

Curriculum vitae

P.W. Froneman

1. PERSONAL INFORMATION

Name:	Pierre William Froneman
Date of birth:	12 September 1967
Nationality:	South African
Marital Status:	Divorced, 2 children
Present address:	Department of Zoology & Entomology Rhodes University P O Box 94 Grahamstown 6140 Phone: (046) 6038533 Fax: (046) 6228959 E-mail: W.Froneman@ru.ac.za
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2. FIELD OF EXPERTISE

Estuarine, coastal and Southern Ocean ecology

3. EDUCATION

1988-1990: BSc, Rhodes University. Distinction in Zoology
1991: BSc Honours in Zoology, Rhodes University
1992-1996: PhD in Zoology, Rhodes University.

4. AWARDS

1999: Vice Chancellors Distinguished Research Award (junior award)
2000: National Research Foundation (NRF) rating: C1
2001: Meiring Naude Gold Medal of the Royal Society of South Africa
2006: National Research Foundation (NRF) rating: C1
2008: Elected as a member to the Academy of Science of South Africa (ASSAf)
2009: Vice Chancellors Distinguished Senior Research Award
2010: National Research Foundation (NRF) rating: B3
2010: Recipient of Science Research Focus Area Development Grant, Rhodes University
2011: Elected as a Fellow of the Royal Society of South Africa

5. EMPLOYMENT

Southern Ocean Group, Rhodes University.
Junior research officer: 01-04-1992 to 03-04-1996.
Research officer: 01-04-1996 to 31-12-2001.
Zoology Department, Rhodes University
Senior lecturer: 01-01-2002 to 31-12-2004
Associate Professor: 01-01-2005 to 31-12-2008
Professor: 01-01-2009 to present

Head of Department of Zoology & Entomology: 01-07-2011 - present
Director Southern Ocean Group: 01-01-2008 to present

6. TEACHING ABILITY AND FACILITATION OF LEARNING

6.1 LECTURING

Since 2003, I have taught all academic years within the department (a list of the courses I present is summarised in the table below). My underlying teaching philosophy is that students should develop skills indispensable for those individuals wishing to pursue a career in the natural sciences including problem solving, data analyses and interpretation and writing skills. These skills are consistent with the expected degree outcomes. Typically, each course that I present includes both a theoretical and practical component. Each lecture is well structured and the teaching materials are of the highest standard. Teaching materials include PowerPoint presentations, computer model simulations, videos and overheads. Throughout the lecture, I encourage student participation by posing questions to the students. The practical component of each course is designed to ensure the practical application of the lecture notes and the development of scientific skills. Students are continuously evaluated throughout the course. Additionally, the students are required to submit an essay for marking at the end of each course. The essays foster the development of critical thinking and writing skills.

Given the wide range of academic backgrounds and language skills, it is inevitable that some students will battle with the course content and require additional attention. Under these circumstances I arrange *ad hoc* meetings with those individuals so that problems can be identified and the necessary action be taken to address the concerns of the student. I further encourage student participation by having an “open door policy”.

Critical evaluation of my teaching is mainly through questionnaires distributed to all students at the end of the course and completed anonymously. The questionnaire evaluates both the course content and lecturer. Furthermore, I have on occasion requested that a colleague sit in on my lectures and provide me with critical feedback. Finally, class representatives provide an overall evaluation of the course during staff student meeting that is held each term.

I believe that my approach to teaching has been successful as evident from the overall positive response from the student’s evaluation forms (available from the department) and the high number of undergraduate students that conduct research under my supervision annually.

Year	Course title	Academic Year	Duration/structure
1996	Importance of size in marine systems and the oceanic biological pump	Marine Biology Honours	One week lecture course
1997	Global warming and climate change	Zoology III	One week lecture course
1997	Microbial loop; biological pump	Marine Biology Honours	One week lecture course
1998-present	Physical oceanography, primary production and zooplankton	Zoology III	Six week lecture and practical course
1998-present	Primary production, zooplankton and the biological pump	Marine Biology Honours	Six week lecture and tutorial course
2003-2005	Genetics and reproduction	Zoology I	Four week lecture and practical course
2002-present	Sensory ecology	Zoology II	Two week lecture and practical course
2004-2009	Deep Sea Benthic Ecology	Marine Biology Honours	Three week lecture and tutorial course
2006-present	Animal diversity	Zoology I	Four week lecture and practical course

6.2 STUDENT SUPERVISION

Since completing my PhD in 1996, I have successfully supervised the following postgraduate students:

MASTER OF SCIENCE (MSC) STUDENTS

1. Mrs. M. Balarin completed her thesis entitled, “*Size fractionated primary production studies in the Southern Ocean*” in 1998.
2. Miss L.J. Gurney completed her thesis entitled, “*Dynamics of the food web of the Prince Edward Islands*” in 2000.
3. Miss KS Bernard completed her thesis entitled, “*Mesozooplankton community structure and grazing impact in the Polar frontal Zone of the Southern Ocean*” in 2003.
4. Miss S. Mbande completed her thesis entitled, “*Fishes of the Mngazi and Mngazana estuaries, with particular emphasis on the community structure and primary carbon sources*” in 2004 (co- supervisor Dr AK Whitfield; SAIAB).
5. Mr. G. Tweddle completed his thesis entitled, “*Population dynamics of ichthyofauna in the temperate, temporarily open/closed Kasouga Estuary, South Africa*” in 2005.

6. Miss C Mesher completed her thesis entitled, "*Population structure, physiology and feeding ecology of the mysid Mesopodopsis wooldridgei (Whitman) in a large permanently open estuary*" in 2005.
7. Miss D Lucac completed her thesis entitled, "*Community structure and predation impact of carnivorous macrozooplankton in the Polar Frontal Zone (Southern Ocean) with particular reference to chaetognaths*" in 2006 (co-supervisor, Prof CD McQuaid, Rhodes University)
8. Mr. M Jennings completed his thesis entitled, "*Nutrient dynamics in and offshore of two permanently open South African estuaries with contrasting freshwater inflow*" in 2006. Rhodes University
9. Miss O Norton completed her thesis entitled, "*The phylogeography and population structure of two estuarine fish species, Atherina breviceps (Pisces: Atherinidae) and Gilchristella aestuaria (Pisces Clupeidae) along the southern African coastline*" in 2006. Rhodes University. (Co-supervisor Dr D Downie).
10. Miss L Lange completed her thesis entitled, "*Trophodynamics of the hyperid amphipod, Themisto gaudichaudi in the Polar Frontal Zone (Southern Ocean)*" in 2006. Rhodes University (co-supervisor, Prof CD McQuaid, Rhodes University).
11. Mr ATF Bernard completed his thesis entitled, "*Euphuasiid community structure and herbivory in the Polar Frontal Zone of the Southern Ocean in austral autumn*" in 2006.
12. Mr J Lukey completed his thesis entitled, "*Population dynamics of the ichthyofauna in a small intermittently open Eastern Cape estuary*" in 2006. (Co-supervisor Prof T Booth, Department of Ichthyology & Fisheries Science, Rhodes University).
13. Miss K Orr completed her thesis entitled, "*Spatial and temporal variations in metals in the sediment and water of selected Eastern Cape estuaries, South Africa*" in 2008. **Passed with distinction.**
14. Miss EL Allan completed her thesis entitled, "*Ecological role of free-living bacteria in the microbial food web of the temporarily open/closed East Kleinemonde Estuary, South Africa*" in 2008. **Passed with distinction**
15. Miss TL Booth completed her thesis entitled, "*The ichthyofauna associated with Taylor's salt marsh, Kariega Estuary (Eastern Cape province), South Africa*" in 2008. She will graduate in 2009.
16. Miss J Sterley completed her thesis entitled, "*Trophodynamics of carnivorous zooplankton in the region of the Subtropical Convergence within the Indian sector of the Southern Ocean, with particular emphasis on chaetognaths*" in 2009.
17. Mr. R Daly completed his thesis entitled, "*Trophodynamics of mesozooplankton in the vicinity of the Subtropical Convergence in the Indian sector of the Southern Ocean*" in 2009.
18. Miss C George completed her masters dissertation entitled, "*Understanding the physical-chemical and biological processes across the Subtropical Convergence during austral autumn*" as part of the taught masters course offered by the University of Cape Town in 2009 (co-supervised with Dr I. Ansorge, Department of Oceanography, University of Cape Town).
19. Mr. J Blake completed his thesis entitled, "*The ichthyofauna and piscivorous avifauna in a small temporarily open/closed Eastern Cape estuary*" in 2010.

20. Miss EL Heyns completed her thesis entitled, “*Spatial and temporal patterns in the hyperbenthic community structure in a permanently open Eastern Cape estuary*” in 2010.
21. Mr L Dali completed his thesis entitled, “*Initial investigations into dynamics of mesozooplankton community structure in Algoa bay, South Africa*” in 2011 (Co-supervised with Dr KS Bernard, SAEON).
22. Miss D De Almeida completed her MSc thesis entitled, “*Cytochrome P450 monooxygenase 1A (CYP1A) and vitellogenin (vtg) in Cape hake and the effect of sewage effluent from De Beers Marine Namibia Diamond operations on the expression of CYP1A*” in 2011 (Co-supervised with Prof B Pletschke).
23. Miss S Ambrose completed her MSc thesis entitled, “*Feeding ecology and diet shift of Long-beaked common dolphins, Delphinus capensis (Gray 1828) incidentally caught in anti-shark nets off KwaZulu-Natal, South Africa*” in 2011 (Co-supervised with Dr S Plon, Bayworld)
24. Miss I Vermeulen completed her thesis entitled, “*Feeding dynamics of suspension feeders in the near-shore marine environment adjacent to two contrasting estuaries in the Eastern Cape, South Africa*” in 2011. She will graduate in 2012 (co-supervised with Dr N Richoux)
25. Miss N D’Sousa completed her thesis entitled, “*A marine chemical ecology study of the sea hare, Bursatella leachii in South Africa*” in 2012 (co-supervised Prof MD Coleman, Rhodes University)
26. Miss N Nyalungu completed her thesis entitled, “*Spatial and temporal patterns in the population and feeding of Palaemon peringueyi (McPherson 1990) in the Kariega Estuary, South Africa*” in 2012. (Co-supervised, Prof AN Hodgson). She will graduate in 2013.
27. Mr C Njozela completed his thesis entitled, “*The role of the sand prawn, Callichirus kraussi, as an ecosystem engineer in a temporarily open/closed eastern cape estuary*” in 2012
28. Miss AR Bishop completed her thesis entitled, “*Age, growth, reproduction and sexual dimorphism of the striped dolphin, Stenella coeruleoalba, off the coast of southern Africa*” in 2013. (Co-supervised Dr S Plon, Bayworld).
29. Miss Z Nolte completed her thesis entitled, “*The natural history of the humpback dolphin, Sousa chinensis, in KwaZulu-Natal, South Africa: age, growth and reproduction*” in 2013. (Co-supervised, Dr S Plon, Bayworld).

DOCTOR OF PHILOSOPHY (PHD) STUDENTS

1. Miss KS Bernard completed her thesis entitled, “*The role of the euthecosome pteropod, Limacina retroversa, in the Polar Frontal Zone, Southern Ocean*” in 2007. Rhodes University.
2. Mr PD Vorwerk completed his thesis entitled, “*Biological links between estuaries and the near-shore marine environment*” in 2007. Rhodes University.
3. Mr T Henninger completed his PhD thesis entitled, “*Aspects of the ecology and biology of the isopod, Exosphaeroma hylocoetes (Barnard, 1940) in three temporarily open/closed southern African estuaries*” in 2009 (co-supervisor with Prof AN Hodgson).

4. Ms EL Allan completed her thesis entitled, “*Trophodynamics of the benthic and hyperbenthic communities inhabiting the sub-Antarctic Prince Edward Islands: stable isotope and fatty acid signatures*” in 2011 (co-supervisor Dr N Richoux).
5. Mr G Tweddle completed his thesis entitled, “*The influence of overwash and breaching events in determining the spatial and temporal patterns in the ichthyofauna community composition in a temporarily open/closed Eastern Cape estuary, South Africa*” in 2012.
6. Mr R Wasserman completed his thesis entitled, “*Direct and indirect effects of zooplanktivorous predators on the estuarine plankton community*” in 2013.

I am currently supervising or co-supervising the following MSc students:

1. Miss M Wolmerans (co-supervisor Prof A Craig, Rhodes University)

I am currently supervising the following PhD students:

1. Miss L Singh (Co-supervisor Dr M Smale, Bayworld Research Institute, Port Elizabeth)
2. Mr T Dalu (Co-supervisor Dr N Richoux, Rhodes University)-submitted for examination
3. Mr R Daly (Co-supervisor Dr M Smale, Bayworld Research Institute, Port Elizabeth)-submitted for examination
4. Miss M Caputo (Co-supervisor Dr S Plon, Nelson Mandela Metropolitan University).

POSTDOCTORAL STUDENTS:

Dr Nicole Richoux: 2005-2007

Dr Mathilde Shapira: 2009-2011

Dr Margaux Noyon: 2010-2013

Dr Holly Nel: 2014-

Dr Ryan Wasserman: 2014

7. RESEARCH AND PUBLICATIONS

Since obtaining my PhD in 1996, my research has largely focused on the plankton food web dynamics of the Southern Ocean and southern African estuaries. This research has realized 7 book chapters and 146 scientific publications in both local and international peer reviewed scientific journals. Of the total number of publications, $\approx 78\%$ have been published in international scientific journals. Additionally, my research has contributed to a number of data reports. Below I have listed the book chapters, scientific publications and data reports emanating from my research.

7.1 BOOK CHAPTERS

1. **Froneman PW** (2006). Polar Frontal Zone. In: Encyclopaedia of the Antarctic, 2 vols. (Ed) Riffenburgh B. Routledge, New York.
2. **McQuaid CD, Froneman PW**. (2008) Biology in the oceanographic environment In: The Prince Edward Islands: Land Sea Interactions in a changing ecosystem. Eds. SL Chown, PW Froneman. African SunMedia, Stellenbosch. South Africa. Pp 97-120.

3. **Smith VA, Froneman PW** (2008) Nutrient dynamics in the vicinity of the Prince Edward Islands: The Prince Edward Islands: Land Sea Interactions in a changing ecosystem. Eds. SL Chown, PW Froneman. African SunMedia, Stellenbosch. South Africa. Pp 165-179.
4. **Chown SL, Froneman PW** (2008). The Prince Edward Islands in a global context. In: The Prince Edward Islands: Land Sea Interactions in a changing ecosystem. Eds. SL Chown, PW Froneman. African SunMedia, Stellenbosch. South Africa. Pp 1-16.
5. **Chown SL, Froneman PW** (2008). Change in terrestrial and marine systems. In: The Prince Edward Islands: Land Sea Interactions in a changing ecosystem. Eds SL Chown, PW Froneman. African SunMedia, Stellenbosch. South Africa. Pp 351-372.
6. **Froneman PW** (2009). Impact of reduced freshwater inflow on the plankton of southern African estuaries. In: Plankton: a guide to their ecology and monitoring for water quality. Eds. Suthers IM, Rissik D. CSIRO publishing. pp 65-72.
7. **Ansorge IJ, Froneman PW, Dugaradoo J** (2012). The marine ecosystem of the Sub-Antarctic Prince Edward Islands. In: Marine ecosystems, Intech. (Ed) Cruzado A. ISBN 97-953-307-430-5. Pp 61- 76.

7.2 RESEARCH PUBLICATIONS

1. **McQuaid CD, Froneman PW** (1993). Mutualism between the territorial intertidal limpet *Patella longicosta* and the crustose alga *Ralfsia verrucosa*. *Oecologia* 96: 128-133.
2. **Froneman PW, McQuaid CD, Perissinotto R** (1995). Biogeographic structure of the microphytoplankton assemblages of the south Atlantic and southern Ocean during austral summer. *Journal of Plankton Research* 17: 1791-1802.
3. **Froneman PW, Perissinotto R, McQuaid CD, Laubscher RK** (1995). Summer distribution of netphytoplankton in the Atlantic sector of the Southern Ocean. *Polar Biology* 15: 77-84.
4. **Froneman PW, Perissinotto R** (1996). Structure and grazing of the microzooplankton communities of the Subtropical Convergence and a warm-core eddy in the Atlantic sector of the Southern Ocean. *Marine Ecology Progress Series* 135: 237-245.
5. **Froneman PW, Perissinotto** (1996). Microzooplankton grazing and protozooplankton community structure in the South Atlantic and in the Atlantic sector of the Southern Ocean. *Deep-Sea Research* 43(5): 703-721.

6. **Froneman PW, Perissinotto R** (1996). Microzooplankton grazing in the Southern Ocean: implications for the carbon cycle. In: *Proceedings of the 29th European Marine Biology Symposium*, Vienna 1994. pp 99-115.
7. **Froneman PW, Perissinotto R, McQuaid CD** (1996). Seasonal variations in microzooplankton grazing in the region of the Subtropical Convergence. *Marine Biology* 126: 433.
8. **Froneman PW, Perissinotto R, McQuaid CD** (1996). Dynamics of microplankton communities at the ice-edge zone of the Lazarev Sea during a summer drogue study. *Journal of Plankton Research* 18: 1455-1470.
9. **Froneman PW, Pakhomov EA, Perissinotto R, McQuaid CD** (1996). The role of microplankton in the diet and daily ration of antarctic zooplankton species during austral summer. *Marine Ecology Progress Series* 143: 15-23.
10. **Froneman PW, McQuaid CD** (1997). Preliminary investigation of the ecological role of microzooplankton in the Kariega estuary, South Africa. *Estuarine, Coastal and Shelf Science* 45: 689-695.
11. **Froneman PW, Pakhomov EA, Laubscher RK** (1997). Microphytoplankton assemblages in the waters surrounding South Georgia (Antarctica) during austral summer 1994. *Polar Biology* 17: 515-532.
12. **Froneman PW, Pakhomov EA, Perissinotto R, Laubscher RK** (1997). Dynamics of the plankton communities during seasonal ice melt in the Lazarev Sea in austral summer 1994-1995. *Marine Ecology Progress Series* 149: 201-214.
13. **Froneman PW, Perissinotto R, Pakhomov EA** (1997). Biogeographic structure of the microphytoplankton assemblages in the region of the Subtropical Convergence and across a warm-core eddy during austral winter. *Journal of Plankton Research* 19: 519-523.
14. **Pakhomov EA, Perissinotto R, Froneman PW, Miller DGM** (1997). Energetics and feeding dynamics of *Euphausia superba* in the South Georgia region during summer 1994. *Journal of Plankton Research* 19: 399-423.
15. **Perissinotto R, Pakhomov EA, McQuaid CD, Froneman PW** (1997). In situ grazing rates and daily ration of the Antarctic krill (*Euphausia superba*) at the Antarctic Polar Front and Marginal Ice Zone. *Marine Ecology Progress Series* 160: 77-91.
16. **Froneman PW, Balarin MS** (1998). Structure and grazing impact of the protozooplankton community in the waters surrounding the sub-antarctic Prince Edward Islands. *Polar Biology* 20(3): 198-205.

17. **Froneman PW, Pakhomov EA** (1998). Trophic importance of the chaetognaths *Eukrohnia hamata* and *Sagitta gazellae* in the pelagic subsystem of the Prince Edward Islands in late austral summer 1996. *Polar Biology* 19: 242-249.
18. **Froneman PW, Pakhomov EA** (1998). Biogeographic study of the planktonic communities of the Prince Edward Islands. *Journal of Plankton Research* 20: 653-669.
19. **Froneman PW, Pakhomov EA, Meaton V** (1998). Surface distribution of microphytoplankton of the southwest Indian Ocean along a repeat transect between Cape Town and the Prince Edward Islands. *South African Journal of Science* 94: 124-128.
20. **Froneman PW, Pakhomov EA, Perissinotto R, Meaton V** (1998). Community structure and predation impact of two chaetognath species, *Sagitta gazellae* and *Eukrohnia hamata* in the vicinity of the Prince Edward Archipelago (Southern Ocean). *Marine Biology* 131: 95-101.
21. **Froneman PW, Pakhomov EA, Meaton V** (1998). Association between a diatom and a tintinnid. Short communication. *South African Journal of Science* 94: 202.
22. **Pakhomov EA, Froneman PW, Ansoerge I** (1998). Prince Edward Island offshore oceanographic study: report on research cruise April-May 1997. *South African Journal of Science* 94: 153-157.
23. **Pakhomov EA, Perissinotto R, Froneman PW** (1998). Abundance and trophodynamics of *Euphausia crystallorophias* in the shelf region of the Lazarev Sea during austral spring and summer. *Journal of Marine Systems* 18: 297-310.
24. **Froneman PW, Ansoerge IJ** (1998). Cruise report on the third Marion Island Oceanographic Study (MIOS III) conducted over the period 1 April – 13 May 1998. *South African Journal of Science* 94(9) 437-439.
25. **Barange M, Pakhomov EA, Perissinotto R, Froneman PW, Verheye HM, Taunton Clarke J, Lucas M** (1998). Pelagic community structure of the Subtropical Convergence region south of Africa and in the mid Atlantic Ocean. *Deep-Sea Research I* 45: 1663-1687.
26. **Froneman PW, Pakhomov EA, Turner D, et al.** (1998). Scandinavian/South African Antarctic expedition: report on research cruise Dec 1997-Feb 1998. *South African Journal of Science* 94: 517-519.
27. **Pakhomov EA, Froneman PW** (1999). The Prince Edward Islands pelagic ecosystem: a review of achievements 1976-1990. *Journal of Marine Systems* 18(4): 297-310.

28. **Pakhomov EA, Froneman PW, Balarin M, Kuun P** (1999). Respiration and daily food intake of the bottom dwelling caridean shrimp, *Nauticaris marionis* Bate 1888, on the shelf of Marion Island. *Polar Biology*: 21-121.
29. **Pakhomov EA, Perissinotto R, Froneman PW** (1999). Predation impact of carnivorous zooplankton and micronekton in the Atlantic sector of the Southern Ocean. *Journal of Marine Systems* 19: 47-64.
30. **Ansorge I, Froneman PW, Pakhomov EA, Lutjeharms JRE, van Ballegooyen R, Perissinotto R** (1999). Physical-biological coupling in the waters surrounding the Prince Edward Islands (Southern Ocean) *Polar Biology* 21: 135-145.
31. **Kaehler S, Froneman PW** (1999). Temporal variability in the association between the territorial limpet *Patella longicosta* and the crustose alga *Ralfsia verrucosa*. *South African Journal of Science* 95: 121-122.
32. **Pakhomov EA, Froneman PW** (1999). Macroplankton/micronekton dynamics in the vicinity of the Prince Edward Islands (Southern Ocean): new concept for the biomass build up for higher trophic levels. *Marine Biology* 134: 501-515.
33. **Froneman PW, Ansorge I, Pakhomov EA, Lutjeharms JRE** (1999). Plankton communities and the physical environment in the waters surrounding the Prince Edward Islands in late austral summer 1997. *Polar Biology* 22(3): 145-155.
34. **Froneman PW, McQuaid CD, Laubscher RK** (1999). Size fractionated primary production studies in the vicinity of the Subtropical Convergence and an adjacent warm-core eddy. *Journal of Plankton Research* 21: 2109-2035.
35. **Froneman PW** (2000). Estuaries of South Africa. *African Zoology* 35(1): 151. Book review.
36. **Froneman PW** (2000). Feeding studies of selected zooplankton in a temperate estuary, South Africa. *Estuarine, Coastal and Shelf Science* 51: 543-552.
37. **Pakhomov EA, Perissinotto R, McQuaid CD, Froneman PW** (2000). Zooplankton structure and grazing in the Atlantic sector of the Southern Ocean in the last austral summer 1993. Part 1. Ecological zonation. *Deep-Sea Research I*, 47(9): 1663-1686.
38. **Froneman PW, Pakhomov EA, Perissinotto R, McQuaid CD** (2000). Zooplankton structure and grazing in the Atlantic sector of the Southern Ocean in late austral summer 1993. Part 2. Biochemical zonation. *Deep-Sea Research I*, 47(9): 1687-1702.

39. **Pakhomov EA, Froneman PW** (2000). Composition and spatial variability of macroplankton and micronekton within the Antarctic Polar Frontal Zone of the Indian Ocean during austral autumn 1997. *Polar Biology* 23(6): 410-419.
40. **Froneman PW, Pakhomov EA, Treasure A** (2000). Trophic importance of the hyperiid amphipod, *Themisto gaudichaudi*, in the Prince Edward Archipelago (Southern Ocean) ecosystem. *Polar Biology* 23(6): 429-436.
41. **Pakhomov EA, Ansoerge IJ, Froneman PW** (2000). Variability in the inter-island environment of the Prince Edward Islands (Southern Ocean). *Polar Biology* 23(9): 593-603.
42. **Pakhomov EA, Froneman PW, Ansoerge IJ, Lutjeharms JRE** (2000). Temporal variability in the physico-biological environment of the Prince Edward Islands (Southern Ocean). *Journal of Marine Systems* 26(1): 75-95.
43. **Froneman PW, Pakhomov EA** (2000). Spatial and temporal variability in microphytoplankton distribution in the southeast Indian Ocean. *Vie et Milieu* 50(4): 275-288. **Invited contribution**
44. **Froneman PW** (2001). Seasonal changes in zooplankton biomass and grazing in a temperate estuary, South Africa. *Estuarine, Coastal and Shelf Science* 52: 543-553
45. **Froneman PW** (2001). Feeding ecology of the mysid, *Mesopodopsis wooldridgei*, in a temperate estuary along the eastern seaboard of South Africa. *Journal of Plankton Research* 23: 999-1008
46. **Froneman PW** (2001). Preliminary study on the food web structure of two contrasting estuaries along the Eastern Cape coast, South Africa. *African Journal of Aquatic Science* 25: 13-27
47. **Froneman PW** (2001). Stable isotope composition of the food web of the temperate Kariega estuary (Eastern Cape). *African Journal of Aquatic Science* 26: 49-56
48. **Froneman PW, Laubscher RK, McQuaid CD** (2001). Size fractionated primary production in the south Atlantic and Atlantic sectors of the Southern Ocean. *Journal of Plankton Research* 23: 611-622
49. **Gurney LJ, Froneman PW, Pakhomov EA, McQuaid CD** (2001). Trophic positions of three euphausiid species from the Prince Edward islands (Southern Ocean): implications for the pelagic food web structure. *Marine Ecology Progress Series* 217: 167-174.
50. **Pakhomov EA, Ratkova TN, Froneman PW, Wassermann P** (2001). Phytoplankton dynamics at the ice-edge zone of the Lazerv Sea (Southern Ocean) during austral summer 1994/1995-drogue study. *Polar Biology* 24: 422-431.

51. **Pakhomov EA, Froneman PW, Perissinotto R** (2002). Salp/krill interactions in the Southern Ocean: spatial segregation and implications for the carbon flux. *Deep-Sea Research II* 49: 1881-1907
52. **Pakhomov EA, Froneman PW, Wassermann P, Ratkova T, Arashkevich E** (2002). Downward flux of biogenic material in the ice edge zone of the Lazarev Sea (Southern Ocean) during a drogue study: algal sinking versus zooplankton grazing. *Marine Ecology Progress Series* 233: 73-88.
53. **Kaehler S, Froneman PW** (2002). A herbivore mediated increase in biofilm productivity: indirect effects of changing microalgal assemblage composition. *Marine Ecology Progress Series* 234: 15-22
54. **Gurney LJ, Froneman PW, Pakhomov EA, McQuaid CD** (2002). Diel feeding patterns and daily ration estimates of three sub-antarctic euphausiids in the vicinity of the Prince Edward Islands (Southern Ocean). *Deep-Sea Research II* 49: 3207-3227
55. **Froneman PW, Pakhomov EA, Gurney LJ, Hunt BP** (2002). Predation impact of carnivorous zooplankton in the vicinity of the Prince Edward Island archipelago in austral autumn 1998. *Deep-Sea Research II* 49: 3243-3254.
56. **Bernard K, Froneman PW** (2002). Mesozooplankton community structure in the Southern Ocean upstream of the Prince Edward Islands. *Polar Biology* 25: 597-604.
57. **Froneman PW** (2002). Trophic cascading in an oligotrophic temperate estuary, South Africa. *Journal of Plankton Research* 24: 809-816
58. **Froneman PW** (2002). Food web structure in three contrasting estuaries determined by stable carbon isotope analysis. *African Journal of Aquatic Sciences* 27: 107-115
59. **Froneman PW** (2002). Seasonal variations in selected physico-chemical and biological variables in the temporarily open/closed Kasouga estuary (South Africa). *African Journal of Aquatic Sciences* 27: 117-123
60. **Froneman P.W., Anson I.J., Vumazonke L., Gulekana K., Webb A.M., Leukes W., Risien C.M., Thomalla S., Bernard K., Hermes J., Knott M., Anderson D., Hargey N., Jennings M., Veitch. Lutjeharms J.R.E., McQuaid C.D.** (2002) Physical and biological variability in the Antarctic Polar Frontal Zone: Report on the research cruise 104 of the *M.V. S.A. Agulhas*. *South African Journal of Science* 98: 534-536.
61. **Froneman PW** (2002). Response of the biology to three different hydrological phases in the temporarily open/closed Kariega estuary. *Estuarine, Coastal and Shelf Science* 55(4): 535-546.

62. **Bernard K, Froneman PW** (2003) Mesozooplankton community structure and grazing impact in the Polar Frontal Zone during austral autumn 2002. *Polar Biology* 26: 268-275.
63. **Vumazonke LU, Pakhomov EA, Froneman PW, McQuaid CD** (2003) Diet and daily ration of male and female *Nauticaris marionis* at the Prince Edward Archipelago. *Polar Biology* 26: 420-422.
64. **Froneman PW, Vorwerk P** (2003). Feeding ecology of juvenile *Gilchristella aestuaria* and *Atherina breviceps* (Pisces) in a temperate estuary, South Africa. *African Journal of Aquatic Sciences*. 28(1): 35-41.
65. **Froneman PW** (2004). Food web dynamics in a temperate temporarily open/closed estuary (South Africa). *Estuarine, Coastal and Shelf Science* 59: 87-95.
66. **Froneman PW, Bernard KS** (2004). Trophic cascading in the Polar Frontal Zone of the Southern Ocean in austral autumn 2002. *Polar Biology* 27: 112-118.
67. **Froneman PW** (2004) Seasonal patterns in the zooplankton community structure and biomass in an Eastern Cape temporarily open/closed estuary. *Estuarine Coastal and Shelf Science* 60: 125- 132.
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along a transect in the Atlantic sector of the Southern Ocean. *Deep-Sea Research II* 51: 2773-2787

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7.3 OTHER PUBLICATIONS

1. **Ansorge IJ, Froneman PW, Pakhomov EA, Lutjeharms JRE** (1998). Hydrographic data report on the Marion Island oceanographic survey (MIOS II). Marion Island relief voyage 54. 25 April – 28 May 1997. University of Cape Town Oceanography report 98. 1
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4. **Pakhomov EA, Froneman PW, Ansorge I** (1997). Report on ship-based scientific work conducted aboard the S.A. Agulhas during voyage 84 (Marion Island base relief, 25 April – 28 May 1997). *South African National Antarctic Programme (SANARP)*, FRD-CSIR, South Africa. pp 1-16.
5. **Pakhomov EA, Froneman PW, McQuaid CD** (2001). The Prince Edward Islands' life support system and the variability of living resources in the Southern Ocean. Department of Environmental Affairs & Tourism Final report. pp 53.
6. **Froneman PW** (2003). Water quality of the temporarily open/closed Kasouga estuary with special emphasis of coliforms. Kasouga Trust.
7. **Froneman PW, McQuaid CD** (2004). Marion Offshore Variability Ecosystem Study (MOVES). Department of Environmental Affairs & Tourism. Final report. Pp 36
8. **Ansorge IJ, Speich S, Rautenbach CJW, Froneman PW, Goni G.** (2004). Goodhope 1: hydrographic, biological and meteorological data report. UCT Oceanographic report 04-1. pp 34.
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13. **Vorwerk P, Jennings M, Froneman PW** (2007). Estuarine/marine interactions. In: The structure and function of temporarily open/closed estuaries: a review of current knowledge with special emphasis on Cape estuaries. Eds. Bate, G and Whitfield A. Water Research Commission Report No 1581/1/07.
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15. **Froneman PW** (2008) Specialist report: Zooplankton and hyperbenthos In: An intermediate ecological reserve determination study of the East Kleinemonde Estuary. Eds Van Niekerk L, Bate GC, Whitfield AK. Water research Commission Report # 1581/2/08.
16. **Froneman PW** (2009) Zooplankton studies in the Knysna Estuary during July 2007 and February 2008. In: Department of Water Affairs (DWA), 2009. Resource Directed Measures: Reserve Determination studies for selected surface water, groundwater, estuaries and wetlands in the Outeniqua catchment: Ecological Water Requirements Study. Estuarine RDM Report, Volume 3: Knysna Estuary – Biotic Component Specialist Appendices. Edited by Dr Paterson, A (SAEON), for Scherman Collyot & Associates. Report no. RDM/K50/00/CON/0307, Volume 3.

8. CONFERENCE PRESENTATIONS

In addition to publishing my research findings in peer reviewed scientific journals, I have also presented these findings at a number of international and local conferences. To date, I have presented or co-authored some 69 oral and 41 poster presentations at conferences. Below I have listed the oral and poster presentations over the period 2003 to present.

8.1 ORALS

Froneman PW, Pakhomov EA, Gurney LJ. Predation impact of carnivorous zooplankton in the waters surrounding the Prince Edward Islands. *10th South African Marine Science Symposium (SAMSS)*. Eastern Cape.

Pakhomov EA, Froneman PW, Crawford RJM, Cooper J. Biological responses to climate change at Sub-Antarctic islands. *10th South African Marine Science Symposium (SAMSS)*. Wilderness.

Gurney LJ, Froneman PW, McQuaid CD, Pakhomov EA. Stable nitrogen isotope ratios of three euphausiid species from the Prince Edward Islands (Southern Ocean): implications for pelagic food web. *10th South African Marine Science Symposium (SAMSS)*. Wilderness.

Bernard K, Froneman PW, McQuaid CD. Mesozooplankton community in the upstream region of the Prince Edward Islands (Southern Ocean). *11th South African Marine Science Symposium (SAMSS)*. Swakopmund, Namibia

Bernard K, Froneman PW Ecological role of mesozooplankton in the Polar Frontal Zone. *9th International Copepoda Symposium*. Keelung, Taiwan

Vumazonke LU, Froneman PW, McQuaid CD. The feeding ecology of the bottom dwelling shrimp, *Nauticaris marionis* Bate, 1888 at the Prince Edward Islands. *Southern African Society of Aquatic Science Conference*. Bloemfontein

Burchell L, Roberts MJ, Froneman PW. Linking the coelacanth (*Latimeria chalumnae*) to its oceanographic environment. Coastal and Ocean exploration conference. East London.

Teske PR, McQuaid CD, Froneman PW, Barker NP. The phylogeography of selected South African estuarine crustaceans. *5th Congress of the Southern African Society for Systematic Biology*. 2-5 February 2005, Western Cape.

Jennings M, Froneman PW, Waldron H. Anthropogenic influence on estuarine derived nutrient dispersal in the near shore off two permanently open South African estuaries with contrasting freshwater inflow. LOICZ II inaugural Open science meeting. Egmond aan Zee, Netherlands. 27-29 June 2005.

Froneman PW. Significance of overtopping events in Eastern Cape temporarily open/closed estuaries. 4- 7 July 2005. *12th South African Marine Science Symposium*, Durban.

Bernard ATF, Froneman PW. Population dynamics of *Palaemon peringueyi* in a temporarily open/closed southern African estuary. 4- 7 July 2005. *12th South African Marine Science Symposium*, Durban.

Vorwerk PD, Froneman PW. A preliminary assessment of links between estuaries and the near shore environment: a community approach in permanently open Eastern Cape estuaries. 4- 7 July 2005. *12th South African Marine Science Symposium*, Durban.

Lukey J, Froneman PW, Booth A. Dynamics of small ichthyofauna in a small temporarily open/closed Eastern Cape estuary. 4- 7 July 2005. *12th South African Marine Science Symposium*, Durban.

Norton OB, Froneman PW, Downie D. The phylogeography of two estuarine fish species, *Atherina breviceps* and *Gilchristella aestuaria*, along the South African coastline. 4- 7 July 2005. *12th South African Marine Science Symposium*, Durban.

Bernard KS, Froneman PW. The ecological role of the thecosome pteropod, *Limacina retroversa*, in the Polar Frontal Zone of the Southern Ocean. 4- 7 July 2005. *12th South African Marine Science Symposium*, Durban.

Lukac D, Froneman PW. Community structure and predation impact of carnivorous zooplankton in the Polar Frontal Zone at the South-West Indian Ridge. 4- 7 July 2005. *12th South African Marine Science Symposium*, Durban.

Lange L, Froneman PW, Feeding dynamics and distribution of the hyperiid amphipod, *Themisto gaudichaudii*, in the Polar frontal Zone of the Southern Ocean. 4- 7 July 2005. *12th South African Marine Science Symposium*, Durban.

Froneman PW., Tweddle G The dynamics of selected components of the ichthyofaunal community in the temperate, temporarily open/closed Kasouga estuary, South Africa. 4- 7 July 2005. *12th South African Marine Science Symposium*, Durban.

Meshner C, Froneman PW. The physiological response of the mysid, *Mesopodopsis wooldridgei*, to changes in salinity and temperature. *32nd Conference of the Zoological Society of southern Africa*. 13-15 July 2005, Grahamstown, South Africa.

Richoux NB, Froneman PW Spatial variation of carbon utilization by benthic and pelagic invertebrates in a temperate South African estuary. *Southern African Society of Aquatic Science Conference*. Maputo (2006)

Froneman PW, Bernard KS. The ecological role of the thecosome pteropod, *Limacina retroversa*, in the Polar Frontal Zone. *SCAR XXIX Open Science Conference*. Hobart, Australia. 12-14 July 2006.

Richoux NB, Froneman PW. Trophic ecology of dominant zooplankton and macrofauna in a temperate and oligotrophic South African estuary: a fatty acid approach. Oral presentation: *The American Society of Limnology and Oceanography conference*, Santa Fe, New Mexico, U.S. 4-9 Feb 2007.

Orr K, Burgess J, Froneman PW. Concentrations of heavy metals in the sediment and water of selected Eastern Cape (South Africa) estuaries. *5th International Conference on Marine Pollution and Ecotoxicology*. City University of Hong Kong. 3-6 June 2007.

Froneman PW. Trophic cascading in a small temporarily open/closed Eastern Cape estuary. *33rd bi-annual Conference of the Zoological Society of southern Africa (ZSSA)*. North-West University, Potchefstroom, South Africa 9-11 July 2007.

Henninger T, Hodgson A, Froneman PW. Population dynamics of *Exosphaeroma hylocoetes* (Crustacea: Isopoda) in a temporarily open/closed estuary. 33rd bi-annual Conference of the Zoological Society of southern Africa (ZSSA). North-West University, Potchefstroom, South Africa 9-11 July 2007.

Orr K, Burgess J, Froneman PW. The effects of increased freshwater inflow on the concentrations of heavy metals in the sediment and water of the permanently open Kariega estuary. 33rd bi-annual Conference of the Zoological Society of southern Africa (ZSSA). North-West University, Potchefstroom, South Africa 9-11 July 2007.

Tweddle G, Froneman PW. Recruitment of zooplankton and nekton into a temporarily open/closed Eastern Cape estuary under different hydrological phases. 33rd bi-annual Conference of the Zoological Society of southern Africa (ZSSA). North-West University, Potchefstroom, South Africa 9-11 July 2007.

Singh L, Froneman PW, Smale M. Predator-prey interactions on squid spawning sites by top predators. 33rd bi-annual Conference of the Zoological Society of southern Africa (ZSSA). North-West University, Potchefstroom, South Africa 9-11 July 2007.

Allan L, Froneman PW. Spatial and temporal patterns in bacterial abundance, biomass and productivity in a temporarily open/closed estuary. 33rd bi-annual Conference of the Zoological Society of southern Africa (ZSSA). North-West University, Potchefstroom, South Africa 9-11 July 2007.

Booth T, Froneman PW. The utilization of salt marshes by the early developmental stages of fish. 33rd bi-annual Conference of the Zoological Society of southern Africa (ZSSA). North-West University, Potchefstroom, South Africa 9-11 July 2007.

Hodgson A, Henninger T, Froneman PW. Population dynamics of *Exosphaeroma hylocoetes* (Crustacea: Isopoda) in temporarily open/closed estuaries of the Eastern Cape, South Africa. 11th International Conference on Invertebrate Reproduction and Development (ICIRD), Panama. 6-9 August 2007.

Jennings ME, Froneman PW, Scherman PA. Moyeni development surface water impact assessment. International Association of Impact assessment, southern African regional conference: Managing resources for sustainable development through impact assessments. Cape Town, South Africa. 2007.

Richoux NB, Froneman PW. Exploring trophodynamics in the Southern Ocean: application of fatty acid biomarkers and stable isotope ratios. South African National Antarctic Programme Symposium (SANAP). Stellenbosch, South Africa 9-11 October 2007

Froneman PW. The influence of the Prince Edward Islands (Southern Ocean) in mediating trophic interactions among the plankton: evidence from trophic cascading

experiments 13th Southern African Marine Science Symposium. University of Cape Town. 29 June – 3 July.

Allan EL, Froneman PW. Top-down, bottom up control of bacterial production in a temporarily open/closed estuary. 13th Southern African Marine Science Symposium. University of Cape Town. 29 June – 3 July.

Sterley JS, Froneman PW. Carnivorous macrozooplankton community structure in the region of the Subtropical Convergence in the Indian sector of the Southern Ocean during austral autumn 2007. 13th Southern African Marine Science Symposium. University of Cape Town. 29 June – 3 July.

Daley R, Froneman PW. Trophodynamics of selected mesozooplankton in the region of the Subtropical Convergence in the Indian sector of the Southern Ocean. 13th Southern African Marine Science Symposium. University of Cape Town. 29 June – 3 July.

Tweddle G, Froneman PW. Variability in the recruitment of zooplankton and nekton into a temporarily open/closed Eastern Cape estuary during three different hydrological phases. 13th Southern African Marine Science Symposium. University of Cape Town. 29 June – 3 July

Bernard ATF, Froneman PW, Ansoorge IJ, Lutjeharms JRE Entrainment of Antarctic euphausiids across the Antarctic Polar front by a cold core eddy 13th Southern African Marine Science Symposium. University of Cape Town. 29 June – 3 July

Singh L, Froneman PW, Smale MJ. Predator-prey interactions on squid spawning sites by top predators. 13th Southern African Marine Science Symposium. University of Cape Town. 29 June – 3 July.

Whitfield AK, Adams JB, Bate GC, Bezuidenhout K, Bornman TG, Cowley PD, Froneman PW, Gama PT, James NC, MaKenzie B, Riddin T, Snow GC, Strydom NA, Taljaard SS, Terode AI, Theron AK, Turpie JK, van Niekerk L, Vorwerk PD, Wooldridge TH. A multidisciplinary study of a small intermittently open South African estuary with particular emphasis on the influence of mouth state on the ecology of the system. 13th Southern African Marine Science Symposium. University of Cape Town. 29 June – 3 July.

Froneman PW, Daly R, Sterley J. Trophodynamics of zooplankton in the region of the Subtropical Convergence in the Indian sector of the Southern Ocean. South African National Antarctic Programme Symposium (SANAP). Cape Town, South Africa 8-10 February 2009.

Allan EL, Richoux N, Froneman PW. Trophodynamics and energy pathways in the region of the Prince Edward Islands. South African National Antarctic Programme Symposium (SANAP). Cape Town, South Africa 8-10 February 2009.

Heyns E, Froneman PW. Spatial and temporal patterns in the hyperbenthos in a southern African estuary. International conference on marine ecosystems. Malaysia. 26-28 May 2009.

Singh L, Smale MJ, Froneman PW. The lack of predation on *Loligo reynaudii* eggs by sharks. 50th Anniversary Conference of the Zoological Society of Southern Africa. Illovo Beach, Kwazulu-Natal. 21-25 July 2009.

Allan EL, Ambrose ST, Richoux NB, Froneman PW. Determining spatial changes in energy flow in the near shore environment along the eastern South African coastline using stable isotope signatures and fatty acid profiles. 6th Western Indian Ocean marine Science Association Scientific Symposium (WIOMSA), St Denis, La Reunion. 24-29 August 2009.

Ambrose S, Froneman PW, Smale M, Plon S. Feeding ecology and diet shift in the long-beaked common dolphin (*Delphinus capensis*) incidentally caught anti-shark nets off KwaZulu-Natal, South Africa. 24th Conference of the European Cetacean Society. 22-24 March 2010, Stralsund, Germany.

Ambrose S, Froneman PW, Smale M, Plon S. Feeding ecology and diet shift in the long-beaked common dolphin (*Delphinus capensis*) incidentally caught anti-shark nets off KwaZulu-Natal, South Africa. The First African Marine Mammal Colloquium. Kleinbaai, Western Cape, South Africa. 18-21 May 2010.

Plon S, Albrecht K, Froneman PW. Organ weights of three dolphin species from South Africa. The First African Marine Mammal Colloquium. Kleinbaai, Western Cape, South Africa. 18-21 May 2010.

Schapira M, McQuaid CD, Froneman P.W. Prokaryotic metabolism in the vicinity of sub-Antarctic Islands: evidence of an island mass-effect and implications for benthopelagic coupling. ASLO Summer Meeting, Santa Fe, New Mexico. USA, 6-11 Jun 2010.

Vermeulen I, Richoux NB, Froneman PW. Spatial and temporal changes in the diet of rocky shore invertebrates along the coast of South Africa: A fatty acid perspective. Congress of the International Society of Limnologists, Cape Town International Convention Centre, South Africa. (16-20 August 2010)

De Almeida LKS, Froneman PW, Pletschke BI. The endocrine disrupting effects of sewage effluent from Namibian mining operations on the expression of CYP1A and vitellogenin in *Merluccius capensis* and *M. paradoxus*. South African Society for Biochemistry, Microbiology and Biotechnology Conference. Bloemfontein, 18-20 January 2010.

Allan E., Richoux NB, Froneman, PW. Regional variations in carbon utilization by benthic communities around the Prince Edward Islands: Stable isotope and fatty acid signatures. The XXXI SCAR and Open Science Conference, 3rd - 6th August 2010, Buenos Aires, Argentina.

Allan EL, Richoux N, Froneman PW. Regional variations in carbon utilization by benthic communities around the Prince Edward Islands: fatty acid profiles. 14th South African Marine Science Symposium/49th Estuarine Coastal Science Association conference. 4-7 April, 2011. Grahamstown, South Africa.

Matcher GF, Dorington RA, Henninger TO, Froneman PW. Characterization of eubacterial diversity profiles in the freshwater deprived Kariega estuary using 16S rRNA analysis. 14th South African Marine Science Symposium/49th Estuarine Coastal Science Association conference. 4-7 April, 2011. Grahamstown, South Africa.

Venter K, Froneman PW, Smale M, Plon S. Diet of humpback dolphins (*Sousa chinensis*) off the KwaZulu-Natal coastline, South Africa. The 2nd African marine Mammal Colloquium, Kleinbaai, Western Cape, South Africa. 21-25 May 2012.

Froneman PW, Henninger TO. The role of the sandprawn, *Callinassa krausii*, as an ecosystem engineer in a southern African temporarily open/closed estuary. 50th Estuarine, Coastal and Shelf Science Conference. 3-7 June 2012, Venice. Italy

Noyon M, Froneman PW. The effect of food quality and quantity on the egg production rates of the copepod, *Pseudodiaptomus hessei*, in the Kariega estuary, South Africa. 50th Estuarine, Coastal and Shelf Science Conference. 3-7 June 2012, Venice. Italy.

Wasserman RJ, Froneman PW. Trophic importance of early life-history fish in the estuarine plankton: evidence from a mesocosm experiment. 50th Estuarine, Coastal and Shelf Science Conference. 3-7 June 2012, Venice. Italy.

Bishop, A.R., Froneman, PW, Plön, S. Age, growth and sexual dimorphism of the striped dolphin (*Stenella coeruleoalba*) off the south-east coast of southern Africa. Symposium of Contemporary Conservation Practice, Howick, KwaZulu-Natal, South Africa, 4.-8. November 2013.

Nolte, Z., Froneman, PW, Plön, S. The age, growth and reproduction of the humpback dolphin, *Sousa chinensis*, in KwaZulu Natal. Symposium of Contemporary Conservation Practice, Howick, KwaZulu-Natal, South Africa, 4.-8. November 2013.

Wasserman RJ, Froneman PW. Mediating interactions among lower trophic levels: community stability, induced by early life-history fish in the estuarine plankton. SASAQS conference. Arniston, South Africa. 30 June-4 July 2013.

Froneman PW. Role of sand prawns as ecosystem engineers in temporarily open/closed southern African estuaries. SASAQS conference. Arniston, South Africa. 30 June-4 July 2013.

Daly R, Smale MJ, Froneman PW. Trophic ecology of bull sharks (*Carcharhinus leucas*) in the coastal waters of the southwest Indian Ocean inferred from stable isotope analysis. The second Southern African Shark and Ray Symposium, Mossel Bay 2013.

Daly R, Smale MJ, Cowley P, Froneman PW. Niche width and habitat use of adult bull sharks *Carcharhinus leucas* on the east coast of southern Africa. Sharks International Conference, 2-6 June 2014. Durban. South Africa.

Froneman PW. The impact of global climate change on the inshore marine ecosystem of the Prince Edward Islands. 3rd NRF, South African National Antarctic Programme (SANAP) symposium. 3-6 June 2014. Grahamstown South Africa.

Froneman PW. Ecological impacts of overtopping on the plankton food web structure of a temporarily open/closed estuary. 15th South African Marine Science Symposium (SAMSS). Stellenbosch University, South Africa. 15-18 July 2014.

Wasserman RJ, Froneman PW. Mesocosms as experimental tools for assessing trophic interactions in the estuarine plankton. 15th South African Marine Science Symposium (SAMSS). Stellenbosch University, South Africa. 15-18 July 2014.

8.2 POSTERS

Meshner C, Froneman PW. The physiological response of the mysid, *Mesopodopsis woolldridgei*, to changes in salinity and temperature. 2003 Southern African Society of Aquatic Sciences/Zoological Society of Southern Africa conference. Cape Town.

Kemp J, Froneman PW. Overtopping events: evidence towards the recruitment of estuarine dependant marine fish into the temporarily open/closed Kasouga estuary, Eastern Cape. 2003 Southern African Society of Aquatic Sciences/Zoological Society of Southern Africa conference. Cape Town. (*ZSSA/SASAQS conference - highly commended poster*).

Tweddle G, Froneman PW. Spatial and temporal variations in ichthyofauna in a temperate, temporarily open/closed estuary. 2003 Southern African Society of Aquatic Sciences/Zoological Society of Southern Africa conference. Cape Town (*ZSSA/SASAQS conference- best student poster award*).

Mbande S, Froneman PW, Whitfield AK. A preliminary assessment of the primary carbon sources utilized by fishes in the Mngazi and Mngazana estuaries. Southern African Society of 2003 Aquatic Sciences/Zoological Society of Southern Africa conference. Cape Town. (*ZSSA/SASAQS conference - highly commended poster*).

Ansoorge IJ, Froneman, PW, Lutjeharms JRE, McQuaid CD. Source of mesoscale turbulence for the Antarctic Circumpolar Current at the South-West Indian Ridge. International Union for Geodesy and Geophysics (IUGG) conference. 2003. Sapporo Japan, June 30th - July 11th

McQuaid CD, Froneman PW, Lutjeharms JRE, Ansorge I. Fifteen years of biological oceanography in the South African National Antarctic programme. Second Malaysian International seminar on Antarctica. 2004. 3-5 May. Penang, Malaysia.

Froneman PW, Bernard KS, McQuaid CD. Zooplankton community structure and grazing impact in the Polar Frontal Zone during austral autumn 2002. Scientific Council for Antarctic Research Conference (SCAR), 2004, Bremerhaven, Germany.

Allan L, Froneman PW, Hodgson A. Effects of temperature and salinity on the respiration rate of the caridean shrimp, *Palaemon peringueyi*. 4- 7 July 2005. *12th South African Marine Science Symposium*, Durban.

Jennings M, Froneman PW, Waldron H. Estuarine nutrient dispersal in the near shore off two permanently open South African estuaries with contrasting freshwater inflow. 4-7 July 2005. *12th South African Marine Science Symposium*, Durban.

Speich S, Ansorge IJ, Arhan M, Boebel O, Fahrbach E, Froneman PW, Gorzoli S, Goni G, Kelpikov A, Legeals J-F, Lutjeharms JRE, Rautenbach, Rouault M. Goodhope I: First results and ongoing research. Scientific Committee for Antarctic Research (SCAR) conference, Christchurch. 2005.

Price BW, Froneman PW. A preliminary study of the insect associated allochthonous input into the temporarily open/closed Grants valley estuary, South Africa. *15th Entomological Congress*, Grahamstown, South Africa. 10-13 July 2005.

Norton O, Froneman PW, Downie D. The phylogeography of the estuarine fish, *Gilchristella aesturia* and *Atherina breviceps*, along the southern African coastline. *32nd Conference of the Zoological Society of southern Africa*. 13-15 July 2005, Grahamstown, South Africa

Richoux N, Froneman PW. Food web analysis in a temperate South African estuary using fatty acid biomarkers. American Society of Limnology and Oceanography, Dialogue meeting. Dauphin Island, Alabama, USA. 3 –10 December 2005.

Daly R, Froneman PW. Plankton community structure in the vicinity of the Subtropical Convergence in the Indian sector of the Southern Ocean. *33rd bi-annual Conference of the Zoological Society of southern Africa (ZSSA)*. North-West University, Potchefstroom, South Africa 9-11 July 2007.

Rubuxa M, James N, Froneman PW. The influence of a permanently open estuary on the near shore marine environment of Algoa Bay, South Africa. South African Ecological Observation Network (SAEON) graduate student symposium. Cape Town 11-13 September 2007.

Dali L, Bernard K, Froneman PW. Variability of macrozooplankton in Algoa Bay, South Africa. South African Ecological Observation Network (SAEON) graduate student symposium. Cape Town 11-13 September 2007.

Vumazonke L, Patterson A, Froneman PW. Plankton trophodynamics in the near shore marine environment of Algoa Bay, South Africa. South African Ecological Observation Network (SAEON) graduate student symposium. Cape Town 11-13 September 2007.

Daly R, Froneman PW. Mesozooplankton community structure in the vicinity of the Subtropical Convergence in the Indian sector of the Southern Ocean during austral autumn 2007. South African National Antarctic Programme Symposium (SANAP). Stellenbosch, South Africa 9-11 October 2007

Sterley JA, Froneman PW. Trophodynamics of chaetognaths in the Subtropical Convergence in the Indian sector of the Southern Ocean. South African National Antarctic Programme Symposium (SANAP). Stellenbosch, South Africa 9-11 October 2007

Bernard KS, Froneman PW, A Gotz. Implications of the potential removal of a keystone sub-Antarctic species due to ocean acidification. Effect of global climate change on the world oceans. Gijon, Spain 2008.

Heyns EL, Froneman PW, Plon S. The age structure, growth and diet of the Risso's dolphin, *Grampus griseus*, Cuvier, 1812. 13th Southern African Marine Science Symposium. University of Cape Town. 29 June – 3 July 2008.

Dali, L, Bernard KS, Froneman PW, Paterson AW. Spatial dynamics of mesozooplankton in Algoa Bay, South Africa. 13th Southern African Marine Science Symposium. University of Cape Town. 29 June – 3 July 2008.

James NC, Rubuxa M, Deyzel S, Froneman PW, Paterson AW. Influence of the permanently open Sundays River Estuary on the near shore marine environment of Alagoa Bay, Eastern Cape. 13th Southern African Marine Science Symposium. University of Cape Town. 29 June – 3 July 2008.

George CD, Ansoorge IJ, Froneman PW, Whittle C. Physical structure of the STC and its influence on the biogeographical transition between sub-Antarctic and Subtropical regimes. Joint assembly of the oceanographic, Atmospheric and Cryospheric Science (MOCA-09) assembly. Montreal, Canada. 19-24 July 2009.

Ambrose ST, Froneman PW, Plon S. Trophic ecology of common dolphins (*Delphinus capensis*) incidentally caught in anti-shark nets off KwaZulu-Natal. 50th Anniversary Conference of the Zoological Society of Southern Africa. Illovo Beach, KwaZulu-Natal. 2010. 21-25 July.

Heyns E, Froneman PW Spatial and temporal patterns in the hyperbenthic community structure in a warm temperate southern African permanently open estuary. 14th South African Marine Science Symposium/49th Estuarine Coastal Science Association conference. 4-7 April, 2011. Grahamstown, South Africa.

Matcher GF, Dorrington RA, Froneman PW. Bacterial diversity profiles and relative abundances throughout the Kariega estuarine ecosystem as evidenced from pyrosequencing analysis of 16S rRNA genes. South African Society for Microbiology (SASM) Conference 7-10 November 2011. Cape Town, South Africa.

Plon S, Venter K, Weltz K, Smale M, Froneman PW. Long-term trends in the diet and body condition of Indo-Pacific humpback dolphins (*Sousa chinensis*) in the coastal waters of South Africa. 19th Biennial Conference on the biology of marine mammals. Tamp, Florida, USA. 2011. 27 November to 2 December.

D'Souza N, Sunassee SN, Froneman PW, Davies-Coleman MT. Chemical ecology studies of a South African sea hare. 12th Frank Warren Conference, South African Chemical Institute. Bloemfontein 15-18 April 2012.

Daly R, Smale MJ, Froneman PW, Cowley PD, Guissamulo A. Trophic ecology and site fidelity of bull sharks (*Carcharhinus leucas*) in the southwest Indian Ocean. 8th WIOMSA Scientific Symposium, Maputo 2013.

8.3 INVITED GUEST LECTURES

In addition to the conference presentations, I have been invited to present the following lectures at both local and international research institutions:

Froneman PW, Perissinotto R. Ecological role of protozooplankton and grazing impact of microzooplankton in the Southern Ocean. Zoology Department, University of Padova, Italy, 1994.

Froneman PW. Why size counts when considering estuaries. 2003. Royal Society of South Africa, Amy Jacot-Gillarmod Memorial lecture. Grahamstown, South Africa.

Froneman PW. The status of marine science in the new South Africa. South African National Council for Oceanographic Research forum 2004. Durban, South Africa.

Froneman PW. Food webs of temporarily open/closed estuaries. University of Port Elizabeth, South Africa.

Froneman PW. The South African marine science community; is there cause for concern? South African National Council for Oceanographic Research (SANCOR) forum 2005. Cape Town, South Africa.

Froneman PW. Effective proposal writing. South African Network for Coastal Research (SANCOR) SEACChange funding workshop. Port Elizabeth (27 & 28 February 2007).

Froneman PW. Marine research in the Sub-Antarctic region of the Southern Ocean. Smith Memorial Lecture. South African Institute for Aquatic Biodiversity (SAIAB). 27 September 2007.

Froneman PW. Biological oceanography in the South Africa: Southern Ocean Group perspective. University of Codoba, Argentina. 4 December 2008.

Froneman PW. Ocean circulation. Habitable Planet workshop hosted on behalf of ACCESS. July 2010, Rhodes University.

9. POPULARISATION OF SCIENCE

Recognizing the need to disseminate scientific information to the general public, I have since completing my doctoral study, presented numerous public lectures and published several popular science articles. I have also organized a workshop and presented lectures during the Science Festival that is held annually in Grahamstown. Finally, I have been a guest on several talk radio and television shows including Kowie radio and 50/50. The public lectures and popular science publications are listed below:

9.1. PUBLIC LECTURES

1. **Froneman PW.** Food conveyors and oceanic islands. Zoological Society, Rhodes University, 1997.
2. **Froneman PW.** Oases in the frozen sea. 1999. Science Festival, Grahamstown, South Africa.
3. **Froneman PW.** Global warming: the next mass extinction. 2000. Science Festival, Grahamstown, South Africa.
4. **Froneman PW.** The status of marine science in the new South Africa. South African National Council for Oceanographic Research forum 2004. Durban, South Africa.
5. **Froneman PW.** The avifauna of the intermittently open Kasouga Estuary, Eastern Cape. Diaz Bird Club, Grahamstown
6. **Froneman PW.** The ecological status of the permanently open Kariega estuary, Eastern Cape. Kenton on Sea Bird club meeting. 21 November 2005.
7. **Froneman PW.** The avifauna community structure and ecological role in the medium sized intermittently open Kasouga Estuary. Kasouga Greens Trust. June 2006.
8. **Froneman PW.** The establishment of a marine protected area around the Prince Edward Islands. Rhodes University MBA course: ecological risk assessment module. October 2006.
9. **Froneman PW.** Biological oceanography in the Southern Ocean: a southern African perspective. Wildlife and Environmental Society of South Africa (WESSA), Grahamstown Branch. September 2008.

10. **Froneman PW.** Southern Ocean ecosystems response to global climate change. Public lecture as part of the Vice Chancellors distinguished research award. April, 2010, Grahamstown.
11. **Froneman PW.** Global climate change and the Southern Ocean. National Marine Week, October 2012.
- 12 **Froneman PW.** The impact of global climate change on the Prince Edward Island ecosystem. Diaz Bird Club, Kenton. September 2014

9.2. POPULAR SCIENCE ARTICLES

1. **Froneman PW** (2000). Biological Oceanographic Research. *Kovshaan* 23: 13-16.
2. **Froneman PW** (2006). Scientific evidence for the impact of global climate change in Antarctica. *Science in Africa*. June edition.
3. **Vorwerk PD, Froneman PW** (2006). Where river meets ocean. *Quest* 2(4) 21-23.
4. Contributing author to *A guide to the ecology of temporarily open/closed estuaries*” which was published under the auspices of the Water Research Commission of South Africa (WRC) and the South African Institute for Aquatic Biodiversity (SAIAB) in 2010.
5. **Froneman PW** (2012). An assessment of marine and coastal research in South Africa over the period 1994 to 2008. SANCOR newsletter # 198 pp3.

10. RESEARCH FUNDING

I have been successful in obtaining the following research funding:

NRF – Incentive funding for rated researchers. 2010-present

Science Focus Development Grant, Rhodes University. 2011-2013.

Research project: “*Trophodynamics and energy pathways of benthic communities inhabiting two contrasting island ecosystems in the Southern Ocean: King George and Marion Island*”. South African- Argentina co-operation programme. April 2008- March 2011.

Research project: “*Marine mammal exploration of the oceans*”. SANAP funded programme 2007- 2009.

Research project: “*Variability in the Southern Ocean ecosystem*”. SANAP funded programme 2007- 2010.

Research project: “*Dynamics of the Subtropical Convergence in the South Atlantic Ocean*”. SANAP funded programme 2005- 2008.

Research project: “*Food webs of intermittently open/closed estuaries*”. 2005 to 2009. National Research Foundation funded project

Research project: “*The freshwater requirements of intermittently open Eastern and Western Cape estuaries*”. WRC project K5/1581. 2005- 2007.

Research project: “*Global change: monitoring the Indo-Atlantic connections south of Africa*”. Project funded by START. 2004 – 2006

Research project: “*Sustainable management and utilization of estuaries* “2004 -. BP funded research programme

Research project: “*Food webs of temporarily open/closed estuaries*”. 2001 to 2005. National Research Foundation funded project

Research project, “*Marion Off-shore Variability Ecosystem Study*”. 01-04-2000 to present. Southern Ocean Group, Rhodes University

Research project: “*Prince Edward Islands’ life support system and variability of living resources in the Southern Ocean*” 01-04-1996 to 31-03-2000. Southern Ocean Group, Rhodes University.

Research project: “*Global change and the oceanic carbon cycle*” Southern Ocean Group, Rhodes University. 01-04-1992 to 31-03-1996.

PhD Study (thesis) 1992-1995. The role of microzooplankton in carbon cycling in the Southern Ocean. Department of Zoology & Entomology, Rhodes University. Pp 168.

11. CONSULTATION FOR RESEARCH EVALUATION

11.1 JOURNAL REFEREE

I have been invited to act as a referee for the following scientific journals:

Archive Fuer Hydrobiologie
African Zoology
African Journal of Wildlife Research
Antarctic Science
Brazilian Journal of Oceanography
Cahier de Biologie Marine
Continental Shelf Research
Current Science
Deep-Sea Research I
Deep-Sea Research II

Diversity and Distributions
Ecosphere
Estuaries
Estuaries and Coasts
Estuarine Coastal and Shelf Science
Helgoland Marine Research
Journal of Experimental Marine Biology and Ecology
Journal of Geophysical Research
Journal of the Marine Biological Association of the United Kingdom
Journal of Marine Systems
Journal of Plankton Research
Journal of Tropical Biology and Conservation
Marine Ecology Progress Series
Marine Biology
Marine and Freshwater Research
Marine Environmental Research
Marine Pollution Bulletin
Nature geosciences
New Zealand Journal of Freshwater and Marine research
Pacific Science
Polar Biology
Revista de Biología Marina y Oceanografía
South African Journal of Science
South African Journal of Marine Science
South African Journal of Wildlife
South African Journal of Zoology
Transactions of the Royal Society of South Africa
Water SA
West Indian Ocean Journal of Marine Science
Zoological Studies

Apart from the mainstream scientific journals, I have also refereed articles/chapters for the proceedings of a conference entitled: Ross Sea Ecology: Italian Antarctic Expeditions (1986-1995). Springer Verlag and a book entitled, "Ecology and Conservation of estuarine ecosystems: Lake St. Lucia as a global model" published by Cambridge University Press.

11.2 INTERNATIONAL

I have acted as a referee in the evaluation of international research programs funded by:

1. Natural Environment Research Council (NERC) of the United Kingdom.
2. The National Science Foundation (NSF) of the United States of America..
3. The French Antarctic Research Programme.
4. Australian Antarctic Research Programme.
5. CSIRO, Marine and Atmospheric Research, Australia
6. Netherlands Organization for Scientific Research
7. University of California (California Sea Grant College Programme)

In 2007, I was invited to chair the session on biogeochemical processes at the Biodiversity-Climate interactions: adaptation, mitigation and human livelihoods workshop hosted by the Royal Society and the Global Environmental Change Committee, Global Biodiversity Sub-Committee (GBSC) held in London, United Kingdom (12-13 June 2007).

11.3 LOCAL

Apart from international programs, I have acted as a referee for research proposals submitted to:

1. The National Research Foundation (NRF).
2. The Water Research Commission (WRC) of South Africa.
3. The Department of Environmental Affairs and Tourism (DEAT), South Africa.

Also, I have been invited to act as a specialist scientist at workshops on the eutrophication of inland waters and food webs of temporarily open/closed estuaries convened the Water Research Commission (WRC) of South Africa. I was invited to participate in the specialist workshop on the establishment of a marine protected area in the waters surrounding the Prince Edward Islands (World Wildlife Fund managed project). Finally I served as specialist at the Benguela Current Large Marine Ecosystem Programme (BCLME): Southern Boundary workshop, which was hosted by Marine Coastal Management (MCM).

I have served or continue to serve as member on the following committees:

1. The NRF for the annual Humboldt/South African Research awards.
2. The NRF advisory panel for the Conservation and Management of Ecosystem and Biodiversity focus area, now SeaChange.
3. Advisory panel for the establishment of a marine reserve around the Prince Edward Islands.
4. Scientific Committee for Oceanographic Research (SCOR), South Africa
5. Elected Chairperson of the South African Network for Coastal and Oceanographic Research (SANCOR) - 2007-2011.
6. Elected Chairperson of the Programme Management Committee (PMC) - 2007 to 2008.
7. Member of the specialist committee for Animal and Veterinary Sciences for the NRF: 2010
8. Elected Convener of the Animal and Veterinary committee for the period 2011-2013
9. Steering Committee member for Applied Centre for Climate and Earth Systems Science (ACCESS): 2010-2011.
10. Served on the evaluation committee for the NRF institutional review for the biodiversity and environmental sciences cluster: South African Ecological Observation Network (SAEON).
11. Served as an external assessor for the promotions committee's for the Universities of KwaZulu-Natal (2013), Cape Town (2014) and Nelson Mandela Metropolitan University (2014)

11.4. EDITORIAL BOARDS

I currently serve as an editor for the *Open Conservation Biology Journal*, *The International Journal of Oceanography* and the journal *Environmental Sciences*

11.5 EXTERNAL EXAMINER

I served as the external examiner for the Department of Zoology at the University of Fort Hare (UFH), South Africa over the period 2001 to 2008, the University of Cape Town for the period 2007 to 2010 and the School of Biological and Conservation Sciences at the University of KwaZulu-Natal over the period 2010-2013.

Additionally, I have acted as an examiner of MSc and PhD theses from the following universities:

1. The University of Port Elizabeth (now Nelson Mandela Metropolitan University)
2. The University of Cape Town
3. The University of KwaZulu- Natal
4. University of Zululand
5. University of the Western Cape.
6. University of Madras, India
7. University of New South Wales, Australia
8. University of Newcastle, Australia
9. Deakin University, Australia
10. University of Otago, New Zealand

12. MEMBERSHIP TO PROFESSIONAL BODIES/SOCIETIES

1. Southern African Society for Aquatic Scientists.
2. Consortium for Estuarine Research and Management (CERM)
3. Royal Society of South Africa.
4. Academy of Science of South Africa

13. GENERAL

13.1 SERVICE TO THE UNIVERSITY

Since being appointed to a permanent position, I have served on the following committees at Rhodes University:

1. Joint Research Council (JRC)
2. Internationalization
3. Committee of Assessors (COA) for PhD theses

Also, I have served and chaired a number of selection committee's within the faculty of science.

13.2 SERVICE TO THE DEPARTMENT

Within the Department of Zoology and Entomology, I have held or continue to hold the following portfolios

1. Examinations officer (2005 to 2008)
2. Marketing and communication (2004-2006)
3. Space allocation (2004-2006)
4. Radiation officer
5. Lecturer in charge of Zoology IOI and Zoology 302 (ongoing).
6. Serve on Animal ethics Committee (ongoing)

14. ADDITIONAL INFORMATION

14.1 RESEARCH CRUISES

I have participated in 11 research cruises to the Southern Ocean. During these cruises, I have acted a chief scientist for ship based activities on three occasions and have served as group leader for biological oceanography component of the research cruise on two occasions.

M.V S.A. *Agulhas*, voyage 135, relief voyage to Marion Island (Chief scientist).

Date: 5 April – 10 May 2007

M.V S.A. *Agulhas*, voyage 116, relief voyage to Marion Island (Group leader).

Date: 1 April – 6 May 2004

F.R.S *Algoa*, voyage 119, 2nd Jago-Sodwana cruise (Group leader)

Date: 10 April- 11 May 2003 (first leg)

M.V S.A. *Agulhas*, voyage 103, relief voyage to Marion Island (Chief-scientist).

Date: 27 March – 4 May 2002

M.V S.A. *Agulhas*, voyage 88, relief voyage to Marion Island (Chief-scientist).

Date: 01 April – 14 May 1998

M.V S.A. *Agulhas*, voyage 86, Scandinavian/South African Antarctica cruise.

Date: 04 December – 5 February 1998

M.V S.A. *Agulhas*, voyage 84, relief voyage to Marion Island.

Date: 25 April – 28 May 1997

M.V S.A. *Agulhas*, voyage 81, relief voyage to Marion Island.

Date: 24 April – 21 May 1996

M.V S.A. *Agulhas*, voyage 77, South African Sea Ice Margin Drogue and Ocean Flux

Study. Date: 24 November 1994 – 26 January 1995

M.V S.A. *Agulhas*, voyage 72, to the region of the Subtropical Convergence.

Date: 21 June – 14 July 1993

M.V S.A. *Agulhas*, voyage 70, JGOFS, WOCE line AR12/SR2.

Date: January – February 1993