

(BL175/2022-IST-ID)

Research Studentships (for PhD students)

Applications are open for 1 Research Studentship, within the framework of project/R&D institution Projeto Estratégico Programático IST-ID linha GoLP com o PEP 1801P.00990.1.01 - UIDP/FIS/50010/2023 – GOLP, financed by national funds through FCT/MCTES (PIDDAC), under the following conditions:

Scientific Area: Plasma Physics and Nuclear Fusion

Admission Requirements: *To be enrolled at a PhD.*

Workplan: The Master fellow will work on the topic of general relativistic (GR) magnetospheres of compact objects. Using massively parallel simulations that will leverage on the new developments of the numerical infrastructure, the work will focus on performing a detailed study on the importance of general relativistic effects (e.g., frame-dragging) to the plasma dynamics in the vicinity of compact objects. The first objective will be to simulate local two-dimensional simulations of the polar cap of neutron stars with GR effects and understand how these affect the particle acceleration close to the star (gap dynamics). The second objective will be to extend the current GR module to address the magnetospheric dynamics around a rapidly rotating black hole, employing the Kerr metric.

Legislation and Regulations: Statute of Scientific Research Fellow, approved by Law nr. 40/2004, of August 18, as worded by Decree-Law nr. 123/2019, of August 28; FCT Regulation for Research Studentships and Fellowships, available on <https://www.fct.pt/apoios/bolsas/docs/RegulamentoBolsasFCT2019.pdf> and <https://dre.pt/application/file/a/127230968>.

Workplace: The work will be developed at GoLP/IPFN of IST, under the scientific supervision of Professor Luís Oliveira e Silva

Duration: The research fellowship(s) will have the duration of 6 months. It's expected to begin in September 2022, and may be eventually renewed up to the end of the project.

Monthly maintenance allowance: According to the values for Research Fellowships awarded by FCT in Portugal (<http://www.fct.pt/apoios/bolsas/valores>), the amount of the monthly maintenance allowance is € 1144,64, being the payment method an option of the Fellow by Wire Transfer/Check.

Selection methods: The selection methods will be the following: *Curriculum evaluation*, with the respective weight of 100%.

Composition of the selection Jury: Professor Luís Oliveira e Silva, Professora Marta Fajardo e professor Ricardo Fonseca

Announcement/ notification of the results: The final evaluation results will be communicated to all applicants by email.

Deadlines and procedures of complaint and appeal. A complaint may be lodged from the final decision within 15 working days, or an appeal to the Executive Board of IST-ID within 30 working days, both counted from the respective notification

Application deadline and formalization: The call is open from August 31 until September 13, 2022.

It is mandatory to formalize applications with the submission of the following documents: i) B1 Form – Fellowship application (<https://ist-id.pt/concursos/bolsas/>); ii) *Curriculum Vitae*; iii) academic degree certificate, where applicable; iv) proof of enrollment at an academic degree course (PhD); v) motivation letter;

Applications must be submitted to the email: claudia.romao@tecnico.ulisboa.pt