

Instrumental design engineer - Development of experimental containers for studying the effects of climate change on shellfish production M / F

Laboratoire d'Océanographie de Villefranche (LOV) - Centre National de la Recherche Scientifique (CNRS) and Sorbonne Université, France

12 months, possibility of a 12 months extension

Full time position, 1750 - 2000 € (net)

Deadline for applications: 15 June 2020

As part of the project “Shellfish farming in a world rich in CO₂ (CocoriCO₂)” financed by the European Fund for Maritime Affairs and Fisheries (EMFF, 2020 - 2022), which aims at evaluating the impacts of environmental changes on shellfish farming in France, we are seeking an instrumental design engineer. The recruited person will be responsible for developing two identical experimental systems allowing precise regulation of sea water pH and temperature in order to conduct studies on the impact of ocean warming and acidification on the culture of oysters and mussels. These experimental systems will be installed in containers near shellfish growing areas in Brest and Sète.

Foreseen activities

- In collaboration with project partners, to establish specifications for the design of pH and temperature regulation systems
- To acquire the equipment necessary for the development of the experimental system
- To develop a data acquisition system (interface, serial links and storage) for pH and temperature sensors composing the experimental system
- To develop a dynamic temperature and pH regulation system (addition of seawater saturated with CO₂)
- To develop alarm systems (email, sms) in case of malfunction of sensors or regulation systems

- To develop a remote verification system (laptop, tablet etc...).
- To carry out tests and calibrations, to write the operating procedures
- To install experimental systems in dedicated containers in Brest and Sète
- To assist carry-out the perturbation experiments

Expected knowledge and expertise

- Knowledge of design methods
- Instrumentation and measurement (general knowledge)
- In-depth knowledge of electronics
- Knowledge in the use of microcontroller cards
- Knowledge in programming (C, C ++, C sharp)
- Facilities for teamwork
- Skills in writing technical specifications
- Knowledge in aquariology appreciated
- Knowledge in French appreciated

Working context

The Laboratoire d'Océanographie de Villefranche (LOV, Homepage: <http://lov.obs-vlfr.fr>), UMR 7093, located in Villefranche-sur-Mer (Alpes-Maritimes, France) and founded in 2001, operates under the dual supervision of *Sorbonne Université* (SU) and the *Centre National de la Recherche Scientifique* (CNRS) within the framework of the *Institut National des Sciences de l'Univers* (INSU) and the *Institut Écologie et Environnement* (INEE).

LOV staff are dedicated to the production of knowledge through fundamental research, the dissemination of knowledge to the general public and within the framework of academic training, as well as monitoring changes in the environment through observation actions. Their fields of study range from ocean biogeochemistry to the ecology of marine organisms.

The recruited person will work within the group "CHimie, Océan, Climat (CHOC, <http://lov.obs-vlfr.fr/CHOC.html>)" and placed under the responsibility of Frédéric Gazeau (CNRS CRCN researcher). She / he will work in collaboration with several engineers from LOV or the *Institut de la Mer de Villefranche* (IMEV), and in close collaboration with the project partners (Ifremer, Regional Shellfish-farming Committees of North Brittany and the Mediterranean). Possibility of contract extension of 12 months (European FACE-IT project, perturbation experiments in the Arctic).

Contact

Frédéric Gazeau, f.gazeau@obs-vlfr.fr