(BL197/2024-IST-ID)

Research Studentships (doctoral degree student)

Applications are open for 1 Research Studentship, within the Centre for Mathematical Analysis, Geometry and Dynamical Systems (CAMGSD), UIDP/04459/2025, financed by national funds through FCT/MCTES (PIDDAC), under the following conditions:

Scientific Area: Mathematics

Admission Requirements:

a) Bachelor's and/or Master's degree in Mathematics or in a related area.

b) According to Article 6 of FCT Regulation for Research Studentships and Fellowships (Reg. nr. 950/2019):

To be enrolled in a doctoral program at the start of the fellowship contract.

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

Workplan: development of specific activities of scientific research within the pluriannual funding of the project CAMGSD (UIDP/04459/2025). The planned research will focus on applications of resurgence and transseries to random matrix models, including their double-scaling limits into multicritical models and minimal string theories. In particular, we aim at finding general Stokes data for arbitrary one-matrix models, as well as their limit towards N=2 JT supergravity. Further extensions towards wall-crossing problems within the context of FZZT wave-functions are also to be addressed.

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 carried out at the Center for Mathematical Analysis, Geometry and Dynamical Systems of Instituto Superior Técnico, under the scientific supervision of one of its integrated members.

Duration: The research fellowship will have the expected duration of 12 months. It's expected to begin in September 2025 and cannot be renewed.

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 research experience, motivation letter,* with the respective weight of 70% and 30%.

Composition of the selection Jury: the committee will be composed of the following members of CAMGSD, all professors at IST: Pedro Resende, João Pimentel Nunes and Juha Videman.

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

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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 21 until September 3, 2025.

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) proof of enrollment at an academic degree course (PhD).

Applications must be submitted using this form: https://forms.gle/nnm1bp6iiHCf9EJL8