POST-DOCTORAL POSITIONS IN MANGROVES MODELING

IPSL, Paris, 18/10/2021

The modeling group at IPSL ("Institut Pierre et Simon Laplace", www.ipsl.fr/) invites applications for a 30 months fixed-term post-doctoral position in land surface and ocean modeling, with a focus on mangrove ecosystems. The applicant should have an interest in interdisciplinary research and in blue carbon.

Mangroves are part of the blue carbon concept, defined as the carbon fixed from the atmosphere by coastal ecosystems. Despite occupying a relatively small area compared to other tropical forests, mangroves sequester more carbon, and do so at a higher rate, compared to these other forest ecosystems However, the role of mangroves in the carbon/climate feedbacks are not well understood, and they are not integrated in Earth system models used to predict climate dynamics and climate change.

The main scientific objectives of the position will be to developed a new version of the ORCHIDEE land surface model that includes the main mangroves-related mechanisms impacting the carbon cycle and hydrology, with a focus on belowground processes. This new version of ORCHIDEE will be used for long term present and future simulations at the global scale to determine the feedbacks of mangrove forest to climate change, including sea level rise.

Specific tasks will include developing functionalities related to the specific hydrology of mangroves ecosystems, and vertical representation of mangrove soils. The postdoc will be based at the geosciences department of Ecole normale supérieure (ENS; 24 rue Lhomond, 75005 Paris, France) which is part of the IPSL, with potential travels to Madagascar and Florida to assist with fieldwork.

Required Qualifications:

- A Ph.D in mathematics, geoscience, physics, engineering, computer science, meteorology, theoretical ecology, or biogeochemistry.
- The ability to develop code (particularly Fortran 90) and to integrate scientific knowledge into numerical schemes.

Desired Qualifications:

- Priority will be given to individuals who have published peer-reviewed papers.

Home institution:

IPSL employs over 300 permanent researchers, 200 technical and administrative staff, and over 450 PhD students and postdoctoral researchers, spanning 30 nationalities. Our research mission is to contribute toward better understanding of the interactions between human activities in the Earth system, and the environment and climate dynamics at different timescales. The IPSL oversees the development of an Earth system model (IPSL-CM) of which ORCHIDEE is the land surface model (LSM). IPSL-CM is one of the ESMs contributing to the IPCC Assessment Reports.

Required content of the application:

There are no specific application forms. Applications and inquiries should be sent to:

Bertrand Guenet (guenet__at__geologie.ens.fr)

Laurent Bopp (bopp__at__lmd.ens.fr)

Applications should include (1) a curriculum vitae, (2) statement of motivation including a short description (no more than 1 page) of a recent scientific question you answered and (3) names, addresses, phone numbers, and email addresses of at least two references. The position is available immediately and will remain open until filled. Salary follows national directives and is adjusted for work experience. A dual position may be explored in case your partner/spouse has a competitive CV and background in line with the research activities at IPSL.