MINISTÈRE
DE L'ENSEIGNEMENT SUPÉRIEUR
ET DE LA RECHERCHE

Job description

Typical occupation or job*: Research engineer
* REME, REFERENS, BIBLIOPHILE

Duties: IT engineer

Category: A
Body: IGR or Researcher
BAP (if ITRF) :

The activities that make up the job description are subject to change according to candidate profile and the needs of the service.

Presentation of Sorbonne University

To disseminate knowledge, understand the world and meet the challenges of the 21st century, a new university was born on 1er January 2018, resulting from the merger between the universities of Paris-Sorbonne and Pierre and Marie Curie. Sorbonne University is a multidisciplinary, research-intensive and world-class university. Anchored in the heart of Paris, it is committed to the success of its students and strives to meet the scientific challenges of the 21st century. www.sorbonne-universite.fr

Presentation of the structure (laboratory, training department, central service, etc.)

Description (missions, team, ...): The Institut Pierre-Simon Laplace (IPSL) federates 9 laboratories whose research topics concern climate and environmental sciences from the regional to the global scale. IPSL leads and participates in several national and European projects. Applied projects aimed at facilitating climate change adaptation or mitigation policies are becoming increasingly important in the activities of the Institute.

This position is part of the Climaviation project (https://www.climaviation.fr), a partnership between Sorbonne University and the French Aerospace Lab (ONERA), funded by the Direction Générale de l'Aviation Civile (DGAC). This project aims to improve the scientific understanding of the climate impacts of aviation. The objectives of the project are: 1) To better quantify the climatic impacts of aviation, in particular the non-CO_2 impacts of contrails, aerosol cloud interactions and atmospheric chemistry, 2) To evaluate the impacts linked to new fuels such as synthetic hydrocarbons or hydrogen, 3) To propose solutions to minimise these climate impacts.

Location: Your office will be located at the Institut Pierre-Simon Laplace (IPSL) on the Pierre-et-Marie-Curie (Jussieu) campus of Sorbonne University in Paris. Work meetings will take place in Palaiseau (ONERA), Saclay (LSCE) and Toulouse.

Main tasks and activities

Mission (purpose of the post):

The engineer will contribute to the development of the MONC (Met Office NERC Cloud) Large Eddy Simulation model. This model is maintained by the UK Met Office and the Department of Meteorology of the University of Reading (UK). It is increasingly used by research teams in the UK and in France. In a first step, the engineer will consolidate the current MONC development trunk. Then, she/he will contribute new developments aimed at improving the ease of use of the model, its stability, and its documentation. Activities will take place in collaboration with British teams. The MONC code base is written in Fortran.

Main activities (maximum 10):

- Contribute to the MONC code repository.
- Improve the stability of the I/O server used by MONC.
- Rationalise input and output file formats.
- Improve and update the documentation of the model.
- Contribute to the python scripts that manage post-processing and visualisation of MONC-generated data.

Line management responsibilities: NO
~~**No. of staff supervised by category: ... A - ... B - ... C**~~

Knowledge and Skills*.

Cross-cutting knowledge required:

- Master in IT, engineering, mathematics, physics, or equivalent.
- Demonstrated knowledge of an imperative, compiled programming language, such as Fortran or C.
- Knowledge of the Python programming language and associated scientific libraries.
- Knowledge of Unix/Linux and bash programming.
- Experience of scientific computation servers and/or supercomputers.

Know-how:

- Excellent writing of technical documentation in English.
- Excellent oral and interpersonal communication skills.
- A very good knowledge of the English language.
- Be able to plan your work and work independently towards shared goals.

Cross-cutting skills:

- Scientific rigour.
- Initiative and adaptability.
- Be able to work in and with international teams with a variety of expertise.

Skills (3 maximum):

- Excellent interpersonal skills
- Sense of service
- Reliability

Type of contract: 24-month fixed-term contract

Gross monthly salary: According to experience

Desired start date: As soon as possible after 1st February 2024

To apply, send a CV, the name of two referees and a motivation paragraph to gregoire.dannet@ipsl.fr and nicolas.bellouin@ipsl.fr.

* In accordance with the annex to the order of 18 March 2013 (NOR: MENH1305559A)