

Research Studentships (for Master or Integrated Master students)

Applications are open for 01 Research Studentship (Master student), 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 be enrolled at an integrated master or master degree course in Microbiology, Biotechnology, Bioengineering or related areas at Instituto Superior Técnico, University of Lisbon;*
- 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.*

Workplan:

1. Isolate and identify, by molecular means (e.g., 16S rRNA gene sequencing), bacterial strains associated with macroalgae (e.g., *Porphyra* sp., *Ulva* sp.) grown in aquaculture facilities;
2. Screen bacterial symbionts of macroalgae (phenotypically and genotypically) for algal growth-promoting bioactivities (e.g., pathogen inhibition, synthesis of algal growth hormones);
3. Test potential bacterial probiotics able to promote algal growth or contribute to disease prevention/pathogen suppression using a controlled experimental design (microcosms);
4. Contribute to the creation of a bank of growth-promoting bacterial symbionts of macroalgae of interest to the blue biotechnology sector;
5. Assist the research team in tasks pertaining to cultivation-independent, molecular analyses (e.g., 16S/18S rRNA gene sequencing) of the algal microbiome in aquaculture facilities along successive algal growth stages.

The objectives will be achieved within the framework of Work package 5 (“WP5 – Algae”) of the “Blue Bioeconomy Pact” project, in close collaboration with the partner company AlgaPlus (<https://www.algaplus.pt/en/>). The adequate conduction of the workplan is pivotal for the granting of the Master’s degree to the successful candidate by Instituto Superior Técnico, Universidade de Lisboa, and for the progress 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; FCT Regulation for Research Studentships and Fellowships, available on <https://former.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 (iBB) of Instituto Superior Técnico, Universidade de Lisboa, under the scientific supervision of Prof. Rodrigo da Silva Costa. The workplan requires availability of the candidate to regularly visit the dependencies of partner company AlgaPlus to perform activities under the supervision of Algaplus founder and phycologist Helena Abreu.

Duration: The research fellowship will have the duration of 12 months. It is expected to begin in September 2023, and may be eventually renewed up to the maximum of 06 months.

Monthly maintenance allowance: According to the values for Research Fellowships awarded by FCT in Portugal (<http://www.fct.pt/apoios/bolsas/valores>), the amount of the monthly maintenance allowance is 930,98 €, 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. Familiarity with laboratory techniques and methods in basic microbiology, such as microbial cultivation and preparation of culture media and chemical solutions (25%);
2. Familiarity with laboratory techniques and methods in molecular biology, such as e.g., DNA extraction, agarose and polyacrylamide gel electrophoresis and genotyping methods (25%);
3. Acquaintance with bioinformatics tools used in the analysis of nucleic acid sequences, notions of molecular taxonomy and phylogeny, preferentially when applied to the study of bacteria. Previous laboratory experience in the study of algal-microbe interactions will be considered a plus (20%);
4. Academic trajectory. Bachelor's final grade, with special value attributed to indicators of the academic qualifications of the candidate (e.g., frequency of post-graduation courses and other training programmes in microbiology, quality of monographs, scientific training in the areas of microbiology and molecular, participation in internships, workshops, etc.). Interest in pursuing a Ph.D. degree in this or related areas, manifested in a motivation letter (see below) will be considered positively (30%).

Composition of the selection Jury:

Professor Rodrigo da Silva Costa (Department of Bioengineering, Instituto Superior Técnico)

Doctor Tina Keller-Costa (Department of Bioengineering, Instituto Superior Técnico)

Doctor Maria Teresa Ferreira Cesário Smolders (Department of Bioengineering, 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 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 19 until June 9, 2023.

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 (Master or Integrated Master); v) motivation letter.

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