(BL58/2025-IST-ID)

Research Studentships (for PhD students)

Applications are open for 01 Research Studentship within the framework of the project "Pacto da Bioeconomia Azul" ("Blue Bioeconomy Pact") at "Associação do Instituto Superior Técnico para a Investigação e Desenvolvimento" (IST-ID) (reference C632741873-00467082, investment n.º 16), financed by the European Union and national funds through the "Instituto de Apoio às Pequenas e Médias Empresas e à Inovação" (IAPMEI) and the Recovery and Resilience Plan, under the following conditions:

Scientific Area: Biological Sciences

Admission Requirements:

a) To hold a master's degree in biotechnology, microbiology or related areas;
b) to be enrolled in a PhD awarding program of an academic institution.

Workplan:

1. Address the potential beneficial traits (e.g., pathogen inhibition, chitinolytic activity) of bacterial symbionts of octocorals using phenotypic and genotypic methods (including the analysis of whole bacterial genomes), with emphasis on *Endozoicomonadaceae* genomes;

2. Perform phylogenomics, functional genomics and ecogenomics assessments of bacterial symbionts of octocorals, exploring a dataset of > 50 bacterial genomes and metagenome-assembled genomes obtained from these hosts;

3. Assess the susceptibility of the octocoral microbiome to increased seawater temperatures through the analysis of a large amplicon sequencing (16S rRNA genes) dataset obtained from a controlled mesocosms experiment;

4. Contribute to the creation of a bank of growth-promoting bacterial symbionts of corals and macroalgae of interest to the blue biotechnology sector;

5. contribute to the preparation of scientific articles and scientific dissemination material in coordination with the working team.

The objectives will be achieved within the framework of Work packages 09 ("WP9 – Portuguese Blue Biobank") and 05 ("WP5 – Algae") of the "Blue Bioeconomy Pact" project. The adequate conduction of the workplan is pivotal for the completion of the tasks planned to be performed at IST-ID, Instituto Superior Técnico, Universidade de Lisboa, in the framework of the "Blue Bioeconomy Pact" 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/recursos-humanos/bolseiros/#documentos-relacionados .

Workplace: The work will be developed at the Institute for Bioengineering and Biosciences (iBB) of Instituto Superior Técnico, Universidade de Lisboa, under the scientific supervision of Prof. Rodrigo da Silva Costa and Dr. Tina Keller-Costa.

Duration: The research fellowship will have a duration of 08 months. It is expected to begin in May 2025, and may be eventually renewed up to the maximum of 04 months in case the project is extended beyond December 2025.

Monthly maintenance allowance: According to the values for Research Fellowships awarded by FCT in Portugal (https://www.fct.pt/wp-content/uploads/2025/02/Tabela_valores_SMM_2025.pdf), the amount of the monthly maintenance allowance is 1 309,64 €, being the payment method an option of the Fellow by Wire Transfer/Check.

Selection methods: The selection methods will be the following: *Curriculum* evaluation, with eventual individual interview if necessary. The criteria used to evaluate the candidates' curricula will be as follows:

1. Acquaintance with coral husbandry techniques and mesocosm experiments mimicking climate change events; experience in measuring and analysing phenotypic indicators of octocoral health (15%);

2. Experience with bioinformatics tools used in the analysis of nucleic acid sequences (e.g., DADA2, MEGA, iTOL, R language), notions of molecular taxonomy and phylogeny, preferentially when applied to the study of bacterial symbionts of octocorals (15%);

3. Experience with functional annotation of bacterial genomes and metagenome-assembled genomes, with emphasis on the study of marine and/or coral-associated bacteria. Skills in processing 16S rRNA gene amplicon sequencing data, especially if applied in the study of octocoral microbiomes, will be considered a plus (20%);

4. Academic trajectory, with special value attributed to indicators of the academic qualifications of the candidate (e.g., quality of the Master thesis dissertation, scientific initiation and participation as grant holder in projects funded in the areas mentioned above, participation in scientific conferences) (20%);

5. Demonstrated capacity to conduct the research plan described above (30%).

Composition of the selection Jury:

Professor Rodrigo da Silva Costa (Department of Bioengineering, Instituto Superior Técnico)
Professor Miguel Nobre Parreira Cacho Teixeira (Department of Bioengineering, Instituto Superior Técnico)
Doctor André Conceição Pereira (Institute for Bioengineering and Biosciences, Instituto Superior Técnico)

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, or an appeal to the Executive Board of IST-ID, within 15 working days counted from the respective notification.

Application deadline and formalization: The call is open from March 24 until April 4, 2025.

It is mandatory to formalize applications with the submission of the following documents: i) B1 Form – Fellowship application (http://drh.tecnico.ulisboa.pt/bolseiros/formularios/); ii) *Curriculum Vitae*; iii) academic degree certificate; iv) proof of enrollment at an academic degree course (PhD); v) motivation letter.

Applications must be submitted to the following email addresses: rodrigoscosta@tecnico.ulisboa.pt; mafalda.firmino@tecnico.ulisboa.pt