(BL107/2025-IST-ID)

Research Studentships (for students of a course that does not award an academic degree)

Applications are open for 1 (one) Research Studentship(s), within the framework of project/R&D institution "SpectralOPs – Spectral Optimal Partitions: geometric and numerical analysis ", reference 2023.13921.PEX,, financed by national funds through FCT/MCTES (PIDDAC) under the following conditions:

Scientific Area: Mathematics

Admission Requirements:

a) to hold a master degree and be enrolled, at the date of the signature of the contract, at a course that does not award an academic degree and it is integrated in the educational project of a higher education institution, performed in association or cooperation with one or several R&D units;

b) not to exceed with this contract, including the possible renovations, an accumulated period of two years in this type of studentship, continuously or with interruptions.

Workplan: Study of spectral partition problems, a topic within the field of shape optimization and spectral theory. More specifically, to investigate topics related to optimal partitions in Euclidean domains and metric graphs, seeking exact criteria that ensure the existence (and regularity) of minimizers for various types of Schrödinger operators.

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 CAMGSD – Centro de Análise Matemática, Geometria e Sistemas Dinâmicos of Instituto Superior Técnico, under the scientific supervision of Professor Hugo Ricardo Nabais Tavares and Professor James Bernard Kennedy.

Duration: The research fellowship(s) will have the duration of 3 months. It's expected to begin in May 2025, and it is not renewable.

Monthly maintenance allowance: According to the values for Research Fellowships awarded by FCT in Portugal (https://www.fct.pt/fct-atualizou-o-valor-das-bolsas-para-2025/), the amount of the monthly maintenance allowance is € 1309,64, being the payment method an option of the Fellow by Wire Transfer/Check.

Selection methods: The selection methods will be the following: *Curriculum evaluation (including previous experience in the tasks to be developed) and motivation letter,* with the respective weight of 70% and 30%. Applicants whose application is scored with a final classification of less than 70 points (out of 100) are not eligible for granting a fellowship.

Composition of the selection Jury: Professor Hugo Ricardo Nabais Tavares, Professor Pedro Ricardo Simão Antunes and Professor James Bernard Kennedy.

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 April 14 until April 29, 2025.

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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) motivation letter; v) declaration on honour that the applicant does not exceed with this contract an accumulated period of two years in this type of studentship, continuously or with interruptions.

Applications must be submitted to the email*:* hugo.n.tavares@tecnico.ulisboa.pt

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