2 PhD positions in planetary science and machine learning in Bern – NCCR PlanetS and Center for Space and Habitability

We seek qualified candidates for two 4-year PhD positions in exoplanet science in the research group of Prof. Yann Alibert (University of Bern), focusing on the formation, composition and architecture of planetary systems, in particular with the help of machine learning (ML) and artificial intelligence (AI). The PhD positions are part of the National Centre of Competence in Research (NCCR) PlanetS and the Centre for Space and Habitability (University of Bern). There will be frequent interaction with the TAPS group (Theoretical Astrophysics and Planetary Science) at the University of Bern (Prof. Yann Alibert and Prof. Chistoph Mordasini). PlanetS is a large national framework in Switzerland that brings together Swiss efforts in planetary and exoplanetary science in Bern, Geneva and Zurich. More information about our research group, the CSH and the NCCR can be found using the links below.

The ideal candidate will have a bachelor's or master's degree in physics, astrophysics, planetary science or equivalent. Experience with data analysis, ML and AI methods is an advantage. Candidates should be enthusiastic, persistent, communicative and willing to integrate into the teams in Bern and the Swiss landscape (PlanetS, CSH and TAPS). The research will consist of a combination of numerical modelling of the physics of planetary system formation and analysis of the results using ML and AI methods.

The scientific objectives of the two PhD projects are to study the emergence of planetary system architecture and the uniqueness of the architecture of the Solar System. The work will be based on population synthesis models of planetary system formation developed in our group over the last two decades and their analysis using ML and AI. Beyond solar system formation, a major goal of the two PhDs is linked to current and future observational projects (e.g. CHEOPS, PLATO, LIFE, ground-based survey with e.g. ESPRESSO) aiming at the discovery and characterisation of exo-Earths. Frequent interactions with members of the above-mentioned observational projects in PlanetS are foreseen.

The formal appointment will be for 4 years at the University of Bern. There will be a standard first year of probation. The annual salary is determined by a matrix provided by the Swiss National Fund. Child allowance and maternity/paternity leave are offered. Sufficient funds are available for travel, publications and computers. The successful candidate will participate in group meetings, journal clubs, research discussions, attend seminars and colloquia, interact with research visitors, travel to conferences, etc., both in Bern and in the NCCR PlanetS. The starting date is expected to be summer/autumn 2024 and is negotiable.

To apply, please send a letter of motivation including a personal statement (max. 1 page), a curriculum vitae (max. 2 pages), a list of publications (if applicable), undergraduate and graduate transcripts and a covering letter (1 page). The complete application should be sent as a single pdf file to Yann Alibert (yann.alibert@unibe.ch). It is the applicant's responsibility to ensure that 2-3 letters of recommendation are also sent directly to Yann Alibert by the deadline of 15 June 2024.

The University of Bern is an equal opportunity employer and we particularly encourage applications from female researchers.

Application Details

Application Deadline: **2024 June 15**

Inquiries

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