POSTDOC POSITION: DATA ASSIMILATIVE MODELLING APPROACHES IN THE AGULHAS CURRENT SYSTEM

Operational ocean forecasting of the Southern African EEZ was highlighted as a top requirement of the national Oceans and Coastal Information Management System (OCIMS) and a strategy for its implementation has been developed by the South African Environmental Observation Network (SAEON) that is fully supported by the Department of Environmental Affairs (DEA). As part of this initiative, the need exists to develop appropriate data assimilative models of the highly energetic oceans surrounding southern Africa, particularly within the Agulhas 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, SAEONs 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 Indian Ocean and Agulhas 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 Global Ocean Data Assimilation Experiment (GODAE) community.

An operational model of the Agulhas Bank region is perhaps most crucial due to the fact that an oil-bunkering site exits in the vicinity of the generation region of the shear-edge eddies, which poses a real risk to the fate of the several marine protected areas on the south coast. The objective of this postdoc position will be to configure and optimize a data assimilative model as well as to investigate the impact of assimilating various observations on the skill of the simulation of the shear-edge features on the Agulhas Bank.

Selection criteria

- Completed PhD degree related to geophysical fluid dyamics and numerical modelling (preferably ROMS or Hycom)

- Experience in data assimilation and 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 (UCT)
Supervision: Dr Jennifer Veitch, Prof. Juliet Hermes, TBA
Collaborators: Dr. Annette Samuelson (the Nansen Centre, Bergen, Norway) and others (TBC)
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: will remain open until the position is filled.