

Position	Engineer in numerical ecology
Discipline	Ecology
Speciality	Numerical Ecology, biostatistics
Type of contract	Fix-termed contract (9 months)
Hosting institution	Department REM, Deep-sea Laboratory
Localisation	Ifremer centre Bretagne, Brest, France
Starting date	April 2021

The Institute and hosting lab

Recognized as one of the world very first institutes in marine science and technology, Ifremer has a dual perspective of sustainable development and open science. The institute conducts research, innovation, and expertise to protect and restore the ocean, use its resources responsibly, and share marine knowledge and data to create new opportunities for economic growth that respects the marine environment. Open to the international scientific community, its 1,500 researchers, engineers and technicians advance knowledge on one of the last unexplored frontiers of our planet; they help inform public policies and innovation for a sustainable blue economy. Their mission is also to make the general public aware of maritime issues.

Within the “physical resources and deep-sea ecosystems” department, the Deep Sea Laboratory aims at studying the structure, functioning and temporal dynamics of deep marine ecosystems. This study concerns different types of ecosystems distributed on the ocean floor in various geological (sedimentary basins, continental margins, ocean ridges), hydrodynamics and trophic (energy of detrital or chemosynthetic origin) contexts. One of the laboratory's objectives is to understand the natural dynamics of these ecosystems and the impacts of anthropogenic activities in order to propose management and mitigation measures within the framework of environmental management policies. In this context, the laboratory is strongly involved in the European project H2020 iAtlantic (coordination M. Roberts, University of Aberdeen, UK) which aims to assess the state and health of deep Atlantic ecosystems, predict their evolution and identify regions at risk that require urgent management measures.

Principal activities

The engineer will work at the REM Department at the Deep Sea Laboratory. He/she will contribute to the iAtlantic Work Package 3 which objective is to assess ecosystem changes in the Atlantic and determine factors responsible for these changes. More particularly he/she will:

- Design, in collaboration with members of WP3, a workflow of numerical approaches for the analysis of time series in ecology acquired within the framework of the European project H2020 iAtlantic. These series consist of heterogeneous historical data on the abundance and density of species and communities, associated in some cases with oceanographic data.

- Coordinate the project report on methods for performing regional assessments of ecosystem change and tipping points using time series data, including protocols for harmonisation of common data and metadata standards.
- Analyse time-series of ecological data in collaboration with the project partners.
- Assist in the analysis of spatio-temporal data of distributions, abundance and behavior of hydrothermal vents from images acquired with the EMSO-Azores observatory
- Help organize and facilitate a workshop on the analysis of heterogeneously acquired time series (sampling, optical and acoustic imagery).

Relationships/collaborations

At Ifremer:

- The lab members on a daily basis
- Researchers and students involved in WP3 of the iAtlantic project

Externally:

- The European Consortium of researchers and engineers involved in WP3 of iAtlantic, and more particularly the team at the University of São Paulo in Brazil, the University of Edinburgh in the UK and MFRI in Iceland.
- Internationally : Pr. Pierre Legendre at the University of Montreal

Skills

Technical skills

- Numerical ecology, biostatistics
- Time-series analyses
- Developing of computational methods
- Knowledge of marine environment preferred

Personal qualities

- Method and rigour
- Ability to work in conjunction with specialists from different disciplines
- Autonomy

Profile/Education

Diploma in marine biology with specialization in numerical ecology (Master 2 required)

Working conditions

Full time, participation to a workshop

To apply

Closing date: 15 February 2021

Join a CV, motivation letter and references to Marjolaine Matabos: Marjolaine.Matabos@ifremer.fr