(BL180/2026-IST-ID)

Research Studentships (PhD students)

Applications are open for 1 Research Studentship for PhD students, within the framework of project "*LIVStab - Fungal growth control for bio-stabilized building solutions"*, BASE-UID/6438/2025, of CERIS – Civil Engineering Research and Innovation for Sustainability of Instituto Superior Técnico**,** financed by national funds through FCT/MCTES and co-financed by the European Regional Development Fund (FEDER), under the Partnership Agreement PT2030, under the following conditions:

Scientific Area: "Civil Engineering" or "Architecture"

Admission Requirements: *To be enrolled at a PhD.*

Workplan: The work plan will begin at the end of Task 1 (T1) of the project, which will deliver 3 alternatives (fungus + biomass) for the formulation of earthen mortars, developed in collaboration with the postdoctoral researcher in Agricultural Sciences.

Task 2 (T2) will be dedicated to the production and evaluation of the designed construction materials. In its first phase (T2.1), the three selected mortars will undergo laboratory characterization in accordance with the German standard for earthen mortars (DIN 18947:2024) and standardized testing methods applicable to mortars (EN 1015-11:2019; EN 14146:2004; EN 1015-12:2016; EN 1015-10:1999; ISO 12571:2021; ISO 12572:2016; EN 15801:2009; EN 16322:2013). By the end of T2.1, a complete characterization of the 3 selected formulations (Milestone 1, M1) will be available, and the best-performing stabilized formulation will be selected (Milestone 2, M2) for the second phase of T2. The second phase of Task 2 (T2.2) will focus on the durability assessment of the mortar formulation selected at the end of T2.1 (M2) through natural ageing. For this purpose, a pilot case study involving a full-scale (1:1) indoor or outdoor application will be implemented, together with a corresponding monitoring campaign.

Task 3 (T3) will begin following the completion of T2.1 and will focus on the recycling of the crushed mortars produced during that phase. New mortars will be developed using recycled materials, thereby avoiding their disposal at the end of their service life. These second-life mortars will be fully characterized, both with and without further bio-stabilization. The evaluation of the properties of the recycled, stabilized and unstabilized formulations will follow the same protocol adopted in T2.1 and will aim to demonstrate the recyclability and reusability of bio-stabilized mortars without loss of functional performance (i.e., without downcycling). By the end of T3, Milestone 3 (M3) will provide a comprehensive assessment of the recyclability of mycelium-stabilized earthen mortars.

The PhD student will be expected to actively contribute to the preparation of scientific reports and manuscripts for publication in international peer-reviewed journals. The student may also co-supervise Master's students involved in the project and support the organization of scientific dissemination and outreach activities within the scope of the 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://dre.pt/application/file/a/127230968 .

Workplace: The work will be developed at CERIS – Civil Engineering Research and Innovation for Sustainability, Department of Civil Engineering, Architecture and Environment of Instituto Superior Técnico, and the CERIS NOVA HUB at NOVA School of Science and Technology, under the joint scientific supervision of Dr. Alessandra Ranesi and Professors Paulina Faria and Rafaela Cardoso. Displacements to CERIS UCoimbra HUB at IteCons may be needed.

Duration: The research fellowship(s) will have the duration of 6 months. It's expected to begin in January 2027 and may be eventually renewed up to the maximum of 8 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-2026/), the amount of the monthly maintenance allowance is € 1359,64, being the payment method an option of the Fellow by Wire Transfer/Check.

Selection methods: The selection method will be the *Curriculum Vitae* evaluation. The jury may call the best-selected candidates for an individual interview. In this case, the curriculum evaluation and the individual interview (in-person or online) will have a weighting factor of 75% and 25%, respectively. Candidates with previous background in earth construction materials and products will be favored, with preference given to those with specific expertise in earth mortars. If none of the candidates demonstrate a suitable profile, the studentship will not be awarded.

Composition of the selection Jury: Professors Maria Rafaela Pinheiro Cardoso (President) and Maria Paulina Santos Forte de Faria Rodrigues (Jury Member) and Dr. Alessandra Ranesi (Jury Member). Substitute Juror: Doutor João António Soares de Almeida.

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

Application deadline and formalization: The call is open from November 9 until November 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 an academic degree course (PhD); v) motivation letter.

Applications must be submitted to the email*: bolsas@drh.tecnico.ulisboa.pt*