

Permanent “Research Engineer” position at Commissariat à l'énergie atomique et aux énergies alternatives (CEA, Saclay, France):

Development of codes for statistical analysis and modelling of climate data

Context:

The use of climate information (observations and simulations) is currently in strong development for the needs of adaptation and mitigation of climate changes and for impacts studies and research. This is the base of climate services. The ESTIMR team of the Laboratoire des Sciences du Climat et de l'Environnement (LSCE) develops a methodological research upstream of those services. This research aims at a better understanding of the climate data: statistical analyses of observations and simulations in order to investigate the variability and identify the trends, modelling of extreme events, detection and attribution of their changes, downscaling, bias adjustment of simulations, uncertainty modelling of climate projections. The ESTIMR team leads and participates to international projects, from pure science project to climate services. The main activity of the team relies on the use and development of advanced statistical models via a strong multidisciplinary interaction among climatology, modelling and statistics. This activity deeply depends on computer codes and data workflows, which are more and more complex. The job objectives are the optimisation and the automation of codes that are applied to very voluminous databases, as well as to make them users-friendly for both the academic and non-academic worlds.

Main missions:

The hired engineer will reinforce the ESTIMR team on all computational aspects related to the developments of statistical methods, from a coding support, to the set up of data workflows, through optimisation, maintenance, enhancement (e.g., creation of R packages) and automation of those tools, with a quality approach and a methodological monitoring.

The engineer will participate to various research projects of the team. She/he will also be able to develop research on innovating statistical algorithms (for example, machine learning, MCMC)

Main activities of the hired person:

- Support (development / optimisation) for coding and to showcase the statistical methods under development (packages, etc.),
- Follow-up (maintenance / automation) of the codes developed in the team by the researchers and the recruited engineer,
- Development of workflows to process the data generated by the different codes,
- Methodological and scientific monitoring (statistics, data science, etc.).

Profile of the candidate:

The successful candidate must have a PhD in Climate science, applied mathematics, statistics or a close related field. Advanced skills in statistical analyses/modelling of climate or meteorological data are compulsory. An excellent capability for algorithmic developments with different coding languages is necessary as well as a critical mind for analysing and evaluating the results. A strong rigour in the treatment (management, handling, computation, etc.) of massive databases is also expected.

The hired engineer should also bring proposals for the tools allowing sharing and accessing the scientific results to other researcher and/or users.

In addition to those scientific skills, the research engineer must feel comfortable in an international context. Redaction / communication skills would an appreciated bonus. Fluent English is indispensable.

How to apply:

Applications will be closed on April, 30, 2017 and can be made online at :

https://www.emploi.cea.fr/offre-de-emploi/emploi-ingenieur-en-methodes-statistiques-h-f_2328.aspx

More information on the “Extremes – Statistics – Impacts – Regionalization” (ESTIMR) team:

http://www.lsce.ipsl.fr/en/Phocea/Vie_des_labos/Ast/ast_groupe.php?id_groupe=56

More information on the “Laboratoire des Sciences du Climat et de l’Environnement” (LSCE):

<http://www.lsce.ipsl.fr/>

Contact: [mathieu.vrac\[at\]lsce.ipsl.fr](mailto:mathieu.vrac@lsce.ipsl.fr)