

(BL300/2024-IST-ID)

Research Studentships for Master or Integrated Master students

Applications are open for 1 Research Studentship(s), within the framework of project “Photocatalytic CO₂ Reduction to Solar Fuels Using New Composite Photocatalysts - A Promising Step-Up to Reduce CO₂ Footprint”, (2023.00170.RESTART), financed by national funds through FCT/MCTES (PIDDAC) , under the following conditions:

Scientific Area: Chemical Engineering

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

- Knowledge and experience in photocatalytic processes, gas-chromatography, and mass spectrometry analysis.
- Interest in laboratory work.
- Good communication and writing skills.
- Rigorous and dynamic

Workplan: This project aims to screen different composite photocatalysts based on graphene for CO₂ photoreduction towards solar fuels. Photocatalytic experiments will be carried out in continuous flow and gas-phase placing the photoreactor into a Solar Box, which simulates the radiation of the sun. This work aims the characterization of photocatalysts as well as develop dip-coating strategies to support them in the photoreactor. Moreover, the student will develop photocatalytic reaction product analyses procedures by gas chromatography and mass spectrometry and will test the prepared photocatalysts under different reaction conditions.

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://www.fct.pt/apoios/bolsas/docs/RegulamentoBolsasFCT2019.pdf> and <https://dre.pt/application/file/a/127230968> .

Workplace: The work will be developed at Centro de Química Estrutural of Instituto Superior Técnico, under the scientific supervision of Laura Esteves.

Duration: The research fellowship(s) will have a duration of 6 months. It’s expected to begin in January 2025, and may be eventually renewed up to the maximum of 12 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/wp-content/uploads/2024/02/Tabela-de-Valores-SMM_atualizacao-2024.pdf), the amount of the monthly maintenance allowance is € 990,98, being the payment method an option of the Fellow by Wire Transfer/Check.

Selection methods: Curriculum evaluation and individual interview with the respective weight of 60% and 40%.

Composition of the selection Jury: Laura Esteves, Filipa Ribeiro, João Miguel Silva

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 December 16 until December 30, 2024.



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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 email: laura.esteves@tecnico.ulisboa.pt



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