



Researcher (research engineer) in Climate Modelling « SWIO-Energy project »

CONTEXT

In the framework of a project of the regional cooperation programme, INTERREG V 2014-2020 (European funding), the University of La Réunion (UR), in partnership with the University of Mauritius (UoM), is seeking a scientist (named as research engineer in France) in regional climate modelling for climate studies in the Southwest Indian Ocean.

The expertise of the Laboratory of Energy (Energy^{LAB}), the project leader, is located both in the field of solar metrology (the team manages a network of fifteen meteorological stations over La Réunion but also in neighbouring countries - South Africa, Mauritius, Comoros, Seychelles and Madagascar), and in the field of regional climate modelling (since 2011, the team has implemented a dynamic downscaling approach based on the use of regional climate models forced on their lateral boundaries by: 1) global climate models, 2) climate reanalyses).

The main objective of the SWIO-Energy project is to study, for the first time in the region, the impact of climate change on renewable resources (solar, wind) at the local scale over La Réunion and Mauritius using ground measurements, satellite imagery and simulations from regional climate models. The researcher will 1) work in collaboration with and under the responsibility of the project manager, himself overseen by the scientific manager of Energy^{Lab} in charge of the project, and 2) interact with the study engineer in scientific calculation of the laboratory and the study engineer in data processing recruited as well on the project.

Assignment

The applicant joins the laboratory for the entire project to ensure:

Software management

He (She) will be responsible for the implementation (installation and first tests) of the RCM (WRF) used for the project (WRF).

Simulations

The applicant will be responsible for carrying out all the WRF simulations required for the project according to a program defined by the team and its partners. His (her) role is to prepare the simulated data sets used by all project partners, including: outputs from existing models (reanalyses, data generated by the models that will be used for the project - CMIP, CORDEX, Météo-France climate models, etc.) and WRF outputs produced as part of the project. This work will be done in conjunction with the project manager, the group of researchers involved in it (CRC, LACy, Météo France) and the study engineer in scientific calculation of the laboratory. He (She) will also carry out statistical processing and analysis on the model outputs (validation...).

Reporting

His (her) tasks include the regular writing and editing of technical reports for all the partners of the project.

Desired skills and experience

The candidate should hold a doctoral degree and require the following skills/experience:

- strong background in atmospheric/earth/climate sciences. Knowledge on renewable energy (solar, wind) and /or the climate of the Southwest Indian Ocean is an advantage.
- recent and relevant high-quality publications in international journals
- experience in global/regional climate modelling (e.g., WRF)
- experience in Linux/UNIX environment
- competency in programming (e.g. Python, R, MATLAB), and the ability to cope with large amounts of data (observations/simulations)
- advanced communication skills in oral and written English.

A first experience in the implementation and monitoring of projects of this type would be appreciated.

Rigorous and methodical, the applicant will:

- provide the required technical solutions
- work in autonomy and be highly adaptable to change
- have good teamwork and communications skills.
- Status: full time (35 hours / week) contract at the Université de La Réunion
- Duration: 36 months
- Location: Saint-Denis (La Réunion)
- Contact: To apply, please send a motivation letter and a CV to Dr. Béatrice Morel, <u>beatrice.morel@univ-reunion.fr</u> Patrick Jeanty, <u>patrick.jeanty@univ-reunion.fr</u> under the reference: Climate modelling researcher / SWIO-Energy