



## Post-doctoral position in Giant Planet Modelling at Laboratoire de Météorologie Dynamique, Sorbonne Université, Paris, France

A 15-month post-doctoral position in planetary atmospheric science is opened at Laboratoire de Météorologie Dynamique (LMD), starting late 2019 / early 2020. An extent towards a total two-year duration is possible. The position is funded by the Agence Nationale de la Recherche (ANR) grant [EMERGIANT](#) and opened at Sorbonne Université on the Pierre and Marie Curie campus in the heart of Paris.

The successful applicant will join a team dedicated to giant planet modelling comprising Dr Aymeric Spiga (Senior Lecturer at Sorbonne Université, PI), Dr Sandrine Guerlet (Research Scientist at CNRS, CoI), Dr Ehouarn Millour (Research engineer at CNRS, CoI), PhD student Alexandre Boissinot (2017-2020, Jupiter dynamics), PhD student Deborah Bardet (2018-2021, Saturn stratospheric dynamics).

The successful applicant will carry out research with the new Global Climate Model [GCM] developed for giant planets at LMD, based on a coupling between the new icosahedral-grid dynamical core DYNAMICO [[Dubos+2015](#)] with radiative transfer parameterizations for Saturn [[Guerlet+2014](#)] and Jupiter [[Guerlet+submitted](#)]. The model has been successfully applied on 1) Saturn with high-resolution simulations that allowed a preliminary analysis of Saturn's atmospheric dynamics in the troposphere [[Spiga+2020](#)] and the stratosphere [[Bardet+EPSC19](#)] and 2) Jupiter with high-resolution simulations applied to its troposphere [[Boissinot+EPSC18](#)], with the perspective of a parameterization for convection currently being developed [[Boissinot+EPSC19](#)].

The successful applicant will explore through simulations with our GCM for gas giants a variety of open problems related to 1) polar dynamics 2) impact of convection, including giant convective outbursts, on the zonal jets and equatorial oscillations 3) growth and stability of large-scale vortices. Results from simulations will be compared to observations by the Cassini and Juno missions.

A PhD in astrophysics, planetary science, or geophysical fluid dynamics is required by the time of starting the position. The following skills will be considered in the evaluation process:

- working knowledge in planetary science (especially giant planets' environments)
- expertise in atmospheric dynamical modelling (including model development)
- experience of exploring datasets acquired by space missions (especially gas giants)
- ability to work in a team and to stimulate research as a community process

The successful applicant will benefit from a dynamic and stimulating research environment, with the possibility to interact with scientists in the LMD team involved with atmospheric modeling and observations of terrestrial and planetary atmospheres, as well as French collaborators from LESIA / Observatoire de Meudon and LAB / Université de Bordeaux.

Funding has been secured for travel to attend international conferences (at least 2 per year). Benefits include complete health insurance coverage and social security, as required by French law.

Applicants should submit in a single PDF document a curriculum vitae with a list of publications, a short review of previous works, and statement of research interest and contribution to the project. Applicants should arrange for two reference letters to be sent independently – or include two contacts that can be contacted for reference.

Applications and information requests should be sent via email to Dr Aymeric SPIGA ([aymeric.spiga@sorbonne-universite.fr](mailto:aymeric.spiga@sorbonne-universite.fr)). The closing date is October 31th, 2019. Late applications might be considered, until the position is filled.