

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

Applications are open for 1 Research Studentship, within the framework of Harnessing Wastewater-Derived Phages for Enterobacterales resistant to antibiotics Therapy/CERIS, 2024.15867.PEX, financed by national funds through FCT/MCTES (PIDDAC) with the financial support of FCT/MCTES, under the following conditions:

**Scientific Area:** Biological sciences

**Admission Requirements:**

a) to hold a bachelor or 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: 1. Technical Workflow**

- **Phase 1: Isolation of Polyvalent Phages from Urban Wastewater**
  - *Objective:* To utilize urban wastewater as a biological reservoir to prospect for and isolate phages with a broad host range (polyvalence) against target bacterial pathogens.
- **Phase 2: Development of a Phage Cocktail**
  - *Objective:* To design a synergistic formulation (cocktail) combining multiple phage isolates. This approach aims to expand the spectrum of activity and minimize the likelihood of bacterial resistance.
- **Phase 3: Phage Characterization**
  - *Objective:* To perform morphological, genomic, and biological profiling (e.g., host range, latent period, and burst size) to ensure the phages are strictly lytic and safe for therapeutic applications.
- **Phase 4: In Vitro Efficacy Testing**
  - *Objective:* To quantify the lytic capacity of the isolates and the cocktail through liquid and solid media assays, determining the optimal Multiplicity of Infection (MOI) for bacterial suppression.
- **Phase 5: Resistance Development and Long-Term Efficacy**
  - *Objective:* To monitor the emergence of Phage-Resistant Managed Bacteria (BMR) and evaluate the stability of the cocktail's performance over time, ensuring its viability as a sustainable treatment.

**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 Laboratório de Análises of Instituto Superior Técnico, under the scientific supervision of Sílvia Patrícia Nunes Monteiro

**Duration:** The research fellowship(s) will have the duration of 12 months. It's expected to begin in April/2026, and not be renewed.

**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 an option of the Fellow by Wire Transfer.



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**Selection methods:** The selection methods will be the following: curriculum evaluation. An individual interview will be conducted in the event that two candidates achieve the same score in the curricular evaluation. Should it be necessary, the interview will only be held for the two highest-ranked candidates. The evaluation is based on a scale of 20 points (100%) for the curricular assessment. In the case of a tie-break between candidates with equal scores, the final grade will be based on a 20-point scale, weighted at 60% for the curricular evaluation and 40% for the interview.

**Composition of the selection Jury:** Sílvia Patrícia Nunes Monteiro, Ricardo Jaime Pereira Rosário dos Santos e Filipa Alexandra Borges Novo Macieira

**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 March 9 until March 20, 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 a course that does not award an academic degree; v) 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: [silvia.monteiro@tecnico.ulisboa.pt](mailto:silvia.monteiro@tecnico.ulisboa.pt)



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