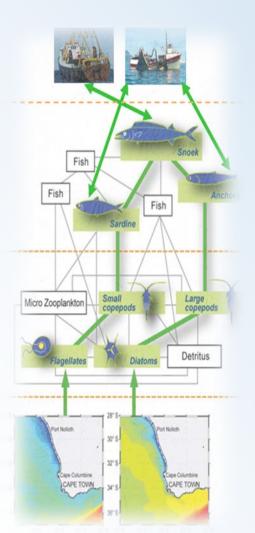# Summer School

Modelling the marine ecosystem from the ocean to the fish
6 - 17 October 2014, University of Cape Town

Under continuing increase of the global human population, climate change and fisheries play an increasing role in driving changes in marine biodiversity, with strong implications for ecosystem services such as fish production and carbon export. In order to achieve a sustainable way of life which not only addresses current environmental challenges but also ensures a secure society well into the future, much progress has been made towards sustainable development of fisheries, emphasizing the need for implementing the Ecosystem Approach to Fisheries (EAF) worldwide.

Ecosystem modelling plays a prominent role in the EAF by allowing a better understanding of the complex ecosystem effects of key drivers such as fishing and climate, by allowing re-analyses of past dynamics of marine ecosystems, and simulating the effects of specific management measures or how the future may unfold in the long term under various "what if?" scenarios.

Consisting of a suite of lectures and hands-on sessions, this course aims at providing an overview of how marine ecosystems are represented in models, from the physics and the biogeochemistry of the oceans to the fish. Emphasis will be put on how the different components of the ecosystems interact and respond to fishing and climate forcing.

Programme

◆ Introduction to numerical ocean modelling (ROMS) – *I Halo (UCT), S Herbette (UBO), S Pous (MNHN)*

◆ Coupled physical/biogeochemical modelling – *E Machu (IRD)*

◆ Modelling fish spatial dynamics – *O Maury (IRD)*

◆ Modelling fish bioenergetics (DEB) – *O Maury (IRD)*

◆ Modelling trophic interactions – *Y Shin, P Verley (IRD)*

◆ Modelling fish larval survival – *P Verley, B Malawene (IRD)*

◆ Spatio-temporal analyses of models output – *J Deshayes (CNRS)*

Participants

We welcome students (Masters, PhDs, post-docs) and researchers willing to acquire knowledge on recent trends in marine ecosystem modelling.

Registration & Course Fees

There are a limited number of spaces available on the course, so participants with some quantitative background, or having future projects in ecosystem modelling will be accepted on a first-come first-serve basis. Registrations will be considered until **19 September 2014.**
Fees: R1500 for researchers, R 750 for all non-UCT students. No course fees for UCT-DEA-DAFF students and staff.

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