Research engineer

"Development and coordination of the marine megafauna's expertise at France Energies Marines"

N/Ref: FEM-2019-318

Company Description

FRANCE ENERGIES MARINES (FEM), the national research institute dedicated to Offshore Renewable Energy (ORE), supports the nascent ORE industrial sector with the means and skills that increase competitiveness by mutualizing R&D costs, reducing risks and accelerating the acquisition of data and knowledge. FEM activities are founded on Research and Development projects based on a broad public-private partnership involving large groups, SMEs, regional authorities, advanced research and training institutions and competitiveness clusters, and with the support of the national *Investing for the Future* program. FEM collaborators are scientifically and technically involved in these projects thanks to their high level of scientific expertise. The headquarters of FEM are located in Plouzané (Brest area), France. FEM has also two antennas, one located in Marseille and the second located in Nantes.

Job Description

In the context of Offshore Renewable Energy (ORE) farms development in France, the potential impact of ORE on marine megafauna is of concern for the general public and the French authorities. The environmental studies of ORE projects include marine megafauna monitoring, and in particular the protected seabird and marine mammals populations identified by national and international regulations. However, the implementation of monitoring on species that evolve in the natural environment faces significant operational difficulties. For instance, modern version of bio-logging technologies (electronic tagging) available to date do not meet all needs (e.g. small size or diving seabirds). The analysis of the impacts of an ORE project generally requires aerial observations of the marine megafauna in order to better characterize the species in certain areas. These observations are conventionally made by aerial overflights carrying specialized naturalistic observers. But scientific and technological developments, from the point of view of sensors for the acquisition of digital images, as well as intelligent algorithms and software for their analysis, offer new perspectives for radically improving the cost-effectiveness of these follow-ups. In this context, the research engineer will develop new projects and participate to ongoing ones dealing with these thematics at FEM. The research engineer will contribute to enhance the expertise on the potential impacts of MRE parks on marine megafauna.

The research engineer will:

- Participate to several FEM projects dealing with marine megafauna and follow their scientific progress (GEOBIRD, ELEMENT, SEMMACAPE, ORNIT-EOF and ECOSYSM-EOF) by:
  - Identifying the potential users' community and market for a three dimensional tag for marine birds that is developed under the GEOBIRD project,

- Contributing to the review on existing work on consenting issues related to collision risk (e.g. ORJIP) to identify key concerns and available tools and technical solutions (ELEMENT project),
- Identifying marine megafauna to the level of species from digital images and follow-up of algorithms' development for an automatic marine megafauna's survey (SEMMACAPE project),
- Reviewing the state of the art and data availability on avifauna and marine mammals in the Gulf of Lion with a focus on the current knowledge of their potential interactions with offshore wind farms (ORNIT-EOF and ECOSYSM-EOF projects).

- Develop new projects to consolidate FEM's expertise on the potential impacts of ORE parks on marine megafauna, including the preparation of relevant EU calls on the topic.
- Provide expertise within the avifauna expert group on the potential impacts of offshore wind farms on marine birds populations (COME3T project).

Required Qualifications, Skills and Experience

Essential:

- PhD or master degree in environmental biology and/or ecology,
- Expertise in marine megafauna,
- Good knowledge of the marine environmental public policies and the national network of scientific experts on marine megafauna,
- Development and coordination of scientific projects.

Desirable:

- Knowledge of ORE systems,
- Good communication skills in both French and English (oral, written).

Candidate Profile

The candidate should have:

- scientific rigor and critical analysis,
- initiative, scientific curiosity and multi-disciplinary spirit,
- taste for research and teamwork.

Practical Information

The candidate will work under the scientific supervision of Dr. Morgane Lejart, Responsible of the "Environmental integration" program – FEM

Starting date, location: **as soon as possible**, for a temporary position of **12 months** (French "CDD") The position is located at the France Energies Marines headquarters:

France Energies Marines
Bâtiment Cap Océan
525, avenue Alexis de Rochon
29280 Plouzané

The candidate will often have the opportunity to go to the Mediterranean antenna of France Energies Marines to be close to the partners of ORNIT-EOF, ECOSYSM-EOF and other projects to be developed with our Mediterranean network.

Final date for applications: September 10th, 2019

Please send your CV and cover letter to the following electronic addresse:

contact@ite-fem.org

In case of an expected secondment of the candidate by a member of France Energies Marines, the application should mention the agreement of the present employer.