Charles University

XIX. Call for the Junior Fund, 2026

Faculty Proposal for a Research Project

Faculty:	Faculty of Mathematics and Physics
Department:	Institute of Theoretical Physics
Research project title	Connecting multi-dimensional simulations of common envelope evolution with populations of binary and single stars
Project description	Common envelope evolution is the most consequential unsolved phase of binary star evolution. In the past few years, the group of doc. Pejcha at the Institute of Theoretical Physics with the help of ERC Starting Grant (2019-2025) has been leading efforts to study this phase with unique in-house codes using multi-dimensional radiation/magneto-hydrodynamics and focusing on the associated astrophysical transients. We look for candidate who will further build and expand on the success of the project by connecting the in-house multidimensional expertise to a broader landscape and phenomenology of observed astrophysical events and populations.
What do we offer?	Successful applicant will be integrated into the team of doc. Pejcha, which includes undergraduate and PhD students and other postdocs. The applicant will gain access to the group's codes, parallel computational resources, and career development. The university salary 50.000 CZK will be supplemented by an additional 10 000 CZK/month.
Profile of an ideal candidate:	Experience with stellar evolution simulations, or calculation of synthetic spectra, or multidimensional hydrodynamics. Knowledge of single and/or binary star evolution.
Position available from:	October 1, 2026
Workplace location:	V Holešovičkách 2, Praha 8, 180 00
Supervisor(s):	*doc. Mgr. Ondřej Pejcha, Ph.D.*
E-mail:	ondrej.pejcha@matfyz.cuni.cz
Phone:	+420 951 552 495
Application deadline:	May 1, 2026
Applicants must submit required documents to:	*(project supervisor)*