

Job description: Postdoctoral fellowship in modeling phosphorus soil biogeochemistry

We are looking for a motivated post doc fellow interested in soil biogeochemistry and land surface modeling to join our team at LSCE. The increase of atmospheric CO₂ and climate change, associated to regional increases in nitrogen (N) and phosphorous (P) deposition induce a modification of the soil microbial and fungi activities impacting the mineralization of nutrients (N, P) and the stability of soil organic carbon. The post doc will combine two recent developments incorporated in the process-based ecosystem model ORCHIDEE: (a) the explicit representation of phosphorus and nitrogen cycles and their interactions with the environment and (b) a new soil carbon decomposition module including vertical and lateral transport and priming effects. The post doc will incorporate mechanisms related to microbial and fungi impacts on the stoichiometry of mineralization products, and inorganic N and P diffusion in the soil in relation to plant uptake.

The model will be evaluated at sites with long term N and P additions experiments collected in the IMBLANCE-P project, to quantify the importance of limitations from phosphorous mineralization and diffusion in soil to support primary production and the role of priming in the mineralization and plant uptake of N and P under additional N and P input, elevated atmospheric CO₂ and warming.

Candidates should hold a PhD in ecology, soil science, Earth System Modeling or environmental Science, have strong skills in computer science , strong writing skills, and demonstrated ability to work in a team environment.

The fellowship will be hosted at Laboratoire des Sciences du Climat et de l'Environnement (LSCE) in the south-west of Paris for a fixed-term period of up to 36 months. The position is part of the ERC-Synergy IMBALANCE-P project involving more than 100 researchers (<http://imbalancep-erc.creaf.cat/>) and will involve travels to other European research groups of the project.

How to apply: Applications to be emailed to Bertrand Guenet (bertrand.guenet__at__lsce.ipsl.fr) , Daniel Goll (Daniel.goll__at__lsce.ipsl.fr) and Philippe Ciais (philippe.ciais_at_lsce.ipsl.fr) should include (1) a curriculum vitae including most important recent publications, (2) statement of motivation (see above) and (3) names, addresses, phone numbers, and email addresses of at least two references. The position is available from March 1st and will remain open until filled with review of applications and interviews. Salary follows national directives and is adjusted for work experience.



Photo credit: Jennifer Soong