

*N/Ref* : FEM/2017-077

## ***Object***

Job description for a “Postdoctoral researcher in radar oceanography – Signal Analysis” 18-month temporary contract (M/F)

## ***Company Description***

FRANCE ENERGIES MARINES (FEM), the national reference institute dedicated to research in the field of Marine Renewable Energies (MRE), supports the nascent MRE industrial sector with the means and skills that increase competitiveness by mutualizing research and development costs, reducing risks and accelerating the acquisition of data and knowledge. The principle of this structure is based on a broad public-private partnership involving 35 members including large groups, SMEs, regional authorities, advanced research and training institutions and competitiveness clusters. The headquarters of FEM are located in Brest, France.

Within the framework of the “Site Characterization” R&D program at France Energies Marines, the detailed characterization of the resource on marine current turbine sites requires an improvement in Doppler methods and in the resolution of azimuthal observations at the sea surface by HF radar.

In order to contribute effectively to this effort, France Energies Marines is searching for a postdoctoral researcher specialized in the analysis of HF Doppler radar signals in the domain of oceanography.

## ***Position Description***

Working with the R&D team and under the responsibility of the program manager for « Site Characterization », and in the HYD2M project, the researcher will be responsible for:

- The development of appropriate methods for high resolution HF Radar current measurements in areas of strong currents and high spatial variability, typical of zones where marine current turbine technologies will be installed;
- The development of appropriate methods for the characterization of sea states for these same areas.

## ***Activities***

The researcher will be responsible for:

- a bibliographic research and a study of the state-of-the-art in the domain of oceanographic measurements and signal analysis adapted to high-frequency radar remote sensing;
- a critical analysis of data collected by high-frequency radar installations on the Raz Blanchard pilot site for tidal current technologies. This work will be undertaken from the angle of monitoring the quality of collected raw data and the smooth functioning of the measurement systems. The verification of the appropriateness of the typical data analysis chain for atypical oceanographic conditions encountered in these dynamic sites (extreme currents, high spatial variability, etc.) will also be examined;
- Helping with the construction of an operational chain of data analysis;
- Proposing and executing improvements in the analysis chains necessary for the production of pertinent geophysical data.

### ***Candidate Profile***

Holding a doctoral degree in signal analysis or in physical oceanography, you are familiar with signal analysis applied to Doppler radar measurements. You also have a clear interest for applied research.

<b>➤ Education:</b>	<b>➤ Specific skills:</b>
<ul style="list-style-type: none"> <li>▪ PhD in signal analysis,</li> <li>▪ PhD in physical oceanography.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Doppler radar data analysis,</li> <li>▪ Signal analysis (ex.: Doppler and azimuthal resolution methods applied to phased network data).</li> </ul>
<b>➤ Professional experience:</b>	<b>➤ Personal qualities:</b>
<ul style="list-style-type: none"> <li>▪ Experience in terms of using and applying actual radar data,</li> <li>▪ Writing of technical reports and scientific articles for international, peer-reviewed journals.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Strict scientific rigor,</li> <li>▪ Spirit of initiative and multidisciplinary interests,</li> <li>▪ Taste for applied (industrial) research,</li> <li>▪ At ease in writing and speaking English.</li> </ul>

### ***Practical Information***

Starting date, location: as soon as possible in Brest, France, for an 18-month temporary contract.

Final date for applications: April 28<sup>th</sup>, 2017

Application process: CV and cover letter with your current and required salary, to the following electronic account:

[contact@ite-fem.org](mailto:contact@ite-fem.org)