# Postdoctoral positions: deep learning and data assimilation for ocean forecasting and reanalysis, IMT Atlantique/Odyssey, Brest France

**Positions:** 24-month positions in INRIA Odyssey team, IMT Atlantique/Lab-STICC, Brest, France

**Expected starting date:** Early 2023.

**Contact person:** Ronan Fablet, Professor IMT Atlantique, ronan.fablet@imt-atlantique.fr

**Context and objectives:** Several postdoc positions are opened in INRIA Odyssey team (https://team.inria.fr/odyssey/) at IMT Atlantique/Lab-STICC. The successful candidate will also join OceaniX group at IMT Atlantique/Lab-STICC (https://cia-oceanix.github.io/), a group dedicated to physics-informed AI for the monitoring and surveillance of the oceans. OceaniX chair gathers an interdisciplinary group with expertise in numerical modeling, applied math deep learning, remote sensing and ocean science to leverage AI technologies and paradigms to address key challenges in ocean modeling and forecasting, observing system design and control, surveillance and monitoring of maritime activities. OceaniX chair also benefits from strong academy-industry partnerships (e.g., Ifremer, CNES, CLS, NavalGroup, Eodyn, OceanDataLab, Mercator Ocean International).

In the context of the newly-funded H2020 project Edito-Model Lab, which aims to develop the next-generation of European hybrid modeling and forecasting core engines for the Digital Twins of the Ocean, these postdocs will explore, propose and assess deep learning schemes for ocean data assimilation. Topics of interest cover methodological aspects at the interface between deep learning and data assimilation, especially towards probabilistic neural data assimilation schemes, and ocean data assimilation challenges for upper ocean dynamics using multi-platform observation data (e.g., satellite-derived observations, in situ data…). They will benefit from and contribute to the interdisciplinary interactions between Edito-Model Lab partners involved in WP "AI-based emulators for ocean modeling and forecasting", namely ocean modeling groups (IGE: Dr. J. Le Sommer, Grenoble, France; BSC: Dr. M. Castrillo, Barcelona, SP), coastal ocean science (Deltares: Dr. G. El Serafy, Delft, Netherlands), Ocean data assimilation (NERSC: Dr. L. Bertino, J. Brajard, Bergen, Norway) and AI (IMT Atlantique: Prof. R. Fablet, Brest, France; Hereon: Dr. D. Greenberg, Geesthahct, Germany).

The position will be based in Brest, a city at the forefront of marine sciences research and development in France, with major research organisations and industry partners.

**Skills:** Applications are encouraged from candidates with a Ph.D in applied math/machine learning/data science and a strong interest in interdisciplinary and marine science as well as a PhD in ocean science/geoscience and some previous experience in machine learning. Candidates should have a strong interest and commitment to research. Creativity with an aim towards independent research is highly emphasized.

**Application:** Send CV, statement of research interests and the contact information of at least two references to ronan.fablet@imt-atlantique.fr. Review of applications will begin immediately and continue until the position is filled.

**Specs:** The positions will initially be funded for a 2-year period and could be renewed upon scientific outcome and funding availability. The net annual salary will range from 30,000€ to 36,000€ per year depending on experience. This position is open to non-EU citizens.