

POSTDOC POSITION: OCEAN MODELLING

One of the six societal outcomes of the UN Decade of Ocean Science (2021-2030) is to have a predicted ocean, whereby society will have the means to anticipate future ocean conditions and impacts on human well-being. As part of this global push to develop the predictability of the ocean, operational ocean modelling of the Southern African EEZ was highlighted as a top requirement of the national Oceans and Coastal Information Management System (OCIMS). A strategy for its implementation has been developed by the South African Environmental Observation Network (SAEON) that is fully supported by the Department of Environment, Forestry and Fisheries (DEFF). As part of this initiative, the need exists to develop an updated and optimized hindcast of the oceans surrounding southern Africa that encompasses both the highly energetic Agulhas Current as well as the highly productive Benguela Current system.

SAEON's core science goal is to understand environmental change in complex systems which is facilitated by a number of nodes who coordinate observations and information systems. Modelling products are an integral component of these node objectives in terms of complementing, often sparse, observations as well as guiding observing systems. This is particularly true with regard to the highly dynamic marine environment that is the focus of the Egagasini node. Furthermore, SAEON's information management focus area is well established with the Ulwazi node being committed to hosting and providing online tools for research data infrastructure and associated decision making. SAEON and UCT are a hub for international scientists specializing in South East Atlantic and South West Indian Ocean Research both in terms of observing and modelling. There will be ongoing opportunities to work with visiting global experts as well as to interact with the Oceans Predict community.

The primary objective of this postdoc is to develop an updated high resolution, hindcast ocean model optimized for the southern African oceans, evaluated against available observations and from which key ocean metrics will be produced to feed into OCIMS for operational as well as research purposes. The incumbent will be encouraged to make use of this model output to initiate further research that falls within the strategic objectives of SAEON.

Selection criteria

- Completed PhD degree related to geophysical fluid dynamics and numerical modelling (preferably ROMS/CROCO)
- Experienced in data processing applications (preferably python or matlab)
- Creative, critical, analytical and innovative mindset
- Ability to work independently
- Excellent written and oral communication skills in English, proven in publications

Placement: SAEON Egagasini (Marine Offshore) node, Cape Town, South Africa
Registered: University of Cape Town, South Africa
Supervision: Dr Jennifer Veitch, Prof. Juliet Hermes, TBA
Collaborators: Pierrick Penven (IRD) Julie Deshayes (CNRS), Stephane Pous (LOCEAN)
Duration: 1 year, with the possibility of extension
Salary: A postdoc bursary in line with SAEON/NRF and UCT policies
Enquiries: jenny@saeon.ac.za
Closing date: open until position filled

