

(BL269/2024-IST-ID)

### Post-Doctoral Research Fellowships

Applications are open for 1 Post-Doctoral Research Fellowship(s), within the framework of project/R&D institution 1801P.01325.1.01) XPACE - 101045172 - IST-ID- 930901, under the following conditions:

**Scientific Area:** Plasma Physics and Nuclear Fusion

**Admission Requirements:**

- a) to hold a PhD degree obtained in the 3 years previously to the submission of the fellowship application;
- b) to have carried out the research work that led to the PhD degree in a different entity from the host institution of the fellowship;
- c) Not to exceed, with this fellowship contract, including the possible renovations, an accumulated period of 3 years in this type of fellowship, continuously or with interruptions;
- d) Not to have previously held a post-doctoral fellowship from IST-ID.

**Workplan:** Use the combination of kinetic particle-in-cell simulations with the code OSIRIS and analytical theory to explore the interplay between different processes, such as plasma instabilities, collisionless shocks, and magnetic reconnection on the dynamics of relativistic astrophysical jets and their energy dissipation. Publish the associated results in international refereed journals and present them at international conferences. This will be important to improve our understanding of particle acceleration and radiation emission in relativistic astrophysical jets and directly relevant for the XPACE project.

**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; IST-ID Regulation for Research Studentships and Fellowships, available on [https://ist-id.pt/files/sites/43/regulamento-de-bolsas-da-ist\\_id-2.pdf](https://ist-id.pt/files/sites/43/regulamento-de-bolsas-da-ist_id-2.pdf) .

**Workplace:** The work will be developed at GoLP of IPFN at Instituto Superior Técnico, under the scientific supervision of Frederico Fiúza.

**Duration:** The research fellowship(s) will have the duration of 12 months. It's expected to begin in November 2024, and may be eventually renewed up to the maximum of 36 months, including the duration of the initial contract.

**Monthly maintenance allowance:** the amount of the monthly maintenance allowance is € 1801.00, being the payment method by wire transfer.

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

**Composition of the selection Jury:** Frederico Fiúza; Luís Miguel de Oliveira e Silva; Marta Fajardo

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

**Application deadline and formalization:** The call is open from October 30 until November 6, 2024.

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; iv) motivation

letter; v) declaration on honour that the applicant does not exceed with this contract an accumulated period of three years in this type of fellowship, continuously or with interruptions, within the technological and scientific system, and that the research work that led to the PhD degree was carried out in a different entity from the host institution of the fellowship.

Applications must be submitted to the email: [claudia.romao@tecnico.ulisboa.pt](mailto:claudia.romao@tecnico.ulisboa.pt)