

# Tuesday 28 November 2023

TIME	SESSION	SPEAKER(s)	TITLE	Principal Invetsigator	FORMAT
8:00	<b>Register</b>				
8:30	Introduction	Ria Olivier			
9:00	Opening Ceremony	Dr Gilbert Siko			
<b>CROSS DISCIPLINES</b>					
9:30	Coordination and Governance	Tracy Klarenbeek	NRF Marine and Antarctic Strategy (MARS) - the next 10-year cycle (2025-2035).		
10:00	<b>BREAK</b>				
10:30	Coordination and Governance	Bettine van Vuuren	Feedback from SCAR		
11:00	<b>Human Capital Development</b>		<b>CHAIR: Prof Isabelle Ansoerge</b>		
	Human Capital Development	Isabelle Ansoerge	Isabelle Ansoerge	SEAmester – 6 Voyages Later	I Ansoerge
			Themba Mbhalati	The perceptions of participants on the impact of South Africa's Class Afloat Program	I Ansoerge
			Rudzi Silima	The Antarctic Youth Coalition (AYC), a core objective of the Antarctic Cities and the C	M Olivier
			Sandy Thomalla	The SOCCO Trajectory - A brief synopsis of our origin, emergence and strategic direc	S Nicholson
11:45	<b>Public Awareness and Science Engagement</b>		<b>CHAIR: Anché Louw</b>		
	Public Awareness and Science Engagement	Anché Louw	Sarah Fawcett	Wiley Publishers - Opportunities for researchers	
			Ria Olivier	Promoting the Antarctic heritage of South Africa with a digital museum.	
			Anché Louw	The Internet Footprint of ALSA and its reach	
12:30	<b>LUNCH</b>				
13:30	<b>RESEARCH THEME: Oceans and marine ecosystems under global change</b>				
	<b>OCEAN SESSION : SEA-ICE</b>		<b>CHAIR: Dr Tokoloho Rampai</b>		
			Robyn Verrinder	Overview of MARIS	Dr T Rampai
			Wayne De Jager	Sub-daily Antarctic sea-ice variability estimates using swath-based retrieval method:	Dr T Rampai
			Dylan White	Discussion on the Premise of, and Challenges in, the Development of a Ship-Based R	Dr T Rampai
			Magata Mangatane	Antarctic sea-ice thickness reconstruction.	Dr T Rampai
			Marcello Vichi	Wind- and wave-driven free-drift dynamics in Antarctic Sea ice	Dr T Rampai
			Rutger Marquart	Numerical modelling of sea ice dynamics and thermodynamics in the Antarctic marginal ice zone	Oral
			Anand Nair	Three-Dimensional Computational Fluid Dynamics Modelling of Pancake Ice on Wav	Dr T Rampai
			Tokoloho Rampai	Sea ice growth dynamics and their influence on the physical, structural and mechan	Dr T Rampai
			Safiyah Moos	Investigating the dynamics and exchanges across the ice-ocean interface in artificial	Dr T Rampai
			Hayley Swait	Investigating Brine and Air Porosity in Sea Ice from the Eastern Antarctic Marginal Ic	Dr T Rampai
			James van Niekerk	Investigation of the Interactions Between Sea Ice Algae from the Marginal Ice Zone	Dr T Rampai
			Riesna Audh	Winter biogeochemical activity is enhanced by rafting in growing Antarctic Sea ice.	Dr T Rampai
			Tokoloho Rampai	Closing	Dr T Rampai
15:00	<b>BREAK</b>				
<b>CROSS DISCIPLINES</b>					
15:30	<b>Research Infrastructure and platforms: SAPRI</b>		<b>CHAIR: Dr Tammy Morris</b>		
16:15	<b>SANAP Data Management</b>		<b>CHAIR: Anne Treasure</b>		
			Leigh McGaughey	An ecosystem study of the Prince Edward Archipelago	Invited Guest
			Dr JP Barnard	Management of Recorded Voyage Data for the SA Agulhas II	Prof A Bekker
			Bjorn Boyes	Using Unreal Engine 5 to construct a digital Marion Island towards improved science engagement	Prof W Nel
			Mikko Lensu	Sea ice research of Finnish Meteorological Institute	Invited Guest
			Anne Treasure		Ms M Olivier
16:50	<b>NETWORK - Building our SANAP Research Community</b>				
18:30	<b>DINNER</b>				
19:30	<b>Research Infrastructure and platforms: SCALE Expeditions</b>		<b>CHAIR: Dr Sandy Thomalla</b>		
20:00					
0:00					

# Wednesday 29 November 2023

SESSION	SPEAKER(s)	TITLE	Principal Investigator FORMAT	
<b>RESEARCH THEME : Ecosystems, biodiversity and biodiscovery</b>				
<b>8:00</b>	<b>Biodiversity</b>		<b>CHAIR: Prof Bettine van Vuuren</b>	
	Dr Peter Convey (BAS)	Terrestrial biological invasions and their potential impacts in the maritime Antarctic	Invited Guest	Plenary Talk
<b>8:30</b>	<b>Mammals</b>		<b>CHAIR: Dr Mia Wege</b>	
	Dr Christian Murray	Understanding the drivers of Marion Island's elephant seal population	Prof Nico de Bruyn	Oral
	Leandri de Kock	Considering individual variation when investigating marine predator behaviours during life- history events	Prof Nico de Bruyn	Oral
	Dr Liezl Pretorius & Dr Greg Hofmeyr	Canine morphometrics as a tool for distinguishing species, sex and age in Southern Ocean fur seals	Dr Greg Hofmeyr	Oral
	Dr Mia Wege	The conveyor belt of Ross seals in the Lazarev Sea and their behaviour	Prof Trevor McIntyre	Oral
	Matthew Germishuizen	Sea ice declines coincide with a period of reduced reproductive success in Southern Ocean top predator	Dr Els Vermeulen	Oral
	Oluwaseyi Paul Babalola	Entropy-based Detection and Classification of Bryde's Whale Vocalizations: An Approach for Understanding and Conserving an Endangered Species	Prof Jaco Versfeld	Oral
<b>RESEARCH THEME : Earth systems observations</b>				
<b>9:30</b>	<b>Antarctic and sub-Antarctic earth science</b>		<b>CHAIR: Prof Werner Nel</b>	
	Dr Geoff Grantham	Geological and Geophysical Research in Western Dronning Maud Land, Antarctica. Fieldwork, Laboratory Methods, History and Progress over ~40 years.		Oral
<b>9:45</b>	<b>BREAK</b>			
<b>RESEARCH THEME : Earth systems observations</b>				
<b>10:15</b>	<b>Antarctic and sub-Antarctic earth science</b>		<b>CHAIR: Prof Werner Nel</b>	
	Prof Werner Nel	Landscape and climate interactions in the sub-Antarctic: Past, present and future	Prof W Nel	Oral
	Dr Elizabeth Rudolph	The deglaciation of sub-Antarctic Marion Island	Prof W Nel	Oral
	Mr Sibusiso Sinuka	Towards determining the formation ages of the lithologies on sub-Antarctic Marion Island	Prof W Nel	Oral
	Mr Abuyiselwe Nguna	Preliminary results of fallout 137Caesium techniques on Aeolian land features on sub-Antarctic Marion Island	Prof W Nel	Oral
<b>CROSS DISCIPLINES</b>				
<b>11:15</b>	<b>Capacity Building APECSSA feedback session</b>		<b>CHAIR: Dr Tommy Ryan-Keogh</b>	
<b>11:45</b>	<b>Ecosystems, biodiversity and biodiscovery</b>		<b>CHAIR: Prof Donald Cowan</b>	
	Don Cowan	Microbial ecology of Antarctic desert soils	Prof D Cowan	Oral
	Pedro Lebre	Biogeographic survey of soil microbial communities across Antarctica	Prof D Cowan	Oral
	Silindile Maphosa	Exploring the functional potential of microbial metagenome-assembled genomes (MAGs) from sub-Antarctic islands	Prof D Cowan	Oral
	Lefentse Mashamaite	Microbial diversity in Antarctic Dry Valley soils across an altitudinal gradient	Prof D Cowan	Oral
<b>12:30</b>	<b>LUNCH</b>			



RESEARCH THEME : Ecosystems, biodiversity and biodiscovery

13:30	Ecosystems, biodiversity and biodiscovery	CHAIR: Prof Donald Cowan		
	Runesu Bakasa	Elucidating the role of biosynthetic genes in the adaptation of bacterial mixotrophs in the South Atlantic	Prof T Mkhallyane	Oral
	Marike Hillocks	Phage satellites of the deep Southern Ocean	Prof T Mkhallyane	Oral
	Riaan Pierneef	Polar opposites; bacterioplankton susceptibility and mycoplankton resistance to ocean acidification	Prof T Mkhallyane	Oral
	Mancha Mabaso	Marine microbiome responses to Fe supplementation	Prof T Mkhallyane	Oral
	Choaro Dithugoe	Bacteria and archaea regulate particulate organic matter export in suspended and sinking marine particle fractions	Prof T Mkhallyane	Oral
	Nosipho Hlalukana	Disentangling the biosynthetic potential of the South Atlantic Ocean microbiome	Prof T Mkhallyane	Oral
	Nyasha Mafumo	Disentangling the effects of the Agulhas Current on marine viruses	Prof T Mkhallyane	Oral
	Phillip Mawire	Genomic analysis of Acidobacteria from polar region soils: Delineating the mechanisms leading to diversity and successful adaptation to the polar regions.	Prof T Mkhallyane	Oral
	Mayinbogwe Buthelezi	Investigation of microbial genomics to understand the cycling of organosulfur compounds in the marine environments	Prof T Mkhallyane	Oral
	Sade Magabotha	A reproducible microbiome pipeline for the identification of horizontally acquired mobile genetic elements	Prof T Mkhallyane	Poster
	Christophe Lefebvre	Using computational tools to shed light on microbes with capacity to degrade microplastics in the oceans	Prof D Cowan	Poster
	Elizabe Malan	Understanding the dynamics of microbial communities in the Congo River plume	Prof T Mkhallyane	Poster
	Benjamin Abraham	Nutrient Co Limitation of Bacterial Communities within the Southern Ocean	Prof T Mkhallyane	Poster
	Nelisiwe Hedebe	Charting the diversity of Giant viruses of Antarctic dry valley permafrost	Prof T Mkhallyane	Poster
	Michelle Bekker	Phage diversity in the Southern Ocean	Prof T Mkhallyane	Poster

15:00 BREAK

15:30	The Southern Ocean's sensitivity to a changing climate: insights from a seasonal cycle approach	CHAIR: Dr Sarah Nicholson & Dr Sandy Thomalla		
	Sarah Nicholson	The impact of storms on CO2 and heat exchange across the Southern Ocean	DR S Nicholson	Oral
	Tesha Toolsee	The complex role of storms in modulating intra-seasonal air-sea CO2 fluxes in the sub-Antarctic Southern Ocean	DR S Nicholson	Oral
	Sandy Thomalla	Trends in Southern Ocean Phytoplankton bloom phenology	DR S Thomalla	Oral
	Sifiso Mpapane	Understanding photoacclimation effects on Chl:C ratio in the Southern Ocean: modelling considerations and insights into seasonal assemblage composition	DR S Nicholson	ePoster
	Tommy Ryan-Keogh	Multi-decadal trend of increasing iron stress in the Southern Ocean phytoplankton	DR S Nicholson	Oral
	Thapelo Ramalepe	Exploring the seasonal processes governing manganese supply in the Southern Ocean	DR S Nicholson	Oral
	Thato Mtshali	Winter-time distributions and dissolved iron mixed layer budget in the south Atlantic sector of the Southern Ocean	Dr T Mtshali	Oral
	Miranda Sitofile	Investigating seasonal variability of dissolved iron in the South Atlantic sector of the Southern Ocean: Insights from the winter and spring SCALE 2019 cruises	DR S Thomalla	ePoster
	Lillina Ruiters	Variability of phytoplankton photophysiology in the Southern Ocean: an analysis of assumptions and uncertainties	DR S Thomalla	ePoster

16:30 NETWORK - Building our SANAP Research Community

18:30 DINNER

			Nico de Koker	Inversion and Extreme Value Analysis of Ice Loading on Propulsion Shaft of the SA Agulhas II		Prof A Bekker	
			Micaelwa Melim	Expanding the Capabilities of Mariner 4.0: A human-centred monitoring and research tool		Prof A Bekker	
			Ben Steyn	A Longitudinal Study of the Open-Water Performance of an Ice-Class Vessel		Prof A Bekker	
			Brendon Nickerson	Inverse calculations of ice impacts on propulsion machinery		Prof A Bekker	
			Nicole Taylor	The berth of Mariner 4.0: A human-centred monitoring and research tool		Prof A Bekker	
			Jukka Tuhkuri	Ice Load measurement and ice condition monitoring onboard S.A. Agulhas II		Invited Guest	
			Miko Lensu	Sea ice research of Finnish Meteorological Institute		Invited Guest	
			Sarah Nicholson	South African Robotics and Ocean Technology Innovation Centre (SA-RobOTIC)		Dr Sarah Nicholson	

**21:00** **NETWORK - Building our SANAP Research Community**



# Thursday 30 November 2023

TIME	SESSION	SPEAKER(s)	TITLE	Principal Investigator	FORMAT
<b>RESEARCH THEME : Ecosystems, biodiversity and biodiscovery</b>					
<b>8:30</b>	<b>ORNITHOLOGY</b>	<b>CHAIR : Prof Pierre Pistorius</b>			
	<b>Plenary</b>	<b>Dr Sue Tonin</b>	<b>Eradicating Invasive House Mice <i>Mus musculus</i> from Marion Island: Gains and Challenges</b>		
<b>9:00</b>	Vonica Perold	South Atlantic seabirds can be used as bioindicators to monitor small buoyant plastics at sea		Prof P Ryan	Oral
	Tegan Walker	Influence of diet and environmental parameters on Brown Skua breeding success at Marion Island			Oral
	Shamiso Banda	Gauging the threat: exposure and attraction of Sooty Albatrosses and White-Chinned Petrels to fisheries activities in the southern Indian Ocean		Prof P Pistorius	Oral
	Danielle Keys	Foraging behaviour of adult Wandering Albatrosses ( <i>diomedea exulans</i> ) in relation to growth and success of their offspring.		Prof P Pistorius	Oral
	Pierre Pistorius	Tracking Southern Ocean predators to identify ecologically important habitat		Prof P Pistorius	Oral
	Eleanor Weideman	Seasonal attendance patterns and habitat use of three avian scavengers at sub-Antarctic Marion Island		Pro M Connan	Oral
<b>9:30</b>	<b>Major threats to terrestrial sub-Antarctic ecosystems – climate change and invasions</b>		<b>CHAIR: Prof Michelle Greve</b>		
	Michelle Greve	Introduction			
	Joshua Tsamba	Joshua Tsamba – Fungal endophytes on Marion Island		Dr Michelle Greve	Oral
	Nita Pallett	Nita Pallett – Sub-Antarctic plant nitrogen uptake in a changing world		Dr Michelle Greve	Oral
	Stephni van der Merwe	Interactive poster: Stephni van der Merwe – Long-term vegetation change (1965-2020) in response to rapid warming and drying in a sub-Antarctic island		Dr Michelle Greve	Oral
	Laura Fernandez Winzer	An assessment of the status of biological invasions and their management on the Prince Edward Islands		Dr Michelle Greve	Oral
<b>10:00</b>	<b>BREAK</b>				
<b>10:30</b>	<b>RESEARCH THEME: Oceans and marine ecosystems under global change</b>				
	<b>Southern Ocean productivity: drivers and consequences</b>		<b>CHAIR: Prof Sarah Fawcett &amp; Prof Suzanne Fietz</b>		
	Sarah Fawcett/Susanne Fietz	Introduction and alignment with MARS			Oral
	Liam Quinlan	Characterising phytoplankton communities: A Southern Ocean case study of environmental coupling		Prof Suzanne Fietz	Oral
	Amelia Deary	Early community development at the Southern Ocean Marginal Ice Zone		Prof Sarah Fawcett	Oral
	Sadiyah Rawat	The role of the island mass effect in enhancing productivity and carbon export in the Subantarctic Ocean		Prof Sarah Fawcett	Oral
	Emtia Wium	Impact of metals in aerosols and dust on marine phytoplankton: South Africa		Prof Suzanne Fietz	Oral
	Sina Wallschuss	The seasonality and origins of nitrous oxide in the Atlantic sector of the Southern Ocean		Prof Sarah Fawcett	Oral
	Faith February	Observations of Southern Ocean marine aerosols in Simon's Town, False Bay		Dr Katye Altieri	Oral
	Sarah Fawcett /Susanne Fietz	General discussion			Oral
	Mhlangabezi Mduyana	Nitrification in the Southern Ocean: controls, kinetics, and biogeochemical implications		Prof Sarah Fawcett	poster
	Sarah Fawcett	Nanoplankton: the dominant vector for carbon export across the Atlantic Southern Ocean in spring		Prof Sarah Fawcett	poster
	Susanne Fietz	Trace metals and phytoplankton		Prof Suzanne Fietz	poster
<b>11:30</b>	<b>CROSS DISCIPLINE: Data Management and the Summer Survey Participants</b>				
	<b>Data and frameworks in the support of polar research</b>		<b>CHAIR: Dr Christel Hansen</b>		
	Christel Hansen	Introduction			
	Newi Makhado	Ecoregionalisation of the pelagic zone in the Subantarctic and subtropical Indian Ocean		Dr Newi Makhado	Oral
	Janine Schoombie	Studies of wind, plants and seabirds on Marion Island		Prof Peter Le Roux	Oral
	Chris Oosthuizen	Marine predators: ecosystem sentinels that help inform Southern Ocean management		Prof Nico De Bruyn	Oral
	David Hedding	A geospatial database for the sub-Antarctic Prince Edward Islands		Prof Wernel	Oral
	Stefan Schoombie	Non-breeding distribution and moulting activity of Blue Petrels ( <i>Halobaena caerulea</i> ) breeding on sub-Antarctic Marion Island.		Prof Maelle Connan	Oral
	Chrsitel Hansen	Consistent mapping and geospatial information representation in the Antarctic and sub-Antarctic: why South Africans should care			Oral
<b>12:30</b>	<b>LUNCH</b>				



<b>13:30</b>	<b>RESEARCH THEME: Oceans and marine ecosystems under global change</b>			
	<b>From Physics to Top Predators at islands and seamounts in the Southern Ocean</b>		<b>CHAIR: Dr Tarron Lamont</b>	
	<u>T Lamont</u> , MA van den Berg	Mesoscale eddies influencing the sub-Antarctic Prince Edward Islands: Origin, pathways, and characteristics	Dr T Lamont	Oral
	<u>MA van den Berg</u> , T Lamont, IJ Anson	Influence of eddies and fronts on the shelf seas of the sub-Antarctic Prince Edward Islands	Dr T Lamont	Oral
	<u>T Toolsee</u> , T Lamont	The interannual/decadal scale and long-term trends of surface hydrography around the sub-Antarctic Prince Edward Islands	Dr T Lamont	Oral
	<u>I Halo</u> , BK Soares, T Lamont, CS Russo, MA van den Berg, C	Surface and subsurface hydrographic variability at the Prince Edward Islands: Perspectives from the high-resolution GLORYS model	Dr T Lamont	Oral
	<u>SA du Preez</u> , T Lamont, JA Huggett	Zooplankton variability around the sub-Antarctic Prince Edward Islands and the influence of the environment	Dr T Lamont	Oral
	<u>R Daniels</u> , FW Shabangu, RK Jordaan, PJN de Bruyn, MA van den Berg	Killer whale acoustic patterns respond to prey abundance and environmental variability around the Prince Edward Islands, Southern Ocean	Dr T Lamont	Oral
	<u>I Schafer</u> , FW Shabangu, T Lamont	Acoustic occurrence and behaviour of Baleen Whales during winter around Prince Edward Islands	Dr T Lamont	Oral
	<u>A Sneddon</u> , T Lamont, CJC Reason, CS Russo	Marine Heatwave characteristics in the South Atlantic and South Indian Oceans	Dr T Lamont	Oral
	<u>JA Huggett</u> , NM Mdluli, SA du Preez, D Thibault, T Lamont	Towards ecoregionalisation of the eastern subantarctic pelagic zone - mapping zooplankton communities at the Prince Edward Islands	Dr T Lamont	Oral
	<u>FW Shabangu</u> , S Lamberth, S Madhusudhana, G van der H	Rhyming in the cold: Fish calls between two sub-Antarctic Islands, Southern Ocean	Dr T Lamont	E-poster
	<u>FW Shabangu</u> , CT Tessaglia-Hymes, L Jacobs, MA van den Berg	Life near the sea ice edge: Listening for whales off the Maud Rise, Antarctica	Dr T Lamont	E-poster
<b>14:30</b>	<b>RESEARCH THEME: Human Enterprise</b>			
	<b>Humanities in the South African National Antarctic Programme</b>		<b>CHAIR: Dr Charney Lavery &amp; Dr Adrienne van Eeden-Wharton</b>	
	Prof J Brundrit	<i>Over the Horizon</i> : An art project in Antarctica	M Olivier	
	Dr A van Eeden-Wharton	Render   Remnant: Tracing the entangled histories of African and Antarctic whaling	Dr C Lavery	
	Dr C Lavery	Orienting South: Looking to Antarctica and the Southern Ocean in South African literature	Dr C Lavery	
	M Olivier	Humanities can build bridges between researchers in different fields in Antarctic research	M Olivier	POSTER
	DR M Stander et al.	Proposed project: Digitisation and preservation of Marion Island's hut books		POSTER
<b>15:10</b>	<b>BREAK</b>			
	<b>RESEARCH THEME : Earth Systems Observations</b>			
<b>15:30</b>	<b>Space Physics</b>		<b>CHAIR: Dr Stefan Lotz</b>	
	Dr Michael Kosch	How blue skies auroral research created and saved billions.		
	Tshimangadzo M. Matamba	Monitoring the Impact of Space Weather using South African Near-Real Time Space Weather GNSS Products		
	Nkosinathi Masango	Analysis of ionospheric storm effects based on GPS and ionosonde data during geomagnetic storms.		
	Dr Pierre Cillier	The long-term variation of the geomagnetic field in Antarctica as measured in Hermanus, Maitri and at SANAE-IV since 2007		
	Alicreance Hiyadutuje	Sporadic E layer altitude modulated by the Traveling Ionospheric Disturbances at high latitudes		
	Dr Stefan Lotz	Observation of powerful gamma ray burst GRB221009A from Marion Island		
	<b>CROSS DISCIPLINES</b>			
<b>16:30</b>	<b>Research Infrastructure and platforms:</b>	<b>Marcello Vichi</b>	<b>The Polar Lab</b>	<b>Plenary</b>
<b>17:00</b>	<b>NETWORK - Building our SANAP Research Community</b>			
<b>19:00</b>	<b>DINNER</b>			



