Postdoctoral Position in High-Resolution Coastal Ocean Modeling (19-Month Fixed-Term) – La Rochelle University, France

The laboratory
LIENSs is an Interdisciplinary Joint Research Unit jointly operated by the French National Centre for Scientific Research (CNRS) and La Rochelle University. The laboratory focuses on the sustainability of coastal environments, which are increasingly vulnerable to the impacts of climate change and human activities. It brings together around 80 researchers, 29 permanent engineers and technicians, 24 postdoctoral and visiting researchers, and 40 doctoral students.

The project
The primary goal of this project is to investigate the impacts of terrestrial freshwater and organic/inorganic matter fluxes delivered through rivers on the evolution of shallow coastal ecosystems and sediments. These systems are strongly affected by human activities. In particular, the study aims to elucidate how such transformations influence the coastal carbon cycle and the exchange of CO_2 between the atmosphere and the ocean in the shallow waters of the Bay of Biscay, located in the northeastern Atlantic.

We are seeking a highly motivated early-career researcher to contribute to the development of a regional, high-resolution (80 m) configuration of the global ECCO-Darwin model (Carroll et al., 2020; www.ecco-group.org; https://darwinproject.mit.edu). The selected candidate will refine the physical processes represented in the regional model, with particular attention to improving land–sea coupling and sediment–water interactions. Building on recent progress in both regional (Bertin et al., 2025) and global (van der Zant et al., 2025) ECCO-Darwin configurations, the candidate will play a key role in advancing understanding of coastal biogeochemical dynamics.

The position offers the opportunity to collaborate with a dynamic, international team of researchers and to take part in both national and international research initiatives. The selected candidate will work under the joint supervision of Vincent Le Fouest (LIENSs, France) and Dimitris Menemenlis (Moss Landing Marine Laboratory, USA).

References

Bertin, C., Le Fouest, V., Carroll, D., Dutkiewicz, S., Menemenlis, D., Matsuoka, A., Manizza, M., and Miller, C. E.: Terrestrial browning from Colored Dissolved Organic Matter (CDOM) changes the seasonal phenology of the coastal Arctic carbon cycle, EGUsphere [preprint], https://doi.org/10.5194/egusphere-2025-973, 2025.

Carroll, D., D. Menemenlis, S. Dutkiewicz, J.M. Lauderdale, J.F. Adkins, K.W. Bowman, H. Brix, I. Fenty, M.M. Gierach, C. Hill, O. Jahn, P. Landschützer, M. Manizza, M.R. Mazloff, C.E. Miller, D.S. Schimel, A. Verdy, D.B. Whitt, and H. Zhang (2022). Attribution of space-time variability in global-ocean dissolved inorganic carbon. Global Biogeochemical Cycles, 36, e2021GB007162. https://doi.org/10.1029/2021GB007162

van der Zant, H. F., Sulpis, O., Middelburg, J. J., Humphreys, M. P., Savelli, R., Carroll, D., Menemenlis, D., Sušelj, K., and Le Fouest, V.: RADIv2, an Adaptable and Versatile Diagenetic Model for Coastal and Open-Ocean Sediments, EGUsphere [preprint], https://doi.org/10.5194/egusphere-2025-2244, 2025.

Skills and requirements
- PhD in Oceanography or equivalent
- Expertise in coastal ocean dynamics and modeling
- Proficiency in programming, with a minimum requirement of Fortran and Python
- Excellent English skills, both written and verbal, with effective communication abilities

Employment
Full-time and fully-funded position for 19 months. Starting date expected in February 2026. The candidate will be hosted at LIENSs, La Rochelle University, located in the coastal city of La Rochelle, France.

How to Apply
Interested candidates are invited to submit the following documents to Vincent Le Fouest at vincent.le_fouest@univ-lr.fr:
- A cover letter detailing your motivation and qualifications
- A comprehensive curriculum vitae, including publications and educational background
- Contact information for one or two academic references

For inquiries about the position, please feel free to contact Vincent Le Fouest at the provided email address.