

**da Rocha Leite, Barbara Daniela**  
University of Minho  
Nationality: Portuguese

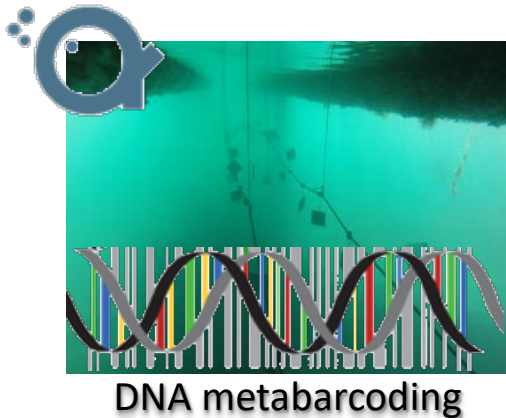
Orientation: Integral Management of the Sea  
Specialization Area: Analysis and Environmental assessment  
Research Line: 3.5 Biodiversity and littoral zone ecology



**PhD project: Monitoring coastal benthic colonization of artificial substrates with the support of DNA metabarcoding approaches**

Supervisors: Dr. Filipe Oliveira Costa (University of Minho)  
Dr. Jesús Souza Troncoso (University of Vigo)

**Summary:** The emergence of high-throughput sequencing technology coupled with DNA metabarcoding provides the opportunity to improve accuracy and throughput of species composition in complex communities, like marine benthic assemblages. There is an opportunity to rapid and rigorous access a community composition and to study patterns and trends of biodiversity. However, some methodological protocols needs to be improved, in order to expand the taxonomic coverage and increase the taxonomic resolution. The creation of permanent monitoring stations deployed on the coast providing a means to routinely assess the biological diversity. Furthermore, possible artificial substrates deployed at this stations can act as a barrier and/or as an enhancer for species colonization. Eventually, we intend to design DNA metabarcoding-based approaches, able to supply more extensive, detailed and rigorous data for marine resource management and biodiversity conservation in coastal ecosystems. Furthermore, results from the planned tests will inform about the capacity for colonization of different substrates for deployment in automated environmental monitoring stations. This project will also provide an opportunity to yields insights for a better comprehension of fundamental ecological processes in zoobenthic communities: the patterns of colonization of artificial substrates and the seasonal variations in coastal environments.



**DNA metabarcoding**