
Expert of atmospheric flow observations for Offshore Renewable Energy Applications

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Company description

FRANCE ENERGIES MARINES (FEM) is the French Institute for Energy Transition (ITE) dedicated to Marine Renewable Energies (MRE). FEM's mission is to provide, enhance and nourish the scientific and technical environment necessary to remove the obstacles facing the MRE sector. This mission has three main objectives: to stimulate the competitiveness of the sector, to increase the attractiveness of the French territories and to support regional and national authorities.

FEM's core business is to develop, coordinate and scientifically manage collaborative R&D projects and to realize engineering and research activities around these projects. FEM benefits from financial support received from the French Investissement d'Avenir program and the European Union. On the basis of this research investment, the Institute is developing a scientific and technical support activity for the ORE sector in various areas: recommendations, project management assistance, testing, design, dimensioning, etc. FEM is also very involved in the animation of the sector at the regional, national, European and international levels.

FEM is currently established on 3 sites: the head office is located in Brest, and two branches are located in Marseille and Nantes.

Position description

FEM is pursuing the development of its capacities in measuring and understanding the properties of the marine atmospheric boundary layer with application to the wind resource characterization and design of bottom-fixed and floating offshore wind turbines.

In order to expand in this field, FEM is looking for a permanent scientist capable of developing ambitious field experiments involving, in particular, the deployment of profiling lidars from fixed and floating platforms to improve the characterization of the atmospheric environment of offshore wind farm sites.

This permanent position falls within a more global and long-term strategy of the Institute that prioritizes the development of tools and skills in order to support a massive deployment of Floating Offshore Wind Turbines along the French coastlines and overseas. As such, FEM is aiming to construct a research program addressing the observation and understanding of the atmospheric flow properties of interest at areas targeted by the offshore wind industry. The scientist will have to contribute to the deployment of this large research program and the corresponding collaborative projects with the objective of providing decisive information regarding the wind resource and wind design conditions at offshore sites.

Activities

The successful expert will work under the responsibility of the Site Characterization Program Manager and in frequent liaison with experts from other FEM R&D programs to solicit their expertise. His first task will be to contribute to the scientific and technical tasks planned in the FORWCE_SEA project that aims to define a research platform designed to collect wind and hydrodynamic observations and serve as a potential testing facility for offshore wind technological components.

From a more general point of view the expert will be responsible for:

- Leading the development of atmospheric observation research activities applied to offshore wind at FEM through the design of an ambitious research program on these topics
- Defining and coordinating the setting up and realization of corresponding research projects
- Contributing to the scientific tasks of the projects
- Developing collaborations with the leading European and International institutes in the field of the atmospheric research for offshore wind
- Enhancing the relationships of FEM with key industrial players in the field of the offshore wind, such as turbine manufacturers
- enhancing the collaboration between the Site Characterization R&D programs and the other FEM's research programs
- supervising PhD students, postdocs and research engineers involved in the research projects dealing with atmospheric characterization at FEM
- publishing the results of the collaborative research projects in peer-reviewed international scientific journals and conferences
- contributing to FEM service offers tailored for the offshore wind industry

Background and scientific and technical Skills

The candidate must hold a PhD in the field of atmospheric observation and ideally have an in-depth knowledge of air-sea interactions and their effects on the atmospheric boundary layer with application to offshore wind applications.

A strong appetite for applied collaborative research in the field of the offshore wind industry is required.

Essentials:

- Extensive experience with field experiments investigating the properties of the atmospheric boundary layer at sea,
- Extensive experience in the scientific exploitation of large field experiments datasets,
- Proficient experience with air-sea interaction physics and its influence on the atmospheric boundary layer,
- Solid research record demonstrated by a significant number of papers published in international peer-reviewed journals,
- Excellent writing ability and oral communication skills,
- At ease with communicating in English.

Desirable:

- Experience with profiling and scanning lidars and/or any other relevant instruments able to sense the atmospheric in the context of offshore wind applications,
- Experience in the field of research activities applied to offshore wind.

Candidate profile

- Scientific rigor,
- Open mind and intellectual curiosity,
- Proactiveness,
- Appetite for applied collaborative research in the field of the offshore wind industry,
- Ability to define the most promising research tracks within this context.

Supervision

Jean-François Filipot: Scientific Director of France Energies Marines and Manager of the “Site Characterization” research program and team.

Practical information

Type of contract: permanent position

Location: 525 avenue de Rochon, Plouzané, France or possibly in other FEM’s offices in Nantes or Marseille, France

Starting date: March 2021

Application procedure and contact

Please send CV and cover letter to contact@ite-fem.org by **December 4, 2020**. The selected candidates will be invited to provide, by **January 3, 2021** a proposal of no more than 10 pages presenting his/her perception of the industrial research activities within his/her field of expertise that s/he envisions carrying out with FEM and its members in the mid to long term in order to answer the main challenges facing the offshore wind industry.

For any additional information, please contact: jean.francois.filipot@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.