

Research Studentship (Master or Integrated Master student)

Applications are open for 01 Research Studentship, within the framework of project “MERCANTAR Mercury dynamics in a volcanic impacted ecosystem: Deception Island, Antarctica” / Centro de Química Estrutural (CQE), Reference 2024.15563.PEX, financed by national funds through FCT/MCTES (PIDDAC), under the following conditions:

Scientific Area: Biological Sciences

Admission Requirements: *To be enrolled at an integrated master or a master programme.*

Workplan:

1. Extract DNA and RNA from soil, sediment, and water samples collected on Deception Island, Antarctica;
2. Detect, using PCR techniques, the *hgcAB* gene involved in mercury methylation in soil, sediment, and water DNA/cDNA samples from Deception Island, Antarctica;
3. Characterize the prokaryotic community present in soil, sediment, and water samples collected on Deception Island, Antarctica, through the sequencing of the gene encoding the 16S ribosomal RNA and the respective bioinformatics analysis of the data;
4. Assist the research team in the preparation of scientific publications.

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://dre.pt/application/file/a/127230968>.

Workplace: The work will be developed at the Institute for Bioengineering and Biosciences (iBB) and Centro de Química Estrutural (CQE) at the Association of Instituto Superior Técnico for Research and Development (IST-ID), under the scientific supervision of Professor Rodrigo da Silva Costa and Professor João Alfredo Vieira Canário.

Duration: The research fellowship(s) will have the duration of 06 months. It's expected to begin in September 2026. This fellowship is not renewable.

Monthly maintenance allowance: According to the values for Research Fellowships awarded by FCT in Portugal (<https://www.fct.pt/wp-content/uploads/2026/03/Tabela-de-Valores-SMM-2026.pdf>), the amount of the monthly maintenance allowance is 1090,98 €, 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)*, with the respective weight of:

- 1) Familiarity with laboratory techniques and methods in molecular biology, with emphasis on DNA and RNA extraction methods from soils in extreme environments, agarose gel electrophoresis, and determination of DNA/RNA concentrations using spectrophotometry and fluorescence techniques (30%);
- 2) Familiarity with PCR amplification of genes in metagenomic DNA samples, with emphasis on genes encoding the 16S ribosomal RNA subunit and genes encoding mercury methylation in soil and sediment samples from extreme environments (30%);
- 3) Knowledge of bioinformatics tools used in the analysis of nucleic acid sequences, with emphasis on the analysis of high-throughput sequencing data of the gene encoding the 16S ribosomal RNA subunit for the characterization of prokaryotic communities in samples from extreme environments (10%);
- 4) Academic trajectory. Bachelor's degree final grades, with special value attributed to indicators of the academic qualifications of the candidate (e.g., quality of the bachelor's thesis/monograph, scientific initiation in the areas mentioned above, participation in scientific conferences). The quality of the motivation letter (see below) will be considered positively (10%);



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5) Demonstrated capacity to conduct the research plan described above (20%).

Composition of the selection Jury:

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

Professor João Alfredo Vieira Canário (Department of Chemical Engineering, Instituto Superior Técnico)

Dra. Rute Isabel Talhadas Cesário (Centro de Química Estrutural, CQE)

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 June 29 until July 10, 2026.

It is mandatory to formalize applications with the submission of the following documents: i) B1 Form – Fellowship application (<https://ist-id.pt/recursos-humanos/bolseiros/#documentos-relacionados>); ii) *Curriculum Vitae*; iii) academic degree certificate, where applicable; iv) proof of enrollment at an academic degree course (Master, Integrated Master; v) motivation letter.

Applications must be submitted to the email: Rodrigo da Silva Costa (rodrigoscosta@tecnico.ulisboa.pt); João Alfredo Vieira Canário (joao.canario@tecnico.ulisboa.pt); and Maria Amália Soares (amalia.soares@tecnico.ulisboa.pt).



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