



RHODES UNIVERSITY, MAKHANDA, SOUTH AFRICA

STUDENT INFORMATION



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EDUCATION DETAILS:

PhD (Chemistry) current – Rhodes University, Makhanda, South Africa
BSc Masters (Chemistry) 2022 – Rhodes University, Makhanda, South Africa
BSc Honours (Chemistry) 2019 – Rhodes University, Makhanda, South Africa
BSc (Chemistry & Biochemistry) 2018 – Rhodes University, Makhanda, South Africa

RESEARCH TITLE/PROJECT:

Electrochemical detection of water pollutants

PUBLICATIONS:

1. Mbulelo Jokazi, Lekhetho S. Mpeta, and Tebello Nyokong
Electrocatalytic activity of manganese tetra 4-aminophenyl porphyrin in the presence of graphene quantum dots.
Journal of Electroanalytical Chemistry 901 (2021) 115748 (1-10)
<https://doi.org/10.1016/j.jelechem.2021.115748>
2. Mbulelo Jokazi, Lekhetho S. Mpeta, Tebello Nyokong
Electrocatalytic behavior of manganese and cobalt porphyrins attached to graphene quantum dots: applied in the oxidation of hydrazine
Electroanalysis 35 (2023) 1– 15
<https://doi.org/10.1002/elan.202200222>
3. Mbulelo Jokazi and Tebello Nyokong
Electrochemical Sensing and Photoelectrodegradation of Pentachlorophenol using Co-, Mn- and Zn-Porphyrins
ChemElectroChem 11 (2024) e202300364 (1-16)
<https://doi.org/10.1002/celec.202300364>
4. James Oyim, Mbulelo Jokazi, John Mack, Edith Amuhaya and Tebello Nyokong
Indium porphyrin - colloidal activated carbon composites for photocatalytic activity against an organic pollutant and bacteria
Polyhedron 253 (2024) 116918 (1-12)
<https://doi.org/10.1016/j.poly.2024.116918>
5. Giday G. Welegergs, Abera D. Ambaye, Mbulelo Jokazi, Nnamdi Nwahara and Tebello Nyokong
Bioengineering of one dimensional hierarchical Cu₇S₄ hollow nanotubes for non-enzymatic glucose sensing applications
RSC Advances (2024), 14, 27122–27131
<https://doi.org/10.1039/d4ra05199h>
6. Zipho Samuel, Mbulelo Jokazi, Nnamdi Nwahara and Tebello Nyokong
Nitrite electrochemical sensing using Cu centred porphyrin functionalized TiO₂ nanoparticles modified glassy carbon electrode
Journal of Applied Electrochemistry (2024) 1-16
<https://doi.org/10.1007/s10800-024-02232-7>
7. Mbulelo Jokazi , Sixolile Centane , Philani Mashazi , Tebello Nyokong
Photoelectrodegradation and sensing of pentachlorophenol using In and Mn metalated porphyrins in the presence of TiO₂ nanoparticles
Journal of Photochemistry & Photobiology, A: Chemistry 460 (2025) 116118 (1-13)
<https://doi.org/10.1016/j.jphotochem.2024.116118>
8. Mbulelo Jokazi, Mope Edwin Malefane, Tracy Giota Tebogo Moraba, Thabo Thokozani Innocent Nkambule, Alex Tawanda Kuvarega, Tebello Nyokong, Muthumuni Managa
Photocatalytic activity of MnCl and Cu 5,10,15,20-Tetrakis(4-aminophenyl) porphyrins conjugated to graphene quantum dots against Rhodamine B dye using visible light

Journal of Water Process Engineering 71 (2025) 107188 (1-13)

<https://doi.org/10.1016/j.jwpe.2025.107188>

9. Teboho Edwin Mpakanyane, Nnamdi Nwahara, Mbulelo Jokazi, Tebello Nyokong
The Design of Cobalt (II)-Porphyrin/Fe₂O₃-Reduced Graphene Oxide Nanohybrid for Enhanced Electrochemical Sensing of 4-Hydroxybenzoic Acid

Electrocatalysis (2025) 16:569–586

<https://doi.org/10.1007/s12678-025-00944-8>

CONFERENCES/WORKSHOPS:

11th Nanosciences Young Researchers' Symposium (NYRS – 2023)

Nelson Mandela University, 7 Sept 2023

Poster Presentation

M Jokazi, T Nyokong

The effect of TiO₂ nanoparticles on the catalytic activity of a porphyrin towards electrochemical sensing and photoelectrodegradation of pentachlorophenol

DSI/Mintek Nanotechnology Innovation Centre (NIC) Annual Workshop

South African Medical Research Council (MRC), 11-12 October 2023

Oral Presentation

M Jokazi, T Nyokong

The effect of TiO₂ nanoparticles on the catalytic activity of a porphyrin towards electrochemical sensing and photoelectrodegradation of pentachlorophenol

International Conference on Porphyrins and Phthalocyanines (ICPP-13)

Niagara Falls Convention Center, Niagara Falls, Buffalo USA - 23-28 June 2024

Poster Presentation

Mbulelo Jokazi, Tebello Nyokong

The effect of TiO₂ nanoparticles on the catalytic activity of a porphyrin towards electrochemical sensing and photoelectrodegradation of pentachlorophenol