



The Abdus Salam  
**International Centre  
for Theoretical Physics**

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सत्यमेव जयते



IAEA  
International Atomic Energy Agency

## Summer School on **FUNDAMENTALS OF OCEAN CLIMATE MODELING AT GLOBAL AND REGIONAL SCALES**

**August 5 - 14, 2013**  
INCOIS, Hyderabad, India

The Summer School on Ocean Modeling (INCOIS, India <http://www.incois.gov.in>) will train users in the "art" of ocean climate modeling -- that which is normally not documented in papers nor taught in classes. The course will take students through all the steps involved in configuring, running, and analyzing results from ocean models running on parallel supercomputers and attached to large-scale data archives. The course will also provide an overview of the ocean model MOM's scientific formulation.

A particular emphasis will be given to the case of the Indian Ocean as an example for regional ocean modeling. The Indian Ocean is a large but confined ocean basin, with a particularly important role in air-sea interactions and climate variability at intraseasonal-to-interannual time scales. Furthermore, the Indian Ocean is believed to have a large impact on human activities and societies from Africa to South East Asia and beyond, thus providing us with the best example for a regionalization of ocean climate modeling. Leading experts in the field will gather to teach and train young students and scientists in a two-week School, where a primary focus will be on hands-on practical sessions.

### Structure of the school:

The school will be structured with lectures in the morning and practical sessions in the afternoon. A student group's project will be presented at the end of the school. Lectures will include:

- Introduction to ocean modeling
- Theoretical knowledge (physics, parameterization, numerics)
- Regional ocean modeling
- Data assimilation and forecasting
- Introduction to the TOPAZ biogeochemistry and ecosystem model
- Introduction to the FMS software infrastructure

### Requirements:

A general background in climate science is required. Knowledge of climate modeling or High Performance Computing is helpful but not necessary.

### Who Should Apply

The course is aimed principally at advanced graduate students, postdocs, and research staff who have sufficient computational resources at their home institutions to perform climate experiments. Approximately 20 students will be accepted for this course.

### Participation

The workshop will be conducted in English. Limited funding (including travel grants) for participation is available for scientists from developing countries.

No registration fee is required.

The on-line application form can be accessed via the ICTP activity agenda page at:

[http://cdsagenda5.ictp.trieste.it/full\\_display.php?ida=a12235](http://cdsagenda5.ictp.trieste.it/full_display.php?ida=a12235)

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**DEADLINE**

**MAY 15, 2013**