(BL23/2025-IST-ID)

Scientific Initiation Studentships

Applications are open for 2 Scientific Initiation Studentships, within the framework of project/R&D institution (Models4Invasion/CEMAT), (2022.03060.PTDC), financed by national funds through FCT, under the following conditions:

Scientific Area: Applied Mathematics

Admission Requirements:

a) To be enrolled at a professional higher technical course, at a bachelor degree, at an integrated master or master degree, or to have a bachelor degree and be enrolled 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 one year in this type of studentship, continuously or with interruptions;

c) not to have held any other fellowship directly or indirectly funded by FCT.

Specific requirements:
- *The candidate must be enrolled in a Master's degree in Statistics, Biostatistics, Data Science, Mathematics, Computer Science, or a related field*
- *The candidate must have excellent verbal and written English communication skills*
- *He/she must have proven experience in statistical analysis, applied mathematics and probability, and data science, preferably applied to biological models (courses, reports, articles, projects)*
- *He she must have strong proficiency in Python and/or R for data analysis and other software for statistical and mathematical modeling*
- *He/she must have strong communication and collaboration skills, especially in a multidisciplinary team environment*

Workplan: The candidate(s) will have experience in mathematical modeling and programming. He/she will explore aspects of the multi-species dynamics encoded in the replicator equation. The focus will be on understanding the principles and number of coexisting species, and the quality of their dynamics. The candidate will also apply data fitting algorithms/machine learning algorithms to link multispecies dynamics to biological data. The project integrates elements from dynamical systems theory, ordinary differential equations, linear algebra, calculus and probability and statistics.

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 CEMAT of IST-ID, under the scientific supervision of Dr .Erida Gjini

Duration: The research fellowship(s) will have the duration of 3 months. It's expected to begin in 03/2025, and may be eventually renewed up to the maximum of 6 months, including the duration of the initial contract.

Monthly maintenance allowance: According to the values for Research Fellowships awarded by FCT in Portugal (https://www.fct.pt/wp-content/uploads/2024/02/Tabela-de-Valores-SMM_atualizacao-2024.pdf), the amount of the monthly maintenance allowance is € 990,98 being the payment method an option of the Fellow by Wire Transfer/Check.

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Selection methods: The selection methods will be the following: Curriculum evaluation, with the respective weight of 100%. Shortlisted candidates may be invited for an interview.

Composition of the selection Jury: Erida Gjini, Jorge Tiago, Sten Madec

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 February 27 until March 13, 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, where applicable; iv) proof of enrollment at an academic degree course; v) motivation letter. vi) transcript of grades and relevant courses/trainings; vii) any example of written scientific work by the candidate (optional)

Applications must be submitted to the email*: erida.gjini@tecnico.ulisboa.pt*