

Draft program version 7 03 2020 Subject to change

Tuesday 10

08:00-08:50 Registration and coffee. All logistic questions should be addressed to Janet at registration. Check your attendance to the banquet. Lecture, lunch, poster all on the ground floor. Ice breaker at the top floor

08:50-09:15 Welcome and introduction

8:50-8:55 Welcome: Dr Annette Samuelsen and Prof Mathieu Rouault.

9:00 Prof Johnny Johannessen: A brief look back at the start of the NTC.

9:05-9:15 Prof Dag Rune Olsen (Rector, University of Bergen) Welcome address

09:15-09:45 Keynote: Ocean Circulation and Climate: Prof Sabrina Speich (ENS, France) and Prof Martin Visbeck (Geomar, Germany)

09:45-10:15 Keynote: The Ocean Observation Physics and Climate panel by Dr Marjolaine Krug (DEFF and NTC, South Africa)

10:15-10:45 The South Madagascar Upwelling by Dr Juliano Dany Ramanantsoa (Madagascar, NTC)

10:45-11:15 Coffee break

11:15-11:45 Invited: Benguela Current, recent advances by Dr Jenny Veitch (SAEON and NTC, South Africa).

11:45-12:15 Invited: Invited: Agulhas Current, recent advances by Dr Marjolaine Krug (DEFF and NTC, South Africa)

12:15 Photo

12:30-13:30 Lunch break

13:30-14:00 Invited: Plankton variability around southern Africa by Dr Tarron Lamont (DEFF and NTC, South Africa)

14:00-14:30 Keynote: Operational oceanography by Prof Johnny Johannessen (NERSC, Norway)

Session 1: Ocean, weather and climate, science to the service of society. Convenor: Prof Johnny Johannessen (NERSC, Norway) and Dr Bjorn Backeberg (NTC, South Africa)

14:30-14:45 Stewart Bernard: GMES-Africa and MarCoSouth: Developing Operational Marine Services for Southern Africa

14:45-15:00 Marie Smith: Earth Observation based decision-support tool for Aquaculture and Fisheries in southern Africa

15:00-15:15 Marc de Vos: SAWS Marine forecast and information services: current capabilities and planned efforts.

15:15-15:30 Michael Hart-Davis: Preliminary assessment of the potential for particle trajectory modelling to support ocean search and rescue operations

15:30-16:00 Coffee break

16:00-16:15 Giles Fearon: Towards operational oil spill trajectory forecasting in Algoa Bay, South Africa

16:15-16:30 Hermann Luyt: Scaling observation error for optimal assimilation of CCI SST data into a regional HYCOM EnOI system

16:30-16:45 Annette Samuelsen: Biogeochemical operational modelling in the Arctic using the TOPAZ forecasting system

16:45-17:00 Willem Landman: Using citizen science for the prediction of climate extremes

Alternate speaker: Casey Lyttle: Analysing modelled nearshore wave climate variability and change as relevant to the South Coast small-scale handline fishers of South Africa

17:00-17:30 Discussion/round table on Operational Oceanography in Southern Africa: the way forward. Facilitator: Prof Johnny Johannessen

17:30-19:00 Ice Breaker, Welcome drinks and Prize giving

Prize for most NTC papers for a Norwegian author, Prize for most NTC papers for a South Africa author, prize for most NTC papers (Others), Friends of ours prize (Norway), Friends of ours prize (South Africa), Friends of ours prize (Other). Best sponsor.

Wednesday 11

08:30-09:00 Keynote: The United Nations Decade of Ocean Science for Sustainable Development (2021-2030) by Prof Peter Haugen (IMR, Norway)

09:00-09:30 Scientific Highlights of the Nansen Tutu Center by Dr Bjorn Backeberg and Prof Mathieu Rouault

09:30-10:30 Session 2: Regional Oceanography: Angola Benguela Agulhas Current system and sources region: Tropical Atlantic, Mozambique Channel and Madagascar Currents. Convenors: Prof Joke Lübbecke (Geomar, Germany), Dr Pierrick Penven (IRD, France)

09:30 - 09:45 Pierrick Penven: Balances in the South Western Indian subgyre

09:45 - 10:00 Daneeja Mawren: Marine Heat Waves in the Mozambique Channel

10:00–10:15 Tamaryn Morris: Lagrangian evolution of two Madagascar cyclonic eddies: Vertical structure, geometric properties and fluxes

10:15 – 10:30 Laura Braby: The response of mesoscale variability in the Agulhas Current to changing the wind forcing in an ocean simulation

10:30-11:00 Coffee Break

11:00 – 11:15 Johnny Johannessen: Using advanced visualization tools to analyse upper ocean current dynamics: The Greater Agulhas current case

11:15–11:30 Bernardino Nphantumbo Atmospheric and climatic drivers of tide gauge sea level variability along the east and south coasts of South Africa

11:30–11:45: Fabrice Collard: Wave current interaction in the Agulhas region from a multisensor perspective

11:45 – 12:00: Dylan Bailey: Is the profile of the eastern Agulhas bank a significant determinant of shelf bottom temperatures and thermoclines off St Francis Bay and Algoa Bay?

12:00 – 12:15: Marie-Lou Bachelery: Impacts and characteristics of the interannual Coastal Trapped Waves in the Angola-Benguela Upwelling System

12:15 – 12:30: Issufo Halo: Length-scales of mesoscale variability, critical latitude and eddies in the tropical South-East Atlantic Ocean, based on satellites and Argo-floats data

Alternate speaker: Sheveenah Taukoor: How can ocean models contribute to our knowledge on coastal upwelling?

12:30-13:30 Lunch

13:30-14:45: ATLANTOS and related international programs: round table and presentations. Facilitated by Prof Martin Visbeck (Geomar, Germany)

14:45-17:00 Session 3 Marine ecosystem and carbon cycle. Convenors: Dr Annette Samuelsen (IMR, Norway), Prof Peter Hagen, IMR, Norway, Dr Tarron Lamont (DEFF, South Africa)

14:45 - 15:00 M. Ostrowski: An impact of marine heat waves on the poleward shift in pelagic resources – the case of Benguela Niños and sardinella.

15:00-15:15 Frank Mirobo: Contribution of local communities in sea turtle and marine mammals' conservation in Zanzibar

15:15-15:30 C.P. Whittle: Addressing MODIS sampling errors in the southern Benguela Upwelling System by developing Benguela optimized sea surface temperature and chlorophyll-a concentration algorithms

15:30-16:00 Coffee break

16:00 - 16:15 M.D. Carr: Identifying suitable satellite sea surface temperature products for monitoring the Southern African marine region

16:15 - 16:30 Serge Tomety: Coastal Sea surface temperature change around Southern Africa

16:30 - 16:45 Aphiwe Mtetandaba: The Use of Operational Harmful Algal Bloom Monitoring Systems in South Africa to assess long term changes to bloom occurrence & impacts for aquaculture.

16:45 - 17:00 O.P. Babalola: Acoustic detection of the short pulse call of Bryde's Whales using time domain features and Hidden Markov Models

17:00 1730 NTC phase 4 signing ceremony.

17:30 18:30 Poster Session

1. Casey Lyttle: Analysing modelled nearshore wave climate variability and change as relevant to the South Coast small-scale handline fishers of South Africa
2. Bafana Gweba: Numerical modelling of wave-current interaction in the Agulhas Current towards better sea-state information.
3. Gustav Rautenbach: The Role Submarine Canyons Play on Upwelling.
4. Anathi Manyakanyaka: The variability of retention in St Helena Bay
5. Sheveenah Taukoor: How can ocean models contribute to our knowledge on coastal upwelling?
6. Rudzani F. Silima: Inter-annual variability of the Southern Benguela Upwelling System.
7. Founi Mesmin Awo: Sea Surface Salinity Signature of the Tropical Atlantic Interannual Climatic Modes
8. Sonia Heyes: Impact of the Agulhas Current mesoscale variability on surface dispersion in the KwaZulu-Natal Bight
9. Frieda Morrison: Intriguing phytoplankton dynamics: An IOP and biogeochemical validation of the Equivalent Algal Populations (EAP) model; introducing a carbon component.
10. A.M. Usman - Hidden Markov model (HMM) with eigenspace decomposition-based feature extraction algorithm for the detection and classification of cetacean species
11. Joshua Cormick: The localization of Bryde's whales based in time of arrival principles
12. Mazomba Thando: Understanding Humpback Whale Feeding and Behavioural Patterns Using the Seasonality and Climatology of Circum-Antarctic Sea Ice Model Data
13. Wanjiru Thoithi: Strong gradients in dry spell frequencies over southern Africa and their core in the Limpopo River Basin
14. Bellinda Monyella: Exploring the non-ENSO related droughts over southern Africa summer rainfall.

Thursday 12

08:30-09:00 Keynote Ocean Atmosphere Interaction by Prof Noel Keenlyside (UiB, Norway) and Dr Arielle Stela Imbol Njouado (GEOMAR, Cameroon)

09:00-09:30 Keynote: Benguela Nino by Prof Joke Lübbecke (GEOMAR, Germany) and Dr Rodrigue Anicet Imbol Koungue (GEOMAR, Cameroon)

09:30-12:30 Session 4: Climate variability, weather phenomenon and ocean atmosphere interactions. Convenors: Prof Babadunde Abiodun (UCT, South Africa), Prof Nils Gunnar Kvamstø (UiB, Norway).

9:30-9:45 Prof Babatunde Abiodun: Potential impacts of specific global warming levels on extreme rainfall events over southern Africa

09:45-10:00 George Noel Tiersmondo Longandjo: What do control water vapor transports seasonality and variability over central Africa?

10:00-10:15 Rondrotiana Barimalala: Link between the Mozambique Channel Trough and southern African rainfall

10:15-10:30 Faith February: Influence of southern winds on sea spray aerosols in False Bay, South Africa

10:30-11:00 Coffee break

11:00-11:15 Wade de Kock: Rainfall during summer over South Western Cape: study of the Day Zero drought

11:15-11:30 Precious Mahlalela: Rainfall variability over Eastern Cape, South Africa.

11:30-11:45 Dedricks Morake Mesoscale Convective Systems over the east coast of South Africa

11:45-12:00 Ramontsheng Rapolaki: Atmospheric moisture source linked to extreme rainfall precipitation in the Limpopo River Basin, southern Africa

12:00-12:15 Jason O'Connor: Impact of the Agulhas current on storm intensification

12:15-12:30 Neville Sweijd: Oceanography, infectious disease and the Western Cape drought

Alternate speaker: Founi Mesmin Awo: Sea Surface Salinity Signature of the Tropical Atlantic Interannual Climatic Modes

12:30-13:30 Lunch

13:30-15:30 Session 5 Southern Ocean, Prince Edwards Islands and Antarctic. Convenor: Prof Isabelle Ansorge (UCT, South Africa)

13:30-13:45 Isabelle Ansorge: SEAmester 5 years on – where are they now?

13:45-14:00 Marcello Vichi: Effects of an Explosive Polar Cyclone Crossing the Antarctic Marginal Ice Zone

14:00-14:15 Wayne de Jagger: Comparison of Sea Ice Detection Methods in the Atlantic Sector of the Southern Ocean

14:15-14:30 Marcel du Plessis: Regional contrasts of the Southern Ocean mixed layer in response to summer forcing

14:30-14:45 Isabelle Giddy: Summer Observations of submesoscale instabilities in the ice-free Antarctic Seasonal Ice Zone

14:45-15:00 Asmita Singh: The response of Southern Ocean phytoplankton to iron addition in the Weddell sea and along the Dronning Maud Land ice edge

15:00-15:15 Tesha Tolsee: Seasonal variation of surface hydrographic conditions around the Prince Edward Islands

15:15-15:30 Sarah Nicholson: Storms link vertical turbulent mixing to CO₂ outgassing in the Southern Ocean

15:30-15:45 Prize giving: Best presentation (students, postdoc). Best poster. Dr Annette Samuelsen and Prof Mathieu Rouault

15:45-16:00 Coffee break

16:00-17:00 Round table on the way forward and the future of the Nansen Tutu Center. Facilitator: Dr Annette Samuelsen

17:00 Closing: Dr Annette Samuelsen and Prof Mathieu Rouault