**Title**: **Biotic and abiotic marine resources in Emilia-Romagna Region** (SSD BIO/07)

**Research project:**

The present research project entitled “Biotic and abiotic marine resources in Emilia-Romagna Region” belongs to the Spoke 5 dedicated to the Circular economy and blue economy of the Ecosystem for Sustainable Transition in Emilia-Romagna - ECOSISTER (PNRR - Mission 4 Component 2 Investment 1.5).

To achieve an innovative eco-design of fisheries and aquaculture supply chains, it is strategic firstly to perform an integrated analysis of the multiple uses and activities in transitional and coastal waters to gather the information needed to establish new guidelines for maximizing ecosystem services in their entirety and protecting environment and biodiversity. Case studies of particular importance in RER are: (i) the verification of current models of exploitation of fisheries and management of nursery areas; (ii) the assessment and limitation of multiple stressors, such as illegal fishing and overfishing, climate change impacts and assessment of environmental quality status of marine environment and ecosystem; (iii) the creation of new protected areas, such as submerged barriers and structures; (iv) the development of adequate monitoring plan and habitat mapping, alien/invasive species monitoring and mitigation; (v) the development and implementation of precision aquaculture strategies through ICT solutions; (vi) the development of seaweed aquaculture also combined with shellfish aquaculture to provide healthy food and contribute to ecosystem services: carbon sequestration, removal of nutrients and CO2, ecosystem support, ocean habitat restoration, coastal ecosystem resilience; (vii) the development of biorefinery and biotechnology solutions to transform aquatic biomass (algae, invertebrates, by-catch, waste from fish transformation and shells) in new biomolecules and biomaterials (e.g., pharmaceuticals animal feed, soil improvers; biomimetic 3D devices etc.); (viii) territorial bioresources mapping aimed at activating industrial symbiosis connection to favour circular and integrated value chain for the innovative products at vii; ix) the implementation of technologies and bio-remediation techniques, and the evaluation of impact on biota and human health of pollutants and MP; (x) Abiotic resources: detection of minerals / elements; improved levels of analytical accuracy, including the high-resolution geophysical survey; feasibility study for potential exploitation using low impact technologies, (xi) Evaluation of biotechnologies for the conservation, restoration, enhancement, and management of cultural heritage, including underwater.

This specific project is aimed to develop and regularly update a database of marine abiotic and biotic resources readily usable for scientific and management purposes in the Emilia-Romagna region.

**Activity plan:**

The candidate will work within the research group on Ecology and Conservation of Acquatic, Marine and Coastal environments (CoastEcol) of the Department of Biological, Geological and Environmental Sciences (BiGeA), in Ravenna, under the supervision of Prof. Federica Costantini and Prof. Massimo Ponti.

The objective of this research grant is to contribute to the realization and regularly update a database of marine abiotic and biotic resources readily usable for scientific and management purposes in the Emilia-Romagna region.

The project will consist of:

* Literature review trough online database, scientific and grey literature on marine abiotic and biotic resources, with a focus on fisheries and aquaculture.
* Analysis of sources and types of data available at regional, national, and international level
* Creation of specific databases for each the marine abiotic and biotic resources including their indicators, gaps and needs.
* Intermediate and final report

**Required Skills:**

Applicants should:

* Proven experience in the field of marine biotic and abiotic resources in coastal, estuarine and lagoon habitats
* Proven experience in the use and management of databases, statistical analysis, and digital cartography
* Proven experience in field activities
* Proven experience in writing scientific reports or articles
* Good knowledge of spoken and written English

**Sintesi in italiano:**

Questo progetto di ricerca si propone di analizzare la disponibilità di risorse abiotiche e biotiche marine prontamente utilizzabili a fini scientifici e gestionali nella Regione Emilia-Romagna. Quindi il risultato finale sarà un database completo.

**Sintesi in inglese:**

This research project aims to analyse the availability of marine abiotic and biotic resources readily usable for scientific and management purposes in the Emilia-Romagna Region. The final output will be a comprehensive database.