



CNRS UPMC INSU  
Station Biologique  
Roscoff



## MGE Summer Course

# Marine Evolutionary & Ecological Genomics

May 25<sup>th</sup> – June 5<sup>th</sup>, 2009

Station Biologique de Roscoff, France

### Confirmed teachers

Sandie Baldauf, Univ. York, UK  
Erik Bonivard, Univ. Paris 6, FR  
Chris Bowler, ENS, Paris, FR  
Simon Creer, Univ. Bangor, UK  
Galice Hoarau, Univ Groningen, NL  
Wiebe Kooistra, SZN, IT  
Frédéric Partensky, SB-Roscoff, FR  
Klaus Valentin, AWI-Bremerhaven, DE  
Frédérique Viard, SB-Roscoff, FR  
Clémentine Vitte, Univ. Paris 6, FR  
Filip Volckaert, KULeuven, BE  
Mathias Wegner, ETH Zurich, SC

### Organizing committee

Hélène Huelvan, SB-Roscoff, FR  
Jeanine Olsen, Univ Groningen, NL  
Anne Saisi, SB-Roscoff, FR  
Arnaud Tanguy, SB-Roscoff, FR  
Frédérique Viard, SB-Roscoff, FR  
Filip Volckaert, KULeuven, BE

*Aims to give an introduction on genetic and genomic approaches to analyze biological diversity, evolution and adaptation at the species and population level in the ocean*

### Target group

PhD students (at least in their second year) and post docs with a solid knowledge in phylo- and/or population genetics. ***This course is open to MGE members as well as non-members.***

### Topics

The course will consist of lectures, tutorials and computer based exercises in the following subjects.

- *Phylogeny* - sequence analyses, phylogenetic techniques (clustering, Bayesian statistics), molecular clock, case studies
- *Population genetics* – allele and genotype analyses, population genetic structure and gene flow, assignment tests, effective size and population dynamics, case studies
- *Phylogeography* - molecular evolution through networks, phylogeographical techniques, coalescence, population dynamics, case studies
- *Environmental, functional and comparative genomics* - 1. Genome structure and architecture. 2. Markers in the genomics realm. 3. Methods for detecting structure. 4. Introduction to functional genomics. 5. Methods for detecting adaptive variation (including selective sweeps) within and among populations; linking hydrographical/environmental and demographic data to population structure and local adaptation. 6 Quantitative genetics: evolution of traits. 7. EST libraries: why and how. 8. Introduction to comparative genomics (whole genome comparisons, concatenated phylogeny, genome organization, annotating genomic information, transposable elements in marine species) 9. Case studies
- *Phylogenomics* - 1. What is comparative genomics? 2. Genomics and genetics of speciation/ what makes a species from a genome point of view? 3. Comparative marine genomics. 4. Case studies



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### Costs; course, accommodation and meals

- The course fee is paid by the MGE Network for all academics (pre and post doc). Welcome reception, excursion (incl lunch) and farewell dinner are included.
- *All participants pay their own travel, accommodation and board (self catering is possible)*
- Participants are offered to be accommodated at the SBR guesthouse which is situated directly at the institute. The cost for this is €13 per night in double room incl. breakfast. The guesthouse can also offer lunch and supper for a cost of €5.50 per person and meal.

### Application and contact

To apply please fill in the application form and send to Anne Saisi ([saisi@sb-roscoff.fr](mailto:saisi@sb-roscoff.fr)) together with a 2-paged CV before **April 10, 2009**. This information + application form can also be found on the MGE website: [www.marine-genomics-europe.org](http://www.marine-genomics-europe.org) under Training & Education.

16 participants will be selected by the following criteria:

1. Relevance of the course for their PhD or post-doc project
2. Background and experience of applicant
3. We will aim at mixing people from different research areas and therefore probably no more than one person per institute will be considered. We will also aim at an equal distribution of women and men.

The selected persons will receive a notification at the end of April **that has to be confirmed within 7 days**. We will have a waiting list in case of non-confirmations and cancellations.

### Contact

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