Day 3 – Microalgae and interactions with aquaculture

At the interface between marine and freshwater environments, estuaries rank with coral reefs and tropical rain forests as one of the most productive natural ecosystems on earth. In estuarine bays with large intertidal mudflats (e.g. Bay of Bourgneuf, France), microalgae (phytoplankton + MPB) are responsible for a major portion of primary production, sustaining complex food webs dominated by suspension feeders. For the same reasons, these mudflats support a strong shellfish industry based on farming and fishing. Estuaries also provide the microalgae (after isolation and selection) used as food in hatcheries, a key step in shellfish industry.
Unfortunately, a small number of microalgal species may produce marine biotoxins and developing harmful algal blooms. These toxins can be concentrated in the body tissues of shellfish filter-feeding on microalgae, and make them very dangerous for human consumption.
In the context of the high development of world aquaculture, it is crucial to understand the interactions between microalgae and shellfish in order to better manage aquaculture and to deal with the threats that may affect human health.

The third day of the summer school will be dedicated to microalgae and interactions with aquaculture. Lectures will cover a wide variety of subjects ranging from: shellfish production from hatchery to putting the product on the market; shellfish ecosystem functioning; suspension-feeders ecophysiology; adaptations to harmful algae.

Some of the techniques and methodologies that will be addressed include: sediment sampling for benthos analysis and identification; measuring suspension-feeders ecophysiology; isolation of diatom species; preparing media for diatom culture.

Confirmed speakers:

Dr. André Mallet (Canada, Mallet Research Services Limited)
Pr. Sébastien Lefebvre (University of Lille, LOG)
Philippe SOUDANT (IUEM, Brest)

To confirm Key-Speakers:

Monica Bricelj (Rutgers University, USA)
Jean-Luc Mouget (MMS, UNAM)