



## Marine Phytoplankton: from cultures to genomes A practical course

**Núcleo em Ecologia e Desenvolvimento Socio-Ambiental de Macaé  
(NUPEM-UFRJ), RJ, Brasil**

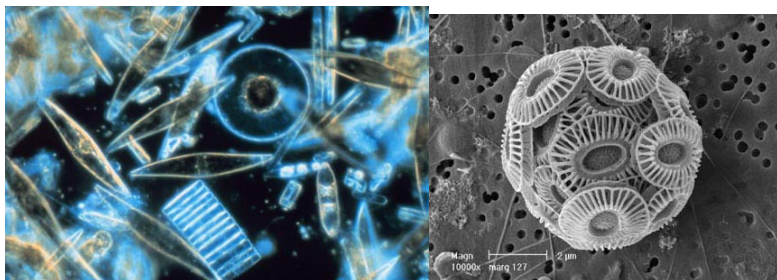
Sunday November 30 to Friday December 12 2014

**Summary:** Two week course for MSc and PhD students, and young scientists (5 year of PhD) interested in diversity of marine phytoplankton. The course will be hosted by Universidade Federal do Rio de Janeiro, Post-graduate Program of Biological Sciences (Botany), Brasil. We will stay during the whole course at the Núcleo em Ecologia e Desenvolvimento Socio-Ambiental de Macaé (NUPEM-UFRJ : <http://www.macaue.ufrj.br/nupem/>) which is located near of a coastal sandy plain and has 14.860 ha with 44km of coast, northern of the State of Rio de Janeiro, inside the Mata Atlântica Bioma.

**Cost:** The students will have only to pay for the transportation to reach Rio de Janeiro, Brazil. The following items will be covered by grants from CAPES, FAPERJ, CNRS (GDRI Algues) and therefore students will not have to pay for these :

- course
- housing, breakfast and meals
- transportation from Rio de Janeiro to Macaé.

**Arrival and departure:** Students should arrive to Rio de Janeiro either on Saturday 29 November or Sunday 30 very early, because departure from Rio de Janeiro to Ecological Station of Macaé (NUPEM) will be on Sunday 30 in the morning. Students will leave from Macasé to Rio Saturday 13 December in the morning.



# COURSE CONTENT

## Instructors

Catharina Alves-de-Souza (UFRJ, Brasil), Gleyci Aparecida Moser (UERJ, Brasil), Luciano F. Fernandes (UFPR, Brasil), Mariângela Menezes (UFRJ, Brasil)  
Ian Probert, Fabrice Not, Frédéric Partensky, Daniel Vaultot, Laure Guillou, Adriana Lopes (Station Biologique de Roscoff, France)

## Format

The official language will be the English

It will combine four activities:

- lectures,
- practical training,
- field and laboratory work
- student activities (bibliographic review)

Typical day schedule

- 8h-12h Lectures
- 14h-18h: Lectures, Tutorials (sampling, practical demonstrations, etc), Lab work.

Two days will be dedicated to sample plankton followed by practical work

## Lectures

- Introduction to Taxonomy and Phylogeny of Phytoplankton: I. Probert (Haptophyta), A. Lopes (Green Algae) L.F. Fernandes (Diatoms) C. Alves-de-Souza (Dinophyta), M. Menezes (Cryptophyta, Heterokontophyta), F. Partensky (Cyanobacteria),
- Oceanic distribution of Phytoplankton: D. Vaultot
- Mixotrophy and parasitisms in phytoplankton: F. Not, L. Guillou, C. Alves-de-Souza
- Culture and Physiology: I. Probert, G. Moser, C. Alves-de-Souza
- Introduction to Molecular Biology: A. Lopes
- Cultured-independent methods for accessing diversity: L. Guillou, C. Alves-de-Souza
- Genomes and Metagenomes: F. Partensky, D. Vaultot

## Practical Tutorials

- Sampling of Phytoplankton: F. Not
- Isolation of phytoplankton and their viruses: I. Probert, D. Vaultot, F. Not, A. Lopes
- Culture of phytoplankton: I. Probert, A. Lopes, G. Moser, C. Alves-de-Souza
- Flow cytometry: D. Vaultot
- Introduction to the R software: D. Vaultot
- Introduction to sequence analysis: D. Vaultot, A. Lopes
- Analysis of metabarcodes: A. Lopes, D. Vaultot
- Relationships host-parasites: L. Guillou
- Analysis of genomes: F. Partensky

## Bibliographic review

Students (by groups of 4-5) will have to select a special topic in phytoplankton, possibly related to Brazil or South America ecosystems. They will have to conduct a bibliographic research, finalized by an 30 min oral presentation at the end of the Course.

# APPLICATIONS

## Who can apply ?

Graduate (Master, PhD) students, post-doctoral fellow and young post-graduate researchers from South America or France with interest in Phytoplankton can apply. The total number of participants will be around 15. Each participant will be requested to give a 10 min presentation (+ 5 min discussion) about her/his current research. Participants will have to stay for the whole duration of the course and bring their own computer to the course which will be used for the bioinformatics tutorial

## Selection of applicants

Applicants will be selected according to their academic need and potential for achievement reflected in their application. Preference will be given to applicants from Brazil and South America.

## How to apply ?

Deadline (extended): November 9, 2014

Notification: November 12, 2014

In order to apply, please send the following material as pdf files by email to [phytobras2014@gmail.com](mailto:phytobras2014@gmail.com) with imperatively a copy to [vaulot@sb-roscoff.fr](mailto:vaulot@sb-roscoff.fr)

- Motivation letter detailing why you want to attend the course in relation with your current research and your longer term academic goals
- Detailed CV including education, research experience, internship report, papers
- At least one recommendation letter by one of your supervisor/teacher (in English)

