(BL172/2026_IST-ID)

Research Studentships (PhD students)

Applications are open for 1 Research Studentship (PhD), within the framework of project GRAVITAS (101052587) - IST-ID (1801P.01220.1.01)/CENTRA, financed by European funds (HORIZON EUROPE) under the following conditions:

Scientific Area: Astronomy and Astrophysics

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

Workplan: The work will focus on studying the strong-field regime of gravity and the interaction between gravitational waves and fundamental fields. A variety of astrophysically plausible scenarios are to be studied, alongside systems of interest from a pure relativistic perspective, such as the threshold of black hole formation. The work is proposed to start with two related but distinct projects:

1, perform the first detailed numerical study of conversion between electromagnetic and gravitational waves (the Gertsenshtein effect), as well as study the stability of black holes embedded in magnetic fields.

2, extend existing work on the threshold of black hole formation in GR coupled to electromagnetism within the bamps NR code. Both projects must feed into each other. (Present a resume of the activities to carry out, the objectives to achieve, and their relevance for the conclusion of the studies at which the studentship holder is enrolled)

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; Regulation of IST-ID Research Grants, available at https://ist-id.pt/concursos/bolsas/

Workplace: The work will be developed at CENTRA of INSTITUTO SUPERIOR TÉCNICO under the scientific supervision of Prof. Dr. Vitor Cardoso.

Duration: The research fellowship(s) will have the duration of 8 months. It's expected to begin in 01/2027 and may be renewed.

Monthly maintenance allowance: The amount of the monthly maintenance allowance corresponds to € 1901.00 as provided for in the financing project, with Wire Transfer being the payment method chosen by the Fellow.

Selection methods: The selection methods will be the following: Curriculum evaluation, individual interview with the respective weight of 50%+50%.

Composition of the selection Jury: Prof. Vitor Cardoso, Prof. Ilídio Lopes, Prof. David Hilditch.

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

Deadlines and procedures of complaint and appeal. After notification of the provisional list of evaluation results, candidates have a period of 10 working days to, if they wish, make a statement at a preliminary hearing of interested parties, in accordance with Articles 121 et seq. of the Code of Administrative Procedure. The final decision will be made after analyzing the statements presented at the preliminary hearing of interested parties. The final decision may be appealed to the competition jury or to the President of IST-ID within 15 working days of notification

Application deadline and formalization: The call is open from November 9 until November 13, 2026.

It is mandatory to formalize applications with the submission of the following documents: i) B1 Form – Fellowship application (https://ist-id.pt/recursos-humanos/bolseiros/#documentos-relacionados); ii) *Curriculum Vitae*; iii) academic degree certificate, where applicable; iv) proof of enrollment at an academic degree course (PhD)

Applications must be submitted to the email*:* vitor.cardoso@tecnico.ulisboa.pt