OPENING POSITION for a PhD in ocean mathematical model development at the Liege University

Applications are invited for a 3 year PhD fellowship at the Marne Research Centre (MARE) of the Liège University, Belgium starting as soon as possible.

The successful candidate will participate to the running of a EU Integrated Project SESAME (*Southern European Seas : Assessing and Modelling Ecosystem Changes),* aiming at hindcasting the Black Sea's north-western shelf ecosystem dynamics in the 20th century and simulating its possible evolution under global change scenarios related to greenhouse gas emissions (IPCC scenario conditions) and land based inputs. In the framework of this four-year project, the main objective of the PhD is to implement a 3D high resolution coupled ecological-hydrodynamical model of the Black Sea's north-western shelf. This regional model will be coupled at its boundaries with the open sea with a basin scale coupled model.

The successful candidate will collaborate with a team of scientist from the fields of oceanography, atmospheric sciences, mathematical and numerical modelling and marine biogeochemistry.

The main tasks that the successful candidate will undertake are the following:

1. To define an interface for data exchange between the regional and global models, including geographic information, temporal resolution and model state variables to be exchanged. It will be the responsibility of the regional model to extract from the global model the relevant biochemical parameters,
2. To implement appropriate nesting techniques in order to couple the regional and large scale models. In particular, the possibility to perform the nesting through a combined data assimilation in ecosystem models of different composition, simultaneously in global and regional models will be tested.
3. To perform runs and to validate model results using the data base of the project. Focus will be put on the analysis of the regional model performances.

The applicant would have a degree in engineering or physical science. Above-average knowledge of Unix and FORTRAN90, and experience with supercomputers are welcome.

Interested candidates must submit by electronic mail a motivated application including academic CV.

Contact Person:
Marilaure Grégoire, Jean-Marie Beckers
MARE centre, B6c Sart-tilman
Liege University
4000 Liege
Belgium
mgregoire@ulg.ac.be