



STATION BIOLOGIQUE DE ROSCOFF

Ecole interne n°37 de l'Université Pierre et Marie Curie (UPMC)
Observatoire océanologique de l'Institut National des Sciences de l'Univers (INSU)
Fédération de recherche n°2424 des Sciences de la Vie, Centre National de la Recherche Scientifique (CNRS)



Intensive ERASMUS course program :
« Marine Biodiversity » 2009
Option « Zoology and Marine Ecology »
from 31st July to 28th August 2009

AIMS

The option « Zoology and Marine Ecology » proposes the study at master-level of marine organisms, and the analysis of seashore and coastal environments. This intensive course, given in French, over 4 consecutive weeks during the summer, is open to all European students. It contains both lectures, directed work, and practical laboratory experiments based on :

- Samples and data collection in the field
- Laboratory observation of the collected living organisms

The course enables students to acquire real competences in :

- Morphological and functional adaptations of the organisms living on the seashore and in coastal areas.
- The recognition of the phyla and families of the most frequent marine animal species on our coast, and their identification to species level, using taxonomic keys.
- The main types of shore and coastal habitats, and the methods of biological sampling, as well as the physico-chemical characterization of their biotope.
- The composition and structure of animal and plant-life (benthos and pelagos) of the coastal environment, as well as analytical techniques to describe the benthic coastal populations.

After a final examination of the acquired knowledge, a certificate validates the course.

The summer course will be taught in French.

MAIN TOPICS

Lectures

- Introduction to taxonomy
- Principal groups of marine Metazoan (Polychaetes, Molluscs, Crustaceans, Echinoderms, Sponges, Cnidarians, Bryozoans, Chordate and minor phyla of the meiofauna).
 - Anatomical body plan of the main groups
 - Morphological and functional adaptations of the species in relation to their biotope and their distribution relative to the tide
 - Their way of life including the vital functions (respiration, nutrition, locomotion and reproduction)



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- Tides and the vertical distribution of populations
- Methods of analysis of the benthic populations of rocky shores and sandy beaches
- The plankton populations of coastal waters.
- Life cycles, fertilization and larval development
- Features in coastal habitats (maërl, kelp forests, macrophyte dominated sediments and estuaries)

Work at sea and in the field

- Exploration field trips to the various coastal habitats :
 - high and low tidal levels on rocky and sandy shores
 - wave exposed shores
 - tidal estuaries
 - marine eel-grass meadows
- A half-day cruise on board an oceanographic ship : hydrological measurements, biological collection (Niskin bottles, WP2 plankton net, Smith-Mac-Intyre box core and Rallier-du-Baty dredge)

Practical laboratory work

- Observation and study of body plan anatomy of the characteristic coastal taxa in live specimens
- *In vitro* fertilization and study of planktonic larvae of the main groups.
- Observation of characteristic organisms of phytoplankton, zooplankton and meiofauna.
- Practical identification to species level, using taxonomic keys.
Analysis of abiotic and biotic factors (granulometry, porosity, pigments and organic matters dosages)
- Study of the spatial distribution of populations on rocky intertidal shores
Cenotic analysis of coastal populations on rocky shores and sandy beaches

Personal work

- Observational drawings of the main features enabling the identification of a few taxa.
- Creation of a computerized monographic card on a chosen marine species.
- Production and personal presentation of a piece of work based on samples and laboratory analysis from a group field study.



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PRACTICAL INFORMATION

Arrival at the Marine Station Thursday 30th July 2009
Start of the course Friday 31st July 2009 at 9h00 am
End of the course Friday 28th August 2009 pm
Departure Saturday morning 29th August 2009

Travel

Train from Paris-Montparnasse to Morlaix, connection to Roscoff (via train or bus).
Roscoff railway station is at about 15 min on foot from the Marine Station (see plan)

Lodging at the Marine Station (Conference centre CNRS « Hôtel de France »).

Sheets and blankets are provided. **Bring your own bath-towels and toiletries.**
Price of one night: 6.00 €

Meals

It is possible to eat in the restaurant of the Station Biologique
Breakfast: 3,00 €
Lunch : 5,50 €
Dinner : 5,50 €

Washing Facilities

Washing machines and Clothes-dryers using a token are available at the Marine Station
(2€ per token and 5€ for 3 tokens).

Necessary equipment

- Dissection case with the usual tools for practical work (in particular fine tweezers and fine scissors), and a lab coat
- One or two block notes, drawing paper, pencils with soft and hard leads, an eraser
- A pack of white cartridge paper and clean rags or nylon stockings for the drying of algae in order to create a seaweed-herbarium.
- A pair of boots, espadrilles or plastic sandals for walking in the sea, and warm old clothes, plus one or several water and wind-proof anoraks for fieldwork.

Postal Address

Station Biologique
Enseignements ERASMUS
Place Georges Teissier
BP 74
F-29682 Roscoff cedex
FRANCE

Additional information

Available on the site <http://www.sb-roscoff.fr/Enseignement/>,
Or by contacting Céline Houbin (enseignement@sb-roscoff.fr - +33 2 98 29 23 16).

