The Abdus Salam International Centre for Theoretical Physics

Regional Advanced School on Physical and Mathematical Tools for the Study of Marine Processes of Coastal Areas

Organizer(s): Directors: C. Alonso-Hernandez, R. Fichez, C. Papucci, C. Tuniz
Cienfuegos - Cuba, 26 May 2008 - 6 June 2008

Final programme

Monday, 26 May 2008

09:00 - 10:30	**Inauguration and welcome address - Introducing participants - Main objectives**
10:30 - 11:00	--- Coffee break ---
11:00 - 12:00	**Renaud Fichez** / *Unité de recherche Camélia, Mexico* **Multidisciplinary approaches to assess the impact of terrigeneous and anthropogenic inputs on a tropical coastal environment**
12:00 - 13:00	**Maurizio Ribera d?Alcalà** / *Stazione Zoologica Anton Dohrn, Naples, Italy* **Water masses properties, chemical signature and biological processes in coastal marine environments**
13:00 - 14:30	--- Lunch ---
14:30 - 15:30	**Pascal Douillet** / *IRD, New Caledonia* **Hydrodynamics and hydrodynamic modelling in the coastal zone (I)**
15:30 - 16:30	**Andrea Bergamasco** / *CNR ISMAR, Venice, Italy* **ROMS vs POM: new tools for hydrodynamics simulations**
16:30 - 17:30	**Christian Grenz** / *Universidad Autonoma Metropolitana, Mexico* **Biogeochemical budgets and biogeochemical box modelling**

Tuesday, 27 May 2008

09:00 - 10:30 **Roberta Delfanti** / *ENEA-SANTA TERESA, La Spezia, Italy*
Radioactive tracers for oceanic processes: potentiality & examples, in a climatic context

10:30 - 11:00 --- Coffee break ---

11:00 - 12:00 **Vincenzo Artale** / *ENEA CRE Casaccia, Rome, Italy*
The coastal area and the warming world

12:00 - 13:00 **Christel Pinazo** / *Université de la Méditerranée, Marseille, France*
Biogeochemical bases used in ecological modelling (I)

13:00 - 14:30 --- Lunch ---

14:30 - 15:30 **Lionel Denis** / *Station Marine de Wimereux - UMR CNRS, France*
Benthic-pelagic coupling in coastal system, viewed from a benthic perspective

15:30 - 16:30 **Lionel Denis** / *Station Marine de Wimereux - UMR CNRS, France*
Dynamics of bio-sedimentation processes in intertidal areas

16:30 - 17:30 **Alain Muñoz Caravaca** / *CEAC Cienfuegos, Cuba*
Three approaches for the calculation of the flushing time of the bay of Cienfuegos

Wednesday, 28 May 2008

09:00 - 10:30 **Roberta Delfanti** / *ENEA-SANTA TERESA, La Spezia, Italy*
Radionuclides as tracers for particle dynamics

10:30 - 11:00 --- Coffee break ---

11:00 - 12:00 **Carlo Papucci** / *ENEA-SANTA TERESA, La Spezia, Italy*
Sampling marine sediments: strategy and methods, equipments and artifacts

12:00 - 13:00 **Pascal Douillet** / *IRD, New Caledonia*
Hydrodynamics and hydrodynamic modelling in the coastal zone (II)

13:00 - 14:30 --- Lunch ---

14:30 - 15:30 **Christel Pinazo** / *Université de la Méditerranée, Marseille, France*
Biogeochemical bases used in ecological modelling (II)

15:30 - 16:30 **Misael Diaz Asencio** / *CEAC Cienfuegos, Cuba*
Sedimentary record of Hg and Pb (Sagua la Grande, Cuba)

16:30 - 17:30 **Christian Grenz** / *Universidad Autonoma Metropolitana, Mexico*
Establishing biogeochemical budgets according to the LOICZ protocol

Thursday, 29 May 2008

09:00 - 10:30 **Claudio Tuniz** / *ICTP, Trieste, Italy*
AMS: an ultra-sensitive technique for the measure of chronometers and other tracers in marine natural archives

10:30 - 11:00 --- Coffee break ---

11:00 - 12:00 **Chistel Pinazo** / *Université de la Méditerranée, Marseille, France*
A new mechanistic modular ecological model. Eco3M tool

12:00 - 13:00 **Miro Gacic** / *OGS, Trieste, Italy*
Lagoon and coastal processes

13:00 - 14:30 --- Lunch ---

14:30 - 15:30 **Pierre M. Poulain** / *OGS, Trieste, Italy*
Up-to-date marine technologies applied to coastal studies

15:30 - 16:30 **Jean-Pierre Lefebvre** / *IRD, New Caledonia*
Turbulence and wave breaking induced energy, resuspension processes

16:30 - 17:30 **Elena Mauri** / *OGS, Trieste, Italy*
Remote sensing technique in coastal studies: present and future

Friday, 30 May 2008

09:00 - 10:30 **Joselene de Oliveira** / *IPEN, Sao Paulo, Brazil*
Application of natural radium isotopes and radon to assess submarine groundwater discharge and coastal water mixing rates

10:30 - 11:00 --- Coffee break ---

11:00 - 12:00 **Vincenzo Artale** / *ENEA CRE Casaccia, Rome, Italy*
Model improvement and new numerical tools for the marine process representation

12:00 - 13:00 **Maurizio Ribera d?Alcalà** / *Stazione Zoologica Anton Dohrn, Naples, Italy*
Long-term observations in coastal areas: a key tool for detecting changes

13:00 - 14:30 --- Lunch ---

14:30 - 15:30 **Andrea Bergamasco** / *CNR ISMAR, Venice, Italy*
Modelling lagoon ecosystem. A case-study: Venezia, Italy

15:30 - 16:30 **Carlos Alonso Hernandez** / *CEAC Cienfuegos, Cuba*
Cienfuegos Bay: a case-study on sedimentation processes evaluation

16:30 - 18:00 **Chair: Claudio Tuniz** / *ICTP, Trieste, Italy*
Round table: ?Looking into the future of marine environmental science?

Monday, 2 June 2008

09:00 - 09:00
GROUP 1 Laboratory Training CEAC Pascal Douillet Hydrodynamics and hydrodynamic modeling in the coastal zone. GROUP 2 Laboratory Training CEAC Christel Pinazo, Maurizio Ribera Use of Eco3M model, sensitivity analysis of various modeling options to environmental forcing

13:00 - 14:30 --- Lunch ---

14:30 - 17:30

GROUP 1 Laboratory Training CEAC Christel Pinazo, Maurizio Ribera Use of Eco3M model, sensitivity analysis of various modeling options to environmental forcing. GROUP 2 Laboratory Training CEAC Pascal Douillet Hydrodynamics and hydrodynamic modeling in the coastal zone.

Tuesday, 3 June 2008

09:00 - 09:00

GROUP 1 Laboratory Training CEAC Christel Pinazo, Maurizio Ribera Use coupled physical-ecological model, sensitivity analysis of various modeling options to environmental forcing. GROUP 2 Laboratory Training CEAC Vincenzo Artale, Andrea Bergamasco Simplified numerical simulation GROUP 1 Laboratory Training CEAC Vincenzo Artale, Andrea Bergamasco Simplified numerical simulation GROUP 2 Laboratory Training CEAC Christel Pinazo, Maurizio Ribera Use coupled physical-ecological model, sensitivity analysis of various modeling options to environmental forcing.

13:00 - 14:30 --- Lunch ---

14:30 - 17:30

GROUP 1 Laboratory Training CEAC Christel Pinazo, Maurizio Ribera (Cont.) GROUP 2 Andrea Bergamasco, Vincenzo Artale POM vs ROMS GROUP 1 Laboratory Training CEAC Andrea Bergamasco, Vincenzo Artale POM vs ROMS GROUP 2 Christel Pinazo, Maurizio Ribera (Cont.)

Wednesday, 4 June 2008

09:00 - 09:00

GROUP 2 Laboratory Training CEAC Roberta Delfanti, Misael Diaz, Carlo Papucci Data reduction and analysis: Core sectioning Methodology for sediment treatment Data analysis Recent sediment dating Sediment accumulation rate models Sediment mixing models GROUP 1 Laboratory Training CEAC Vincenzo Artale, Andrea Bergamasco Simplified numerical simulation (cont.) GROUP 2 Laboratory Training CEAC Christel Pinazo, Maurizio Ribera (Cont.)

13:00 - 14:30 --- Lunch ---

14:30 - 17:30

GROUP 2 Laboratory Training CEAC Miro Gacic Estimation of water and sediment fluxes using ADCP measurements. Pierre Poulain Estimation of surface and subsurface currents and transports using drifters and flotas. Elena Mauri Description of mesoscale features using remote sensing techniques. GROUP 2 Laboratory Training CEAC Vincenzo Artale, Andrea Bergamasco Simplified numerical simulation (cont.)

Thursday, 5 June 2008

09:00 - 10:30 **General Discussion**

10:30 - 11:00 --- Coffee break ---

11:00 - 13:00 **C. Pinazo, M.Ribera, E. Mauri**
LABORATORY TRAINING: Coupled physical-ecological models (1)

13:00 - 14:30 --- Lunch ---

14:30 - 16:30 **C. Pinazo, M.Ribera, E. Mauri**
LABORATORY TRAINING: Coupled physical-ecological models (2)

Friday, 6 June 2008

08:00 - 10:30	**General discussion**
10:30 - 11:00	--- Coffee break ---
11:00 - 13:00	**Presentation by participants**
13:00 - 14:30	--- Lunch ---
14:30 - 16:30	**Closing session** Issuing of Diplomas 30' Farewell party