



Postdoc position in planetary science for InSight missions

Space Systems for Planetary Applications (SSPA) research team at ISAE-SUPAERO (Institute of Space and Aeronautics Engineering) is deeply involved in the scientific analysis of instruments on board INSIGHT NASA mission (<http://insight.jpl.nasa.gov>).

The postdoc position will participate to the development of a new research topic: atmospheric science from ground deformation measurements. Our team has developed data processing methods and unique numerical simulation tools that allow us to characterize various atmospheric waves (gravity waves, infrasounds...) from the atmospheric pressure and ground deformation records. The analysis of the first set of INSIGHT records clearly demonstrates that these data are capable of providing new constraints on Mars atmosphere physics.

The first objective of the postdoc will be to process extensively INSIGHT records in order to constrain the source and propagation of Mars atmospheric waves.

A second objective will be to link these observations to Mars atmosphere dynamics. In order to do so, the applicant will define a way to use and develop numerical simulation codes in order to simulate the various observations

Eventually, the researcher will also be involved into other planetary projects developed in the team and related to planetary atmospheres (Mars microphone on Mars 2020 NASA mission, infrasound sensors for balloon platforms on Venus...)

The applicant possesses a PhD in planetary sciences, atmospheric physics or applied mathematics. He enjoys team work, is autonomous, innovative and open minded in its research studies.

The applicant will benefit from the various data analysis and numerical simulation tools developed in the team, as well as a state of research environment.

The postdoc position is funded for 2 years by ANR (French research agency). The selection process will continue until the position is filled.

Applicants should submit through email a CV, a statement of research interests and the names and addresses of two references to Raphael.GARCIA@isae.fr and David.MIMOUN@isae.fr (Subject: InSight postdoc). Only complete applications will be considered.

References:

- Garcia, R. F., Brissaud, Q., Rolland, L., Martin, R., Komatitsch, D., Spiga, A., ... & Banerdt, B. (2017). Finite-difference modeling of acoustic and gravity wave propagation in Mars atmosphere: application to infrasounds emitted by meteor impacts. *Space Science Reviews*, 211(1-4), 547-570.
- Spiga, A., Banfield, D., Teanby, N. A., Forget, F., Lucas, A., Kenda, B., ... & Garcia, R. F. (2018). Atmospheric science with InSight. *Space Science Reviews*, 214(7), 109.
- <https://publons.com/researcher/2755280/raphael-f-garcia/>