

Training Course:

Integrated approaches to investigate the role of soft and hard substrate benthos in ecosystem functioning: from field observations and experiments to modeling and indicator development.

(STARESO Research Station, Calvi, Corsica, 30 September – 4 October 2019)

SCOPE

During the last decade, artificial hard substrates have increasingly been installed in coastal areas that generally consisted of sandy sediments. These artificial hard substrates serve different purposes, including coastal defense works, installation of renewable energy installations, nature restoration ...

These artificial hard substrates are home to a high variety of fouling organisms, occurring in high densities. These new communities locally affect primary production and the pelagic nutrient budget and change properties of the surrounding soft sediments, structural and functional diversity of the benthos, and benthic mineralization rates. In addition, the effects of these introductions need to be addressed in the context of a globally changing marine environment (climate change, ocean acidification). A full understanding of links between the altered biodiversity and the local and regional biogeochemical cycles requires cross-disciplinary approaches where ecologists, biogeochemists and ecosystem and oceanographic modelers join forces.

Within this training course, PhD students and early post-docs will be initiated in experimental methodology to investigate the effect of animal activity on biogeochemical cycling in both sediments and the water column. Class-room lectures will provide participants with an overview on the recent developments in the research field and will be combined with hands-on experiments on both hard- and soft substrate biogeochemical cycling (optode and electrode techniques, nutrient cycling, bio-irrigation) using state-of-the art experimental equipment. Lectures on ecosystem and oceanographic modeling will be combined with hands-on training to showcase how local processes can be scaled up to regional scales. Finally, students will be initiated in the application of obtained results in a managerial context by means of ecosystem indicators.

TEACHING STAFF

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DATE and VENUE

30 September-04 October 2019, STARESO Research Station, Calvi, France

FURTHER INFORMATION

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