

Daniel Jouvance – UPMC International School in Marine Biology and Ecology

IEAPM (INCT-Pro-Oceano), Arraial do Cabo, Brazil – Spring 2013 (March 11 - March 24)



Aim

The *Daniel Jouvance – UPMC International School in Marine Biology* is an international school for postgraduate students of Latin America, aiming to summarize the latest advances in Marine Biology and Ecology research. Emphasis will be on concepts and processes important to oceanic and coastal ecosystems. Both pelagic and benthic ecosystems will be considered. The School will incorporate a practical part allowing students to perform experiments in small groups from samples collected off Arraial as well as bioinformatics tutorials.

Organizing committee

- Ricardo Coutinho (Instituto de Estudos do Mar Almirante Paulo Moreira, Arraial do Cabo)
- Antonio Solé-Cava (Universidade Federal do Rio de Janeiro)
- Bernard Kloareg (FR2424, CNRS et UPMC, Station Biologique de Roscoff)
- Jean-Pierre Callegari (Fondation Daniel Jouvance – Institut de France)
- François Lallier (Dpt Adaptation & Diversity in the Marine Environment, Station Biologique de Roscoff)
- Daniel Vulot (Dpt Adaptation & Diversity in the Marine Environment, Station Biologique de Roscoff)

Attendance

Graduate (Master, PhD) students and post doctoral fellow from Brazil, France and South America with interest in Marine Biology and Marine Ecology. Each student will be requested to give a 10 min presentation (+ 5 min discussion) about his/her current research at the start of the course. Participants will have to stay for the whole duration of the course.

Lecturers

From Brazil	From France
<ul style="list-style-type: none">• F. Thompson (UFRJ)• Jean Louis Valentin (UFRJ)• Yocie Yoneshigue (UFRJ)	<ul style="list-style-type: none">• Marcelino Suzuki (Banyuls)• Hervé Moreau (Banyuls)• Fabrice Not (Roscoff)

<ul style="list-style-type: none"> • Antonio Solé-Cava (UFRJ) • Lohengrin Fernandes (IEAPM) • Ricardo Coutinho (IEAPM) • Pio Colepicolo (USP) • Renato Crespo (UFF) • Bernardo da Gama (UFF) • Carlos Eduardo L. Ferreira (UFF) 	<ul style="list-style-type: none"> • Daniel Vaultot (Roscoff) • Anne-Claire Baudoux (Roscoff) • Bernard Kloareg (Roscoff) • Susana Coelho (Roscoff) • François Lallier (Roscoff) • Frédérique Viard (Roscoff) • Cécile Sabourault (Nice)
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School format

- All lectures will be given in English
- Course will be organized in 4 parts
 - Introduction : Novel concepts and paradigm changes
 - Genomics tools for marine biology and ecology
 - Advances in Pelagic Ecology
 - Advances in Benthic Ecology
- Typical day schedule
 - 9-12 : 3 lectures x 1 h (General lectures)
 - 14-18 Tutorials (Sampling, Practical demonstrations, Bioinformatics)
 - 20-21:30 Evening activities (Specific topics, student presentations)

Planned lectures

- Recent concepts and paradigm shifts in marine biology and ecology (2 days)
 - Microbes in Oceanic ecosystems: novel metabolism and processes (M. Suzuki)
 - Coral reefs (F. Thompson)
 - Deep-Sea and benthic ecosystems (F. Lallier)
 - Phylo-geography and connectivity (Antonio Solé-Cava)
 - Advances and perspective in Marine Biotechnology (Pio Colepicolo)
 - Biotech applications of macroalgae (B. Kloareg, Yocie Yoneshigue)
- Genomics tools for marine biology and ecology (1 day)
 - Genomics (F. Thompson)
 - Transcriptomics (C. Sabourault)
 - Metagenomics/Metatranscriptomics/Metaproteomics (M. Suzuki)
- Advances in Pelagic Ecology (3 days)
 - Genomes of marine bacteria (F. Thompson)
 - Photo-heterotrophs in the ocean (M. Suzuki)
 - Eukaryote diversity throughout the ocean (D. Vaultot)
 - Microalgae genomics (H. Moreau)
 - Metagenomics of photosynthetic eukaryotes (D. Vaultot)
 - Tools and perspectives to investigate open ocean symbioses: from imaging to genomics (F. Not)
 - Trophic relations of meroplankton in Coastal upwelling (Lohengrin Fernandes)
 - Assessing the functional ecology of marine viruses using structural approaches (A.C. Baudoux)
 - Viruses of prasinophytes (H. Moreau)
- Advances in Benthic Ecology (3 days)
 - Genomes of macroalgae (Susana Coelho)
 - Advances in settlement and recruitment of benthic organisms (B. Antonio Perez da Gama)
 - Transcriptomics approaches to study symbioses in the deep ocean (F. Lallier)
 - Chemical defense (Renato Crespo Pereira)
 - Symbiotic relationships in corals and sea anemones (C. Sabourault)
 - Conservation genetics (Antonio Solé-Cava)
 - Marine non-native species and the invasion paradox: progress, limits and perspectives from DNA studies (F. Viard)
 - Diversity and connectivity in the sea: from population genetics to population genomics to study benthic organisms (F. Viard)
 - Coupling benthic-pelagic (Jean Valentin / Ricardo)
 - Fish connectivity and Biogeography (C. E. Leite Ferreira)

Proposed tutorials

Pelagic	Sampling/ Experimental design
Pelagic	Culture of microalgae
Pelagic	Flow cytometry
Pelagic	Molecular Biology - DNA, RNA manipulation
Benthic	Sampling/ Experimental design
Benthic	Physiology experiments
Benthic	Primary production of benthic algae
Benthic	Benthic settlement experiments
Benthic	Chemical defense
Bioinformatics	Integrated softwares for molecular biology
Bioinformatics	16S rRNA tag sequences processing
Bioinformatics	Bayesian analyses of molecular demography
Bioinformatics	Genome annotation
Bioinformatics	Metagenome analysis

Cost for students

Cost for accommodation and food will be covered and participants will only have to pay for their travel.

Application

Deadline: Jan 15, 2013

Notification: end of January 2013

Send the following material (in English) to both Ricardo Coutinho <rcoutinhosa@yahoo.com> and Daniel Vaultot <vaultot@sb-roscoff.fr> :

- Motivation letter detailing why you want to attend in relation with your current research or your longer term academic goals
- Detailed CV including education, research experience, communications to meetings, papers
- At least one recommendation letter (in english) sent directly by one of your supervisor/teacher to Ricardo Coutinho <rcoutinhosa@yahoo.com> and Daniel Vaultot <vaultot@sb-roscoff.fr>

Supplemental information

- Ricardo Coutinho <rcoutinhosa@yahoo.com>
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