

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

Applications are open for 1 Research Studentship(s), within the framework of i4HB (1801P.0114)/Institute for Bioengineering and Biosciences LA/P/0140/2020, financed by national funds through FCT/MCTES (PIDDAC, under the following conditions:

Scientific Area: “Ambiente e Alterações Globais - Tecnologias ambientais”

Admission Requirements: Master's in Biotechnology or related fields. Experience with machine learning models, applied to biological processes for the production of surfactants.

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

a) to hold a master 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 two years in this type of studentship, continuously or with interruptions

Workplan: The aim of the project is the development and integration of Artificial Intelligence (AI)- and Machine Learning (ML)-powered tools into bioreactor. Cultures will be carried out and monitored considering environmental and biochemical parameters such as aeration, agitation, temperature, pH, as well as nutrient feeding strategies, substrates consumption and products formation, namely biomass and mannosylerythritol lipids. In this project, the information obtained in these experiments will be analysed using AI/ML algorithms in order to digitalize the process and to develop new strategies for, initially, achieve a more efficient monitoring of the bioprocess and, in a later stage, to predict and control the bioprocess online, which is highly relevant for its improvement, for scalability and higher efficiency.

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 the Institute for Bioengineering and Biosciences of the Instituto Superior Técnico, Alameda, Lisboa, under the scientific supervision of Doctor Nuno Ricardo Torres Faria.

Duration: The research fellowships will have the duration of 6 months. It's expected to begin in June 2025, and may be eventually renewed up to the end of the project, with the limit of 12 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/fct-atualizou-o-valor-das-bolsas-para-2025/>), the amount of the monthly maintenance allowance is €1309,64, being the payment method of the Fellow by wire transfer.

Selection methods: The selection methods will be the following: Curricular evaluation and within the scope of the topic of this project (35%); specific technical experience and scientific knowledge to execute the work plan (35%); and experience scientific merit and capacity for innovation expressed in the expression of interests presented in the application (30%). Candidates will be ranked on a scale of 1 to 20 points for each selection method considered.

Composition of the selection Jury: Professor Mario Nuno de Matos Sequeira Berberan e Santos, Professor Luis Joaquim Pina Fonseca, Doutor Nuno Ricardo Torres Faria.

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 May 7 until May 20, 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) proof of enrollment at a course that does not award an academic degree; v) motivation letter; vi) expression of interests, vii) 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: luis.fonseca@tecnico.ulisboa.pt, with carbon copy to nuno.faria@tecnico.ulisboa.pt



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