B., **Maseko, Z., Kom, N.,** Rubidge, B.S., **Holland, A.J.,** James, H. and Garrouste, R. (2022) South African Lagerstätte reveals middle Permian Gondwanan lakeshore ecosystem in exquisite detail. *Communications Biology.* 5 (1154). p.1-13.

Kom, N.

Prevec, R., Nel, R., Day, M.O., Muir, R.A., **Matiwane, A., Kirkaldy, A., Moyo, S.,** Staniczek, A., Cariglino, B., **Maseko, Z., Kom, N.,** Rubidge, B.S., **Holland, A.J.,** James, H. and Garrouste, R. (2022) South African Lagerstätte reveals middle Permian Gondwanan lakeshore ecosystem in exquisite detail. *Communications Biology.* 5 (1154). p.1-13.

Mlambo, M.

Aldridge, D.C., Ollard, I.S., Bepalaya, Y.V., Bolotov, I.N., **Mlambo, M.** and *et al* (2022) Freshwater mussel conservation: A global horizon scan of emerging threats and opportunities. *Global Change Biology* 29 (3). p.575-589.

Dube, T., Makaka, C.M., Mwajengo, G.N., **Mlambo, M.C.,** Brendonck, L. (2022) Macroinvertebrates. In Dalu T and Wasserman RA (eds). *Fundamentals of Tropical Freshwater Wetlands from Ecology to Conservation Management.* pp 307-336. Elsevier.

Cornette, R., Motitsoe, S.N., **Mlambo, M.C.** (2022) A new desiccation-tolerant midge from ephemeral rock pools in South Africa, *Polypedium* (Pentapedilum) *cranstoni* sp. nov. (Diptera: Chironomidae). *Zootaxa.* 5128 (3). 397-410.

Epele, L.B., Grech, M.G., Williams-Subiza, E.A., Stenert, C., **Mlambo, M.C., et al.** (2022) Perils for life on the edge as the climate changes: Global diversity patterns of wetland macroinvertebrates depends on temperature and precipitation. *Science of Total Environment.* 820: 153052.

Moyo, S.

Cawood, R., Nel, A.P., Garrouste, R., **Moyo, S., Villet, M.H.** and **Prevec, R.** (2022) The first 'Grylloblattida' of the family *Liomopteridae* from the Middle Permian in the Onder Karoo, South Africa (*Insecta:*



Ryan Nel preparing a scatter of armoured plates from a placoderm fish from Watersloo Farm. Photo: Albany Museum

Polyneoptera). *Comptes Rendus Palevol*. 21 (22). p.451-461.

Prevec, R., Nel, R., Day, M.O., Muir, R.A., Matiwane, A., Kirkaldy, A., Moyo, S., Staniczek, A., Cariglino, B., Maseko, Z., Kom, N., Rubidge, B.S., Holland, A.J., James, H. and Garrouste, R. (2022) South African Lagerstätte reveals middle Permian Gondwanan lakeshore ecosystem in exquisite detail. *Communications Biology*. 5 (1154). p.1-13.

Ntloko, P.

Akamagwuna, F.C., Edegbene, A.O., **Ntloko, P.**, Arimoro, F.O., Nnadozie, C.F., Choruma, D.J., Odume, O.N. 2022. Functional groups of Afrotropical EPT (*Ephemeroptera*, *Plecoptera* and *Trichoptera*) as bioindicators of semi-urban pollution in the Tsitsa River Catchment, Eastern Cape, South Africa. *PEERJ*. 10: e13970 <https://doi.org/10.7717/peerj.13970>.

Prevec, R.

Cawood, R., Nel, A.P., Garrouste, R., Moyo, S., Villet, M.H. and Prevec, R. (2022) The first 'Grylloblattida' of the family *Liomopteridae* from the Middle Permian in the Onder Karoo, South Africa (*Insecta: Polyneoptera*). *Comptes Rendus Palevol*. 21 (22). p.451-461.

Cariglino, B., **Prevec, R.**, Lara, M.B., Zavattieri, A.M. (2022). Evidence of insect leaf mining on Late Triassic (*Carnian*) gymnosperms from Argentina. *Review of Palaeobotany and Palynology*. 305: 104749. <https://doi.org/10.1016/j.revpalbo.2022.104749>.

Nel, A., Garrouste, R. and **Prevec, R.** (2022). The first Permian Gondwanan damselfly-like *Protozygoptera* (*Insecta, Odonatoptera*). *Historical Biology*. <https://doi.org/10.1080/08912963.2022.2067996>.

Prevec, R., Nel, R., Day, M.O., Muir, R.A., Matiwane, A., Kirkaldy, A., Moyo, S., Staniczek, A., Cariglino, B., Maseko, Z., Kom, N., Rubidge, B.S., Holland, A.J., James, H. and Garrouste, R. (2022) South African Lagerstätte reveals middle Permian Gondwanan lakeshore ecosystem in exquisite detail. *Communications Biology*. 5 (1154). p.1-13.

Research Papers Presented at Academic/ Scientific Conferences (Non-peer-reviewed Proceedings)

Bellingan, T.A.

Bellingan, T.A., Midgley, J.M., Georgen, G.G. and Jordaens, K. 2022. A revision of the hoverfly genera *Chrysogaster* and *Orthonevra*

(*Diptera: Syrphidae: Eristalinae*) from the Afrotropical Region. *Oral presentation. 11th International Symposium on Syrphidae*. 5 - 10 September 2022, Barcelonnette, France.

Jordaens, K., **Bellingan, T.A.**, Midgley, J.M. De Meyer, M. 2022. The Diversity of Pollinating Diptera in South African biodiversity hotspots (DIPoDIP) project. *Poster Presentation. 11th International Symposium on Syrphidae*. 5 - 10 September 2022, Barcelonnette, France.

Midgley, J.M, Jordaens, K., **Bellingan, T.A.**, De Meyer, M. 2022. Biological observations of *Meromacroides meromacroides* (Bezzi, 1915) (*Diptera: Syrphidae*) in South Africa. *Poster Presentation. 11th International Symposium on Syrphidae*. 5 - 10 September 2022, Barcelonnette, France.

Midgley, J.M, Jordaens, K., **Bellingan, T.A.** 2022. Taxonomic notes on *Spheginobaccha pamela* Thompson and Hauser 2015. *Poster Presentation. 11th International Symposium on Syrphidae*. 5 - 10 September 2022, Barcelonnette, France.

Bellingan, T.A. Scientific Outputs from DIPoDIP - Focus on Syrphidae. *Royal Museum for Central Africa Info-Lunch (AfricaMuseum staff seminar series)*. C.A.P.A. Building Conference Room, 22 June, 2022.

Gess, R.W.

Nel, R., **Gess, R.W.**, Trinajstić, K. (2022). Insight into the morphological disparity in the rarely preserved soft tissue portion of *antiarch* placoderm fish, *Bothriolepis africana*. *Abstracts of Annual Student Symposium for Natural Science*. Pretoria, Gauteng, South Africa. 2 - 4 November 2022.

Gess, R.W. (2022) Implications of non-ammocoete larvae in the earliest known lampreys. *Proceedings of the 21st Biennial Conference of the Palaeontological Society of Southern Africa*. Golden Gate, 12 - 15 September, 2022. *Palaeontologia africana*: 55.

Gess, R.W. (2022) Reconstruction of the high-latitude Late Devonian (Famennian) Waterloo Farm lagerstätte from the Witpoort Formation (Witteberg Group, Cape Supergroup) of South Africa. *Proceedings of the 21st Biennial Conference of the Palaeontological Society of Southern Africa*. Golden Gate, 12 - 15 September, 2022. *Palaeontologia africana*: 55.

Nel, R., **Gess, R.W.**, Trinajstić, K. (2022). Insight into the morphological disparity in the rarely preserved soft tissue portion of *antiarch* placoderm fish, *Bothriolepis africana*. *Proceedings of the 21st Biennial Conference of the Palaeontological Society of South Africa conference*. Golden Gate, 12 - 15 September, 2022. *Palaeontologia africana*: 55.



Gess, R.W. and **Ahlberg P.E.** (2022) A new Famennian species of *Hyneria* from the terra incognita of southern Gondwana - evidence from the Waterloo Farm lagerstätte in South Africa. *Proceedings of the 16th International Symposium on Early and Lower Vertebrates*. Valencia, Spain, 20 - 30 June 2022.

Prestianni, C. and **Gess, R.W.** (2022) Ovule and ovule-like structures in the Famennian of South Africa. *Abstract volume: EPPC*. Stockholm, Sweden.

James, H.

Prevec, R., James, H. and **Staniczek, A.** The past meets the present: examining the biogeography and evolution of the *plecoptera* with reference to their ancient forms. *2022 XVIth International Conference on Ephemeroptera and XXIst International Symposium on Plecoptera*. Virtual, Illinois. USA. July 2022.

Prevec, R., Price, B. and **James, H.** Integrating African Natural History specimen data: current progress and future needs. *Society for the Preservation of Natural History Collections (SPNHC) 2022*. University of Edinburgh, Edinburgh. UK. June 2022.

Prevec, R.

Prevec, R., James, H. and **Staniczek, A.** The past meets the present: examining the biogeography and evolution of the *plecoptera* with reference to their ancient forms. *2022 XVIth International Conference on Ephemeroptera and XXIst International Symposium on Plecoptera*. Virtual, Illinois. USA. July 2022.

Prevec, R., Price, B. and **James, H.** Integrating African Natural History specimen data: current progress and future needs. *Society for the Preservation of Natural History Collections (SPNHC) 2022*. University of Edinburgh, Edinburgh. UK. June 2022.

Tiny fossil of aquatic nymph from 266 million year old Sutherland fossil site being studied by Rose Prevec and her team.

Photo: Albany Museum



A reconstruction by Rose Prevec based on fossils from a spectacular middle Permian fossil locality near Sutherland.

Photo: Albany Museum

Public interest articles

Prevec, R.

Prevec, R. First iconic photo of Earth turns 50. 2022. *Talk of the Town*. 8 December 2022. <https://www.pressreader.com/south-africa/talk-of-the-town/20221208/281758453325689>

Prevec, R. Exquisite new fossils from South Africa offer a glimpse into a thriving ecosystem 266 million years ago. *The Conversation*. 22 November. <https://theconversation.com/exquisite-new-fossils-from-south-africa-offer-a-glimpse-into-a-thriving-ecosystem-266-million-years-ago-194263>.

Institute for Environmental Biotechnology Rhodes University (EBRU)

INTRODUCTION

EBRU targets research and development in environmental biotechnology at the interface between the fundamental and applied sciences. Environmental biotechnology is the branch of biotechnology that addresses environmental problems, such as pollutant removal, renewable bio-energy generation, and biomass and production of commodity and high-value products, by exploiting biological processes.



Professor A Keith Cowan - Director

Environmental biotechnology is a cornerstone of circular economic processes aimed at minimising environmental impact, lowering waste and making the most of resources. Rather than the more traditional 'take, make, waste' model of production, environmental biotechnology has a regenerative approach to resources. Focus areas include: wastewater treatment and beneficiation; renewable energy derivation and implementation (e.g. biomass-to-biogas), biological systems; land rehabilitation and decontamination technology (e.g. post-mining, hydrocarbon spillages, etc.), natural products, agricultural and microalgae biotechnology. Basic activities are supported by a strong emphasis on technology transfer from laboratory to full-scale commercial/industrial process application and implementation. In brief, the focus of attention is using natural products/microbes to perform industrially important tasks in an environmentally sustainable way.

The collapse of sanitation infrastructure in Makhanda and the dereliction of the municipal Belmont Valley Wastewater Treatment Works has rendered a much smaller research group seeking new directions for study. The experimental station and the associated algae-based wastewater treatment process were severely vandalised and looted in late 2022 and early 2023. Despite efforts by the South African Police Services and a local security company, looting has continued unabated and has spread to include municipal infrastructure.

The above notwithstanding, five (5) Postgraduate students are researching various aspects of environmental monitoring and bio-remediation. One (1) PhD is exploring the use of bacteria with plant growth-promoting properties in an effort to develop a novel bio-fertiliser. We plan to generate a formulation that will enhance plant growth and reduce reliance on fossil fuel-derived fertilisers upon application to the soil. Another project explores the conversion of small molecules (e.g. acetate and carbon dioxide) to methane for use as either substrate or fuel. The intention is to target pollutant gases and organic acid waste streams, which can be used as substrates for bespoke reactors containing bacteria that have been enriched to produce methane. Additional PhD research projects seek to determine the origin and spread of antimicrobial resistance by examining the proliferation of antibiotic resistance genes in various environments.

EBRU continues to focus on commercialising technologies incubated at EBRU for the regenerative restoration of waste streams to provide much-needed long-term ecological service.

Institute for Environmental Biotechnology
Rhodes University (EBRU)

PUBLICATIONS

Peer Reviewed Subsidy-Earning Journal Research Publications

Dube, A.L. and Cowan, K.A.

Dube, A.L. and Cowan, K.A. (2022) Algal settling ponds contribute to final effluent quality of integrated algal pond systems for municipal sewage treatment. *Water and Environment Journal*. 2022 (2022). p.1-10.

Sekhohola-Dlamini, L.M., Keshinro, M.O., Masudi, W.L. and Cowan, K.A.

Sekhohola-Dlamini, L.M., Keshinro, M.O., Masudi, W.L. and Cowan, K.A. (2022) Elaboration of a Phytoremediation Strategy for Successful and Sustainable Rehabilitation of Disturbed and Degraded Land. *Minerals*. 12 (111). p.1-18.

Institute for the Study of Englishes of Africa (ISEA)

INTRODUCTION

The Institute for the Study of the Englishes of Africa (ISEA) contributes to researching the teaching of English in diverse communities where African languages are used. To this end, the Bachelor of Education in English Language Teaching is offered to in-service teachers in Eastern Cape and Northern Cape. In addition, staff supervise a few Postgraduate scholars whose projects focus on critical issues of languages, literature, and literacies in basic education, higher education, and homes. Moreover, the ISEA is a publishing house for three (3) journals: *English in Africa*, *Shakespeare in Southern Africa*, and *New Coin*.



Professor Deyi Mbelani - Director

Postgraduates/Graduations

Four (4) PhD and ten (10) MEd scholars, all at various stages, were supervised at the ISEA. Once a month, there were online seminars, and five-day contact seminars at Rhodes University which were meant to provide structured support and offer scholarly engagement with topical issues in languages, literature, and literacies.

Distinguished Visitors

Professor Sesanti, a philosopher in Education from the University of the Western Cape, rendered two (2) lectures with BED in-service teachers, Postgraduates, and staff and a public lecture. In his three (3) lectures on 27 - 28 June 2022, Professor Sesanti practically demonstrated the importance and infusion of indigenous African philosophy of education in Teacher education. He shared illustrations on reclaiming African philosophy in South Africa and wherever Africans were. Both the ISEA and RUMEP students attested that the lectures were eye-opening and shed new insights into the Education Studies module.

Professor Mbelani welcomes guests at the launch of AERIAL 2022.
Photo: ISEA



Professor Sesanti with the B. ED students. Photo: ISEA



Books/Chapters/Monographs

Leff, C.

Leff, C. (2022). *The Afropolitan Flâneur in Literature*. Cambridge Scholars Publishing, Newcastle upon Tyne. Willan, B. (2022). *Charles Frederick Ball: from Ireland's Botanic Gardens to the killing fields of Gallipoli*. Liffey Press, Dublin.

Hendricks, M. and Sayo, F.

Hendricks, M. and Sayo, F. (2022). *Learning Backlogs in Senior Phase English*. In Christie, P. (Ed) *Perspectives on Learning Backlogs in South African Schooling*. Johannesburg: Zenex Foundation. pp. 40-49.

Mawela, R.

Mawela, R. (2022). "Investigating Student Teachers' Understanding of Academic Writing" in *Teachers Researching Their Classroom Questions: Reports From Africa*. (Eds.) K. Kuchah, A. Salama, A.I. Salvi. Published by IATEFL. 2022. (pp 25-31) ISBN 978-1-912588- 37-4.

Other Publications

English in Africa

Throughout 2022, English in Africa focused on expanding its reach northwards from the journal's base in South Africa into the rest of the African continent, both thematically and in terms of authorship. Three (3) volumes were published as follows:

English in Africa 49.1 (April 2022). Ed. Sophy Kohler. pp. 99

English in Africa 49.2 (August 2022). Ed. Sophy Kohler. pp. 112

English in Africa 49.3 (November 2022). Ed. Sophy Kohler. pp. 137.

Shakespeare in Southern Africa

Volume 35 was published with a focus on the relevance of Shakespeare in South African languages.

New Coin

Two (2) issues of contemporary poetry were published in June and December 2022 respectively.

Leff, C. (2022). "Magiese verbintnisse tussen natuur en groen wesens." (translated by Elodi Troskie). Klyntji. <https://klyntji.com/joernaal/2022/8/5/carol-leff-bome>

Leff, C. 2022. "Seeds of Thought: From Ph.D. to Published Book." ANFASA Magazine. Vol 6, Issue 4: 6-7.

Willan, B. (2022). "Revisiting Sol Plaatje's Mafeking Diary." *Journal of the African Literature Association*, Vol 22, No 1: 1-14.

Concerts, Exhibitions, Performances, Workshops, Events

Fulani, N. and Mawela, R.

Fulani, N. and Mawela, R. (2022). Efforts made to redress the displacement of African indigenous languages from a position of power. *Colloquium on Language Policy Framework for Public Institutions of Higher Education*. 22 July 2022.

Leff, C.

Leff, C. (2022). 'Follow the Plants': A Deleuzoguattarian Look at Points of Magical Connection Through Nature and the Green Beings. *Amazwi Literature, Heritage and Ecology Conference*. March 28 2022. <https://www.youtube.com/watch?v=IP5Bil9aq78>

Mawela, R.

Mawela, R. (2022). Voices from Africa: Blended learning in South Africa. *Panel discussion at International Association for Blended Learning (IABL)*. 19 February 2022 (virtual).

Mawela, R. (2022). Encouraging Venetians to rise to the occasion. *Presented during the Africa ELTA Women's Day Celebration Symposium*. 8 March 2022. (virtual).

Mawela, R. (2022). Towards Empowering Women Through Education - Building Social Justice. *Eastern Cape Department of Education Seminar for Female Principals*. (East London).

Mawela, R. (2022). The Impact of Good Leadership on Learner Performance. *Respondent at Research Seminar*. Institute of Social and Economic Research (ISER), Rhodes University. 25 August 2022.

Mawela, R. and Fulani, N.

Mawela, R. and Fulani, N. (2022). Efforts made to redress the displacement of African indigenous languages from a position of power. *Colloquium on Language Policy Framework for Public Institutions of Higher Education*. 22 July 2022. (Rhodes University).

Mbelani, M.

Mbelani, M. (2022). Reflecting on the enjoyment of the MEd and PhD supervision journey. *Keynote presentation at the Faculty of Education Supervision Workshop 2*. 10 November, 2022.

Mbelani, M. (2022). CHAT Webinar Presentation - Using Change Laboratory Methodology in advancing literacy. 1 September 2022.

Sibanda, S.

Sibanda, S. (2022) Multilingualism Global Event: Using the South African Language in Education Policy in multilingual Classrooms. 22 February 2022.

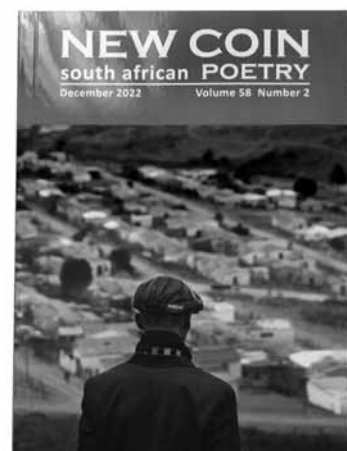
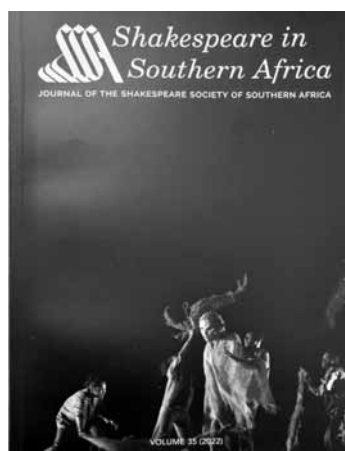
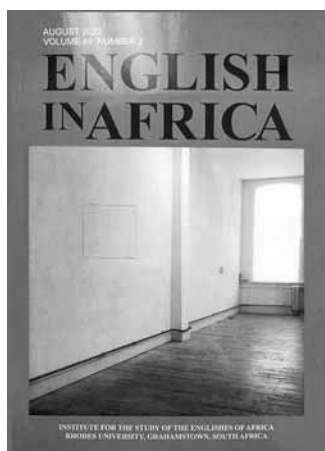
Sibanda, S. Co-Chair Africa ELTA. *6th International Conference (virtual)*. 12 - 13 August 2022.

Willan, B.

Willan, B. Charles Frederick Ball: from Loughborough to Gallipoli. *Charnwood Museum, Loughborough, Leics*. 28 October 2022.

Willan, B. and O'Brien, S.

Willan, B. and O'Brien, S. "The life of Charles Frederick Ball (1879-1915), botanist and horticulturist." National Botanic Gardens, Dublin, 28 September 2022.



Institute of Social and Economic Research (ISER)

INTRODUCTION

In 2022, the Institute of Social and Economic Research (ISER) focused on consolidating key projects and administrative processes, namely; The Journal of Contemporary African Studies (JCAS), the financial reporting system and the launch of the Interdisciplinary Honours Degree in Humanities focusing on Social and Economic Policy. The highlight of the year was the successful execution of the Honours Degree programme which is in collaboration with the departments of Political and International Studies, Economics and Economic History, School of Languages, Sociology and Linguistics and Applied Language Studies.



Professor Nhlanhla C. Mbatha - Director

This is a long-term strategic initiative for the ISER as not only does it contribute to research generation, but it also exposes students to interdisciplinary approaches to knowledge generation, which are useful for research organisations, like the ISER, and the Human Sciences Research Council at a national level.

Other highlights of 2022 include the book launch by Professor Emeritus Valerie Møller and Dr Benjamin Roberts of the HSRC on Africa Day while the ISER hosted a collaborative seminar with the HSRC and Fort Hare University focusing on exploring the international Trends in Mathematics and Science Study (TIMSS) datasets. The ISER also co-organised and facilitated the launch of the first provincial Research and Innovation Round Table for the provincial Human Resources Development Council (HRDC). On the research front the ISER launched the World-Wild Life Fund's (WWF) study on Grass-Fed Beef Value Chains and with the ELRC, the ISER ran a successful pilot course in the Western Cape (the Breede River Catchment) on financial investments into ecological infrastructure through a Water Research Commission funded project.

Most exciting news for 2022 was that the National Research Foundation (NRF) had awarded the rights to intellectually host and lead the Africa Future Earth Leadership Centre to Rhodes University's ELRC, the ISER and IWR, alongside the University of Pretoria as the Future Africa host campus. This project should be a game changer for the ISER as it will co-lead the establishment and coordination of scientific networks across the continent, while building and developing emerging researchers and research areas on issues of sustainability. The activities in the Future Africa project will speak to the core of the ISER's TagLine "Leading research for Africa", which is based on the institutes' vision and mission statements.

Postgraduates / Graduations

The following students were registered in the ISER for supervision in 2022:

- a. **Ms Namirembe Hudah Bawonga** (ISER registered student, supervised by Professor Mbatha and co-supervised by Professor Rwelamila from the Faculty of Commerce) - PhD candidate
- b. **Mr Mike Hala** (ISER registered student, supervised by Associate Professor S Magadla (Politics Department) and Professor Perez (History Department) - Graduated with Masters Degree
- c. **Mr Vusimani Khubhayi** (Registered in the Department of Economics and Economic History and primarily supervised at the ISER) - Masters student
- d. **Mr Jordyn Goeieman** (Supervised by Professors Mbatha and Gustafsson) - Graduated with Honours Degree in Interdisciplinary Studies
- e. **Miss Brynley van Aard** (Supervised by Professor Mbatha) - Graduated with Honours degree in Politics

Distinguished Visitors / International Visits

Professor PD Rwelamila

Professor Rwelamila is a professional project manager and a project procurement expert specialising in procurement policy, infrastructure procurement and management of risks and contracts management; international development projects; and strategic alliances.

Professor Edward Webster

Professor Edward Webster is currently Professor Emeritus in the Society, Work and Development Institute (SWOP), at the University of the Witwatersrand which he has served for almost 40 years. He is recognised both locally and internationally for his significant contribution to scholarship, especially in the field of Industrial Sociology.

Professor Ben Fine

Professor Ben Fine is Emeritus Professor of Economics at the School of Oriental and African Studies, University of London. He has (co)authored or edited over thirty books and published over 250 articles covering a wide range of economic theory, economic and social policy, development economics, political economy and the history of economic thought, with a strong intellectual commitment to interdisciplinarity.

Dr Steffen Otterbach - Research Fellow

Dr Steffen Otterbach is currently a Postdoctoral researcher and lecturer at the Institute for Health Care and Public Management, University of Hohenheim, Stuttgart, Germany.

Professor Martin Gustafsson - Research Fellow

Professor Martin Gustafsson is an education economist and associate professor attached to the Research on Socio-Economic Policy (ReSEP) unit, which in turn is linked to the Department of Economics at Stellenbosch University.

Dr Dumisani Hompashe - Research Associate

Dr Dumisani Hompashe has over eight years of experience working in the higher education sector. He started working as a lecturer at the University of Fort Hare in 2013. He also serves as Research Associate at the Research for Socio-Economic Policy (ReSEP) unit at Stellenbosch University.

Mr Wandile Sihlobo - Research Associate

Mr Wandile Sihlobo is a Chief Economist of the Agricultural Business Chamber of South Africa (Agbiz) and the author of "Finding Common Ground: Land, Equity, and Agriculture".

Significant Research Aligned Events

The ISER held a number of events aimed at promoting research findings with the broader public as well as a training workshop on Quantitative Data Analysis using public datasets.

ISER Webinar:

Title: *Livestock production and marketing value chains for small farmers: A comparative study of South Africa and Kenya*

Presenters: The seminar was presented by **Professor Cyril Nhlanhla** - Director of the Institute of Social and Economic

Breede River Catchment, in the Western Cape. We are looking at examples of innovative nature-based infrastructure for purifying environmental water. Photo: ISER





Cattle from Matatiele, Eastern Cape province. ISER is working with the WWF looking at the value chain of grass-fed beef. The picture was taken at a mobile auction market especially organised for remote villages. Photo: ISER

Research (ISER) at Rhodes University. **Dr B. Muchara** was a discussant/respondent.

Date: 24 March 2022

ISER Webinar:

Title: *New study on Sub-Saharan Africa's wellbeing and prospects for happiness: Turning the youth bulge into a youth dividend*

Presenters: **Dr Benjamin J. Roberts** - Chief Research Specialist in the Developmental, Capable and Ethical State (DCES) research division at the Human Sciences Research Council (HSRC), South Africa, and coordinator of the South African Social Attitudes Survey (SASAS) since its inception in 2003 and **Professor Valerie Møller** - Professor Emeritus of Quality-of-Life Studies at ISER, Rhodes University, South Africa.

Mr Thomas Salmon was a discussant/respondent.

Date: 25 May 2022

ISER Webinar:

Title: *Leadership practices at SA schools: how do they drive performance?*

Presenters: **Dr Dumisani Hompashe** - Research Associate at the ISER, Rhodes University. The discussant/respondent was **Dr Rethabile Mawela** - **Alan Macintosh** Research Fellow - Institute for the Study of the Englishes of Africa (ISEA), Rhodes University

Date: 25 August 2022

The Neil Aggett Labour Studies Unit (NALSU) hosted a seminar in the Labour Studies Seminar

Series. The series is run by the NALSU in partnership with the Departments of Sociology & Industrial Sociology, and Economics & Economic History, Rhodes University and the Friedrich-Ebert-Stiftung (FES). The presenter was **Dr Reesha Kara** from the ISER.

ISER Data Analysis Training Workshop

Presented by **Dr Reesha Kara** - Rhodes University, **Ms Lynn Woolfrey** from DATA First and **Professor Martin Gustafsson** from the Department of Basic Education

Date: 27-29 June 2022

Peer Reviewed Subsidy-Earning Journal Research Publications

Møller, V., Cocks, M., and Vetter, S.

Møller, V., Cocks, M., and Vetter, S. Nature-connectedness and well-being experienced during best and worst times of life: A case for safeguarding biocultural diversity. *The Journal of Social Indicators Research* (accepted for publication in 2023).

Technical research reports

Hompashe, D.M.

Hompashe, D.M. 2022. Do instructional leadership practices drive educational improvement gap in South Africa? Evidence from Oaxaca-Blinder decomposition analysis of TIMSS 2015 and 2019 study. *TIMSS Working Paper Series*. Human Sciences Research Council. Available online: <https://www.timss-sa.org/publication/do-instructional-leadership-practices-drive-educationalimprovement-gap-in-south-africa-evidence-from-oaxaca-blinder-decomposition-analysis-of-timss2015-and-2019-study>.

Mbatha, C.N., Kara, R., and McCloed, N.

Mbatha, C.N., Kara, R., and McCloed, N. 2022. An overview of the grass-fed beef value chain and associated environmental impacts in the Matatiele region of the Eastern Cape Province, SA. *ISER Environs Interim technical report 1 to the WWF-SA*. Rhodes University, Makhanda.

Mbatha, C.N., and Kara, R.

Mbatha, C.N., and Kara, R. 2022. Future impacts and threats of climate change and socio-economic conditions on the Grass Fed Beef Value Chain in the Matatiele region of the Eastern Cape Province, SA. *ISER Interim report 2. WWF-SA*.

Mpolwana, M., Mbatha, C.N., Lotz-Sisitka, H., Thifulufhelwi, R., and Kuse, M.

Mpolwana, M., Mbatha, C.N., Lotz-Sisitka, H., Thifulufhelwi, R., and Kuse, M. 2022. Monitoring and evaluation framework and workplan (2022/2023). *A report to the Water Research Commission (WRC)*. Pretoria.

Mbatha, C.N.

Mbatha, C.N. 2022. Cost-Benefit Analysis Framework for informing Xabisa Indalo for Water. *A report to the Water Research Commission (WRC)*. Pretoria.

Research Papers Presented at Academic/ Scientific Conferences (Non-peer-reviewed Proceedings)

Møller, V.

Møller, V. 2022. What are the Prospects for Future Happiness in Africa south of the Sahara? From the book: Møller, V. and Roberts, B.J. (2021). *Quality of Life and Human Well-Being: Prospects for future happiness*. Published by Springer. International Society for Quality-of-Life Studies Conference: Quality-of-Life for Resilient Futures: Sustainability, Equity, & Wellbeing, 3 - 6 August 2022. Burlington, Vermont, U.S.A.

Møller, V. 2022. Nature-Connectedness and Well-Being experienced by Xhosa-speaking people during Best and Worst times of life: a case for safeguarding biocultural diversity. International Society for Quality-of-Life Studies Conference: Quality-of-Life for Resilient Futures: Sustainability, Equity, & Wellbeing. 3 - 6 August 2022. Burlington, Vermont, U.S.A. (submitted to the *Journal of Social Indicators Research*).

Other Publications

Mbatha, C.N.

Mbatha, C.N., Nhemachena, C. and Kara, R. The growth and sustainability of the urban regional economic environment in Urban and regional political economy: South Africa an emerging market economy (eds. Vil-Nkomo, S. and Mokate, R.). Thabo Mbeki African School of Public and International Affairs.

Mbatha, C.N., Nhemachena, C. and Kara, R. In Human Rights, Development and Growth: African Search of Maps of Survival and Sustainability - Comparative Contemporary Perspectives (eds. Djoyou-Kamga, S. and Msila, V.) Thabo Mbeki African School of Public and International Affairs.

Institute for Water Research (IWR)

INTRODUCTION

In 2022 the Institute for water research (IWR) undertook its strategic planning exercise. Six (6) strategic objectives aligned with the IDP were collectively agreed upon by all staff and students. Funding; outputs and impact; human capability and wellness; partnerships; technical capacity; visibility were the six (6) strategic objectives. Over the next 2-3 years, the IWR will be guided by the pursuit of these strategic objectives.



Professor Nelson Odume - Director

The IWR was very privileged to have the late Professor Brian Allanson, who unfortunately passed away in July 2022. Professor Allanson left a very strong intellectual legacy and was a mentor to many leading South African and international aquatic ecologists.

In 2022 the IWR also witnessed the retirement of Professor Tally Palmer. Professor Palmer's contribution to the Institute is immeasurable; she has left a strong legacy, fond memories, and the entire members of the Institute are deeply appreciative of her contributions.

Postgraduates / Graduations

Three (3) students graduated and obtained their degrees in 2022 consisting of two (2) MSc's and one (1) PhD. Ms Asanda Chili obtained her MSc degree with distinction, a well-deserved accolade for an excellent piece of research.

Distinguished Visitors / International Visits

The IWR had two (2) distinguished visitors in 2022. Dr Olivier Barreteau from INRAE in Montpellier University and Dr Manuel Krause, Director International Cooperation, Research Institute for Water Management and Climate Future at Aachen University in Germany. Both Dr Olivier and Dr Manuel have standing research collaborative relationship with the IWR. They are both Board Members of the IWR.

Significant Research Aligned Events

The IWR staff and students have been very active at local and international conferences, making a total of seventeen (17) presentations in 2022. Dr Jane Tanner gave the keynote presentation on the need to integrate society within hydrology, socio-hydrology, at the inaugural South African Hydrology Society (SAHS) conference held in Johannesburg from 10 - 12 October 2022. Professor Odume and Dr Akamagwuna presented papers at the 2022 Society for Freshwater Science (SFS) conference held in Grand Rapids, Michigan, USA from 14 - 20 May, 2022. As the Chair of the African Chapter of SFS, Professor Odume led discussions at this conference on how to strengthen African freshwater science through capacity strengthening and access to global partnerships and initiatives. The SFS has been working closely with SFS Africa Chapter in this regard. The IWR continues to support students to attend and present at conferences. A total of ten (10) students from the IWR attended and presented at various conferences.

The IWR fosters partnerships based on strong, transparent and rich relationships with diverse local, national and international institutions and partners. Such partnerships facilitate mutually beneficial opportunities for collaborations and exchange of knowledge, skills and experience. The IWR is the hub of the ARUA Water CoE, and the African Water Resources Mobility Network (AWaRMN). The ARUA Water COE is a network of nine research Intensive Universities in Africa led by Rhodes University. The collaboration consists of six (6) African Universities: Addis Ababa University, Ethiopia; Makerere University, Uganda; Cheikh Anta Diop University, Senegal; University of Lagos, Nigeria; University of Rwanda, Rwanda; and the University of Dar es Salaam, Tanzania. Additionally, two (2) South African Universities (besides Rhodes University) collaborate on projects: The University of KwaZulu-Natal [UKZN], and the University of Cape Town [UCT]. The AWaRMN partner-ship is a multi-partner EU-funded project aims to develop African capacity for sustainable water resource management through the Intra-Africa Academic Mobility. It is a partnership involving five (5) African Universities and one (1) European University: Rhodes University; Federal University of Technology Minna, Nigeria; University of Kinshasa; Higher School of Hydraulics, Algeria; Makerere University; and TU Delft. To date the project supports thirty-four (34) MSc and PhD candidates from more than fifteen (15) African countries registered at Rhodes and in partner Universities.

Beyond these, the IWR is also the secretariat for the Africa Chapter of the Society for Freshwater Science (SFS) of which Professor Odume is the Chairperson. Through Professor Odume, the IWR is also part of the Africa Multiple Cluster of Excellence, comprising the Rhodes University African Studies Centre. These partnerships open up extensive collaboration between the IWR within the African continent and globally. The IWR is in partnership discussion with a number of Centres, Institutes and Universities within Africa and elsewhere with the intention of setting up MOU to facilitate joint research, student and staff exchanges, strengthen research leadership and capability as well as exchange of facilities, and skills.

The IWR seeks to increase its visibility across the University and beyond as an interdisciplinary institute that fosters sustainable impact and innovation locally and globally. Our focus this year has been on fostering new partnerships, increasing our social media presence via Twitter, and updating and maintaining our website. We have also focused on increasing our community engagement initiatives.

Institute for Water Research (IWR)

PUBLICATIONS

Books/Chapters/Monographs

Odume, N.O.

Odume, N.O. (2022) Sustainable freshwater management of the South African approach. In: *Water and Climate Change*. The Netherlands: Elsevier Ltd. p.273-290. ISBN: 9780323998758.

Odume, N.O. and De Wet, C.

Odume, N.O. and De Wet, C. (2022) Environmental ethics and sustainable freshwater resource management. In: *Water and Climate Change*. The Netherlands: Elsevier Ltd. p.419-433. ISBN: 9780323998758.

Other Publications

Okal, H.A.O., Hughes, D.A. and Tanner, J.L.

Okal, H.A.O., Hughes, D.A. and Tanner, J.L. (2022) Water and Data Information Systems: Investing in Sub-Saharan Africa Water Resources; Technology vs People. In: *Joint Publication Climate Resilient Water Resources Management Driving the Conversation Forward*. SA: Water and Climate Coalition.

Peer Reviewed Non-Subsidy-Earning Journal Research Publications

Akamagwuna, F.C. and Edegbene, O.A.

Omovah, B.O., Arimoro, F.O., Anyanwale, A.V., Egwin, E.V., Omovah, G.O., Akamagwuna, F.C., Zakari, H. and Edegbene, O.A. (2022) Macroinvertebrates of Wupa River, Abuja, Nigeria: Do environmental variables pattern their assemblages? *Biology Insights*. 1 (0). p.1-9.

Clifford-Holmes, J.K.

Itzkin, A., Clifford-Holmes, J.K., Scholes, M.C. and Coetzer, K. (2022) Approaches to enhance integration and monitoring for social-ecological systems. *Land*. 11 (1). p.1848-1860.

Clifford-Holmes, J.K. and et al., (2022) Next generation application of DPSIR for sustainable policy implementation. *Current Research in Environmental Sustainability*. 5 (2023). p.1-11.

Tanner, J.L., Mantel, S.K., Slaughter, A.R. and Hughes, D.A.

Tanner, J.L., Mantel, S.K., Paxton, B.R., Slaughter, A.R. and Hughes, D.A. (2022) Impacts of climate change on rivers and biodiversity in a water-scarce semi-arid region of the Western Cape, South Africa. *Frontiers in Water*. p.1-16.

Peer Reviewed Subsidy-Earning Journal Research Publications

Akamagwuna, F.C. and Edegbene, O.A.

Ogidiaka, E., Ikomi, R.B., Akamagwuna, F.C. and Edegbene, O.A. (2022) Exploratory accounts of the increasing pollution gradients and macroinvertebrates structural assemblage in an afro-tropical estuary. *BIOLOGIA*. 77 (0). p.2103-2114.

Garba, F., Akamagwuna, F.C., Nwaka, K.H., Edegbene, O.A. and Ogidiaka, E. (2022) Deteriorating water quality state on the structural assemblage of aquatic insects in a North-Western Nigerian River. *Water Science*. 36 (1). p.22-31.

Akamagwuna, F.C. and Odume, N.O.

Akamagwuna, F.C., Odume, N.O. and Richoux, N.B. (2022) Exploring the community structure of Afro-tropical macroinvertebrate traits and ecological preferences along an agricultural pollution gradient in the Kat River, Eastern Cape, South Africa. *Ecological Indicators*. 135 (108570). p.1-13.

- Akamagwuna, F.C., Edegbene, O.A., Ntloko, P., Nnadozie, C.F., Choruma, D.J.C. and Odume, N.O.
- Akamagwuna, F.C., Edegbene, O.A., Ntloko, P., Arimoro, F.O., Nnadozie, C.F., Choruma, D.J.C. and Odume, N.O. (2022) Functional groups of Afrotropical EPT (*Ephemeroptera*, *Plecoptera* and *Trichoptera*) as bioindicators of semiurban pollution in the Tsitsa River Catchment, Eastern Cape, South Africa. *PeerJ*. p.1-22.
- Chibwe, M., Odume, N.O. and Nnadozie, C.F.
- Chibwe, M., Odume, N.O. and Nnadozie, C.F. (2022) A review of antibiotic resistance among *Campylobacter* species in human, animal, and water sources in South Africa: a One Health Approach. *Journal of Water and Health*. p.1-18.
- Choruma, D.J.C.
- Chisadza, B., Mashakani, B.L., Gwate, O., Chiwara, P., Choruma, D.J.C. and Gumindoga, W. (2022) Determination of groundwater potential zones using geographic information systems and remote sensing in Lupane District, Zimbabwe. *Irrigation and Drainage*. 71 (5). p.1-13.
- Choruma, D.J.C., Akamagwuna, F.C. and Odume, N.O.
- Choruma, D.J.C., Akamagwuna, F.C. and Odume, N.O. (2022) Simulating the Impacts of Climate Change on Maize Yields Using EPIC: A Case Study in the Eastern Cape Province of South Africa. *Agriculture*. 12 (794). p.1-24.
- Clifford-Holmes, J.K.
- Vermeulen-Miltz, E., Clifford-Holmes, J.K., Snow, B. and Lombard, A.T. (2022) Exploring the Impacts of Covid-19 on Coastal Tourism to inform recovery strategies in Nelson Mandela Bay, South Africa. *Systems*. 10 (120). p.1-15.
- Vermeulen-Miltz, E., Clifford-Holmes, J.K., Scharler, U.M. and Lombard, A.T. (2022) A system dynamics model to support marine spatial planning in Algoa Bay, South Africa. *Environmental Modelling and Software*. 160 (10). p.1-21.
- Edegbene, O.A. and Akamagwuna, F.C.
- Edegbene, O.A. and Akamagwuna, F.C. (2022) Insights from the Niger Delta Region, Nigeria on the impacts of urban pollution on the functional organisation of Afrotropical macroinvertebrates. *Scientific Reports*. 12 (22551). p.1-13.
- Edegbene, O.A., Akamagwuna, F.C., Arimoro, F.O., Akumabor, E.C. and Kaine, E.A. (2022) Effects of urban-agricultural land-use on Afrotropical macroinvertebrate functional feeding groups in selected rivers in the Niger Delta Region, Nigeria. *Hydrobiologia*. 849 (21). p.4857-4869.
- Edegbene, O.A., Abdullahi, Y., Akamagwuna, F.C., Ogidiaka, E., Osimen, E.C. and Omovoh, B.O. (2022) Are zooplankton useful indicators of ecological quality in Afrotropical ephemeral stream impacted by human activities? *Environmental Monitoring and Assessment*. 194 (399). p.1-13.
- Edegbene, O.A., Akamagwuna, F.C. and Odume, N.O.
- Edegbene, O.A., Akamagwuna, F.C., Odume, N.O., Arimoro, F.O., Ovie, T.T.E., Akumabor, E.C., Ogidiaka, E., Kaine, E.A. and Nwaka, K.H. (2022) A Macroinvertebrate-Based Multimetric Index for Assessing Ecological Condition of Forested Stream Sites Draining Nigerian Urbanizing Landscapes. *Sustainability*. 14 (2022). p.1-21.
- Keke, U., Arimoro, F.O., Edegbene, O.A., Akamagwuna, F.C., Assie, F.A.G.J. and Odume, N.O. (2022) Biotic homogenization of stream macroinvertebrates in an Afrotropical Anthropocene: Land use and ecological correlates. *Frontiers in Environmental Science*. p.1-14.
- Gusha, B., Mantel, S.K., Tanner, J.L. and Palmer, C.G.
- Fikadu, T., Teferi, E., Dubale, B., Gusha, B., Mantel, S.K., Tanner, J.L., Palmer, C.G., Woldu, Z., Alamirew, T. and Zeleke, G. (2022) Implications of Watershed Management Practices on Water Availability Using Hydrus-1D Model in the Aba Gerima Watershed, Upper Blue Nile Basin, Ethiopia. *Water*. 14 (3095). p.1-13.
- Gwapedza, D.R., Tanner, J.L., Palmer, C.G., Mantel, S.K. and Tessema, B.
- Ssewankambo, G., Kabenge, I., Nakawuka, P., Wanyama, J., Zziwa, A., Bamutaze, Y., Gwapedza, D.R., Tanner, J.L., Palmer, C.G., Mantel, S.K. and Tessema, B. (2022) Assessing soil erosion risk in a per urban catchment of the Lake Victoria basin. *Modeling Earth Systems and Environment*. 1 (1). p.1-17.
- Hughes, D.A.
- Arias, M., Farinosi, F. and Hughes, D.A. (2022) Future hydropower operations in the Zambezi River basin: Climate impacts and adaptation capacity. *River Research and Applications*. p.1-13.
- Tshimanga, R.M., Hughes, D.A. and *et al*, (2022) New Measurements of Water Dynamics and Sediment Transport along the Middle Reach of the Congo River and the Kasai Tributary. *Geophysical Monograph Series*. 269 (2022). p.447-467.
- Hughes, D.A. and Kabuya, P.M.
- Trigg, M.A., Tshimanga, R.M., Ndomba, P.M., Mtalo, F., Hughes, D.A., Mushi, C.A., Bola, G.B., Kabuya, P.M., Carr, N., Bernhofen, M., Neal, J., Beya, J.T., Ngandu, F.K. and Bates, P. (2022) Putting River Users at the Heart of Hydraulics and Morphology Research in the Congo Basin. *Geophysical Monograph Series*. 269 (2022). p.541-554.
- Igbinigie, E.E.
- Nsa, I.Y., Akinyemi, B.T., Bello-Akinoshio, M., Ezechukwu, S.M., Bayode, T.M., Igbinigie, E.E. and Adeleke, R.A. (2022) Development of a saprophytic fungal inoculum for the biodegradation of sub-bituminous coal. *SN Applied Sciences*. 4 (54). p.1-13.
- Kabuya, P.M.
- Mushi, C.A., Ndomba, P.M., Tshimanga, R.M., Trigg, M.A., Neal, J., Bola, G.B., Kabuya, P.M., Carr, N., Beya, J.T., Bates, P. and Mtalo, F. (2022) Site Selection, Design, and Implementation of a Sediment Sampling Program on the Kasai River, a Major Tributary of the Congo River. *Geophysical Monograph Series*. 269 (2022). p.427-446.
- Kabuya, P.M. and Hughes, D.A.
- Tshimanga, R.M., Bola, G.B., Kabuya, P.M., Nkaba, L., Neal, J., Hawker, L., Trigg, M.A., Bates, P., Hughes, D.A., Laraque, A., Woods, R.A. and Wagener, T. (2022) Towards a Framework of Catchment Classification for Hydrologic Predictions and Water Resources Management in the Ungauged Basin of the Congo River: An a priori Approach. *Geophysical Monograph Series*. 269 (2022). p.471-498.
- Libala, N., Griffin, N. and Nyingwa, A.
- Libala, N., Griffin, N., Nyingwa, A. and Dini, J.A. (2022) Freshwater ecosystems and interactions with the SDG 2030 Agenda: implications for SDG implementation in South Africa. *African Journal of Aquatic Science*. 47 (3). p.1-17.
- Libala, N., Odume, N.O. and Palmer, C.G.
- Libala, N., Odume, N.O. and Palmer, C.G. (2022) Engaging communities towards restoring hillslope seep wetlands in the Tsitsa River catchment of South Africa. *Anthropocene*. 39 (100342). p.1-10.
- Lidzhegu, Z. and Mantel, S.K.
- Lidzhegu, Z., Ellery, W.N. and Mantel, S.K. (2022) The geomorphic origin of large wetlands in Africa's elevated drylands: A Geographic Information System and Earth Observation approach. *South African Geographical Journal*. p.1-24.
- Mantel, S.K.
- Januchowski-Hartley, S.R., Pawar, S.K., Yang, X., Jorissen, M., Bristol, R., Mantel, S.K., White, J., Januchowski-Hartley, F.A., Rocas-Diaz, J.V., Gomez, C.C. and Pregolato, M. (2022) Supporting proactive planning for climate change adaptation and conservation using an attributed road-river structure dataset. *Journal of Environmental Management*. 321 (115959). p.1-8.
- Odume, N.O.
- Odume, N.O. (2022) The contribution and value of the trait-based approach to water resource protection. *African Journal of Aquatic Science*. 1 (1). p.1-11.
- Odume, N.O., Maasri, A., Jahnig, S.C., Adrian, R., Friedrichs-Manthe, M., Kalinkat, G., He, F., Brown, L.E., Dudgeon, D. and Jeschke, J.M. (2022) A global agenda for advancing freshwater biodiversity research. *Ecology Letters*. 25 (0). p.255-263.
- Shehu, Z., Nyakairu, G.W.A., Tebandeke, E. and Odume, N.O. (2022) Overview of African water resources contamination by contaminants of emerging concern. *Science of the Total Environment*. 852 (0). p.1-30.
- Odume, N.O. and Keke, U.
- Feio, M.J., Hughes, R.M., Serra, S.R.Q., Nichols, S.J., Kefford, B.J., Lintermans, M., Robinson, W., Odume, N.O., Callisto, M., Keke, U. and *et al*, a.I. (2022) Fish and macroinvertebrate assemblages reveal extensive degradation of the world's rivers. *Global Change Biology*. 2022 (0). p.1-20.
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Osoh, M.O.

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Palmer, C.G. and King, J. (2022) Perspectives on Protecting African freshwater Ecosystems in the Anthropocene. *African Journal of Aquatic Science*. iii (vi). p.1-5.

Biggs, R., Clements, H., Cumming, G., **Cundill, G.**, **De Vos, A.**, Hamman, M., Luvuno, L., Roux, D., Selomane, O., Blanchard, R., **Cockburn, J.**, Dziba, L., Esler, K., Fabricius, C., Henriksson, R., Kotschy, K., Lindborg, R., Masterson, V., Nel, J., O'Farrell, P., **Palmer, C.G.**, Pereira, L., Pollard, S., Preiser, R., Scholes, R., **Shackleton, C.M.**, **Shackleton, S.E.**, Sitas, N., Slingsby, J., Spierenburg, M., Tengo, M. and Reyers, B. (2022) Social-ecological change: Insights from the Southern African program on ecosystem change and society. *Ecosystems and People*. 18 (1). p.447-468.

Palmer, C.G., Fry, A.S., Libala, N., **Ralekhetla, M.M.**, **Weaver, M.J.T.**, **Mtintsilana, Z.** and **Scherman, P.**

Palmer, C.G., Fry, A.S., Libala, N., **Ralekhetla, M.M.**, **Mtati, N.**, **Weaver, M.J.T.**, **Mtintsilana, Z.** and **Scherman, P.** (2022) Engaging society and building participatory governance in a rurallandscape restoration context. *Anthropocene*. 37 (1). p.1-14.

Slinger, J.H.

Lodder, Q. and **Slinger, J.H.** (2022) The 'Research for Policy' cycle in Dutch coastal flood risk management: The Coastal Genesis 2 research programme. *Ocean and Coastal Management*. 219 (1). p.1-10.

d'Hont, F.M. and **Slinger, J.H.** (2022) Including local knowledge in coastal policy innovation: comparing three Dutch case studies. *Local Environment*. 27 (7). p.1-18.

Owusu, A., Mul, M., van der Zaag, P. and **Slinger, J.H.** (2022) May the Odds be in your Favour: Why Many Attempts to Reoperate Dams for the Environment Stall. *Journal of Water Resources Planning and Management - ASCE*. 1 (1). p.1-10.

Tessema, B.

Dessie, B.K., **Tessema, B.**, Asegide, E., Tibebe, D., Alamirew, T., Walsh, C.L. and Zeleke, G. (2022) Physicochemical characterization and heavy metals analysis from industrial discharges in Upper Awash River Basin, Ethiopia. *Toxicology Reports*. 9 (0). p.1297-1307.

Tessema, B., Wilson, B., Daniel, H., Kristiansen, P. and Baldock, J. (2022) Functional Links between Biomass Production and Decomposition of Vetiver (*Chrysopogon zizanioides*) Grass in Three Australian Soils. *Plants*. 11 (778). p.1-15.

Xoxo, B.S., **Mantel, S.K.**, **Mahlaba, B.** and **Tanner, J.L.**
Xoxo, B.S., **Mantel, S.K.**, **De Vos, A.**, **Mahlaba, B.**, Le Maitre, D. and **Tanner, J.L.** (2022) Towards SDG 15.3: The biome context as the appropriate degradation monitoring dimension. *Environmental Science and Policy*. 136 (0). p.400-412.

Research Papers Presented at Academic/Scientific Conferences (Non-peer-reviewed Proceedings)

Gusha, B. and **Palmer, A.R.**

Gusha, B. and **Palmer, A.R.** Describing Cattle Grazing Distribution in Communal Rangelands of the Eastern Cape South Africa: Towards Improving Livestock Rangeland Use. *The XXIV International Grassland Congress / XI International Rangeland Congress (Sustainable Use of Grassland and Rangeland Resources for Improved Livelihoods)*. Virtual, Kenya. Africa. October 2022.

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South African Institute for Aquatic Biodiversity (SAIAB)

INTRODUCTION

The South African Institute for Aquatic Biodiversity (NRF-SAIAB) is a state agency responsible for conducting research and promoting technological advance and innovation in both the freshwater and marine environments in South Africa. The Institute serves as a hub for facilitating national and international scientific research into the country's most precious resource - water - and the diversity of life supported by our ocean, coastal and inland freshwater systems.



Professor Francesca Porri
- Senior Scientist:
SAIAB Science Leadership Team

NRF-SAIAB's mission is to undertake action research that responds to the global challenges while ensuring the sustainability of Africa's marine and freshwater ecosystems. To achieve this, NRF-SAIAB provides research platforms and infrastructure that pioneer a wide range of multi-, trans-disciplinary and multi-institutional research into inland fisheries and freshwater ecology, constantly changing coastal systems, the blue economy, and the movement ecology of marine animals. All the research undertaken at NRF-SAIAB contributes valuable knowledge and solutions regarding the functioning of water-based ecosystems, with emphasis on all those societal dimensions that explicitly link to water, including the impact of human activities on coastal, estuarine and freshwater resources. This information is essential for understanding and supporting appropriate management of these vital natural resources and activities within the aquatic environment, ultimately benefiting the long-term wellbeing of the people of South Africa and the Global South.

Rhodes University is an important partner institution for NRF-SAIAB with researchers interacting across disciplines, but mostly with the Departments of Ichthyology and Fisheries Science, Zoology and Entomology, Microbiology and Environmental Science. All NRF-SAIAB scientists are members of the Faculty of Science at Rhodes University and, as a result, the majority of supervised students are hosted at Rhodes University.

Postgraduates / Graduations

NRF-SAIAB fosters a healthy and productive research culture by prioritising key parameters, such as commitment to inclusion, real-world impact and open scholarship practices. These parameters are reflected in the mentorship style embraced by NRF-SAIAB's research staff. By doing so, researchers passionately train Postgraduates to strive for excellence and develop the ability to adapt and respond to future professional pursuits, hence preparing the next generation of scientists and practitioners.

In 2022, NRF-SAIAB supervised students were enrolled at a number of higher institutions in the Eastern Cape Province, but primarily at Rhodes University. The Rhodes University students comprised three (3) BSc Hons, nine (9) MSc and eighteen (18) PhD candidates. A critical focus for NRF-SAIAB is the transformation of demographics, and in this regard, 91% of students supervised by NRF-SAIAB researchers were South African, of which 58% were Black (African, Coloured, Indian) and 60% were women. A higher number of students graduated in 2022 than usual, with fourteen (14) MSc and eight (8) PhD candidates attending the in-person graduation ceremonies held post-Covid. Russell Dixon earned a distinction (90%) for his MSc degree.

NRF-SAIAB recognises the value of providing world-class training opportunities, including being afforded opportunities to attend national and international meetings. In 2022, several students attended national conferences, such as the Southern



NRF-SAIAB researchers Dr Albert Chakona, Professor Paul Skelton and Dr Pedro Bragança examine the catch from a Western Cape dam.

Photo: Jeremy Shelton

Africa Marine Science Symposium (SAMSS) and the Southern African Society of Aquatic Scientists (SASAqS) Conference. Notably, current PhD candidates, Ms Nobuhle Mpanza and Ms Dinah Mukhari, attended the 22nd International Conference on Aquatic Invasive Species (ICAIS) in Ostend, Belgium where they presented findings from their MSc research.

Significant Research Aligned Events

Drawing from the NRF values, mission and priorities, re-imagining research through principles of knowledge advancement, innovation, multi- and trans-disciplinarity, Open Science, Responsible Research Advancement (RRA) and institutional commitment, is what researchers, Postgraduates, Post-doctoral fellows and Honorary Research Associates at NRF-SAIAB aim to pursue in order to respond and adapt to the evolving curiosity and societal-driven needs and challenges in the aquatic realm. Such high calibre, broad-reach, transformative, and impactful research undertaken at NRF-SAIAB is largely made possible by the NRF-SAIAB's unique research platforms available to the broader research community in the National System of Innovation (NSI). These platforms include: aquatic biodiversity collections; associated specialist laboratories and services, integrating modern molecular and bio-banking systems; a fleet of vehicles; a community-driven marine flagship programme (the African Coelacanth Ecosystem Programme - ACEP); coastal crafts; in situ instrumentation; a Remotely Operated Vehicle (ROV); Remote Underwater Video Systems; the Acoustic Tracking Array Platform (ATAP); the Geophysics and Mapping Platform (GeMap); the Aquatic Ecophysiology Research Platform (AERP). During 2022, two hundred and thirty-five (235) individuals from various institutions made use of the aforementioned NRF-SAIAB platforms.

The recent and ongoing development of the Joint Marine Laboratories at strategically chosen Historically Disadvantaged Institutions (HDIs) further highlights the extended impact of NRF-SAIAB in terms of science advancement, reach, and

related products in South Africa and beyond. Additionally, NRF-SAIAB hosts the DSI/NRF Research Chair in Inland Fisheries and Freshwater Ecology and it serves as a regional platform for freshwater African aquatic biodiversity research. Through collaborations and project management with various sub-Saharan countries, NRF-SAIAB plays a crucial role in advancing research in this field.

NRF-SAIAB engages dynamically and responsively with universities and local and national government bodies to address pressing environmental issues. These issues require the integration of evidence-based science with management, enabling NRF-SAIAB to provide scientific advice for the formulation of national environmental policies. NRF-SAIAB's involvement extends to various areas of national concern, including socio-economic development, water security issues, ecosystem degradation and the influence of climate change on food security.

Team science remains a key pillar of NRF-SAIAB's research endeavour, with strong collaborations established and/or ongoing with national and international partners. Furthermore, NRF-SAIAB has signed contracts, memoranda of understanding (MoUs), and memoranda of agreement (MoAs) with multiple institutions, state and industry stakeholders, practitioners and community organisations, delivering multi-million Rand projects and hence advancing research and supporting sustainable development initiatives.

A steady publication output by NRF-SAIAB continued in 2022, despite the anticipated impact of a Covid-related lag effect and the decreased number of research staff. A total of one hundred and five (105) peer-reviewed scientific papers were published during this period. Additionally, there was an active participation in conferences and symposia, with seventy-three (73) presentations given during this year at national and international conferences.

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Holness, S.D., Harris, L.R., **Chalmers, R.**, De Vos, D., Goodall, V., Truter, H., Oosthuizen, A., **Bernard, A.T.F.**, **Cowley, P.D.**, **Murray, T.S.**, **Parkinson, M.C.** and **Sauer, W.H.H.** (2022) Using systematic conservation planning to align priority areas for biodiversity and nature-based activities in marine spatial planning: A real-world application in contested marine space. *Biological Conservation*. 271 (2022). p.1-11.

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Jody Oliver (PhD candidate) filtering water for eDNA studies to determine the distribution range of the coelacanth, *Latimeria chalumnae*.

Photo: SAIAB



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Group photo of the team taken in August 2022 at the IMIsEE Imbizo, the official opening of the Indigenous Marine Innovation for sustainable Environments and Economies (IMIsEE) Project held at the headquarters of the Keiskamma Trust, Hamburg, Eastern Cape.
Photo: SAIAB



Hamburg, Eastern Cape. A sunset stroll, selfie moment during the August 2022 Imbizo for the IMIsEE project. From left: Lucky Dlamini, Professor Rachel Wynberg (UCT), Vuyolwethu Mxo, Nobuhle Mpanza, Dr Kerry-Ann van der Walt, Siphelele Dyantyi, Jabulani Ndaba and Professor Francesca Porri. Photo: SAIAB

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Dr Albert Chakona, Dr Pedro Bragança, Professor Paul Skelton, Dr Martine Jordaan and Dr Robert Skelton in search of the Klein Sandelia and Klein Galaxias which are both endemic to the Klein River system, Western Cape.

Photo: Jeremy Shelton

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