

CALL FOR AWARDING RESEARCH FELLOWSHIPS WITHIN PROJECT GRANTS AND R&D INSTITUTIONS

1 Research Fellowship (BI) for a MSc Student

1 Research Fellowship(s) (BI) is(are) open at the **FCiências.ID – Associação para a Investigação e Desenvolvimento de Ciências**, for the project/R&D institution EMPOWER+ Engineered and reusable nanoporous carbons for advanced water treatment/CQE, PTDC/EQU-EQU/6024/2020, financed by national funds by FCT / MCTES (PIDDAC) under the programme Call for SR&TD Project Grants 2020, Programme All Scientific Domains, under the following conditions:

1. **Scientific Area:** Chemistry, Technological Chemistry, Materials Engineering, Chemical Engineering or related fields
2. **Requirements for admission:** Candidates must have a degree in Chemistry, Technological Chemistry, Materials Engineering, Chemical Engineering or related fields as a minimum, as well as relevant knowledge in adsorbent materials and adsorption processes. Candidates must have completed their degree three or less years ago (i. e., from 2019 to present).
3. **Additional optional skills and qualifications:** Master's student with availability to carry out the final Master's work with knowledge in the field of nanoporous carbon materials (synthesis and characterization) and of the adsorption processes in gaseous and liquid phase.
4. **Contracting requirements:** Presentation of the academic qualifications and/or diplomas. Enrolment in Master's or Integrated Master's (present the proof of registration).
5. **Work plan:** The present R&D theme covers part of the EMPOWER+ project (PTDC/EQU-EQU/6024/2020) focused in the development of new high-performing powdered and granular activated carbons (PAC and GAC, respectively) obtained by physical activation of pine nut shells, for a more efficient water treatment (<http://empower.rd.ciencias.ulisboa.pt>). The major tasks planned include: i) Synthesis of GAC and PAC materials by steam activation of pine nut shells; ii) Synthesis of magnetic PAC materials (MPAC); iii) Characterization of the materials by N₂ adsorption at -196°C, apparent density, moisture content, ash content, FTIR, pH at the point of zero charge, and XRD; iv) batch adsorption assays (kinetic and adsorption isotherms) and column assays; v) settleability assays for conventional separation processes by coagulation-flocculation-sedimentation (CFS) and fouling proficiency tests for the materials to be applied in hybrid membrane processes; vi) water quality monitoring assays by analytical techniques: spectroscopic techniques UV-vis and HPLC for, respectively, natural organic matter and pharmaceutical compounds monitoring; by chemical oxidation and IV detection for total and dissolved organic carbon determination (TOC and DOC, respectively).
6. **Legislation framework:** Research Fellowship Holder Statute, in accordance with Law 40/2004, of 18 August, in its current version and the FCT Regulation for Research Studentships and Fellowships, in its current version (Reg. 950/2019 published in DR on 16th December: <https://dre.pt/application/file/a/127230968>, or at the FCT website: <https://www.fct.pt/apoios/bolsas/regulamento.phtml.pt>), and FCiências.ID Fellowship Regulation, as approved on 12th May 2020 (available at [Regulamento de Bolsas de Investigação Científica da FCiências.ID](#)).
7. **Place of work:** The work will be developed at the Centro de Química Estrutural e no Núcleo de Engenharia Sanitária (Urban Water Unit) from Faculdade de Ciências da Universidade de Lisboa (FCUL) and at the Laboratório

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Nacional de Engenharia Civil (LNEC), respectively, under the scientific supervision of Professor Ana Sofia Mestre and Elsa Mesquita.

8. **Fellowship duration:** This position is initially opened for 3 months and will begin on June 2022. The fellowship contract may be potentially renewed for up to a total of 12 months, in accordance with the provisions of Regulation of Research Fellowships from the Foundation for Science and Technology, I.P.

9. **Monthly allowance:** The fellowship amounts to € 875.98, according to [table values](#) of the fellowships awarded directly by the FCT, IP. The fellowship holder will have a personal accident insurance and can ensure the right to social security through adherence to the voluntary social insurance scheme, if not covered by any other social protection scheme, pursuant to *Código dos Regimes Contributivos do Sistema Previdencial de Segurança Social*. The fellowship will be paid monthly by bank transfer

10. **Evaluation and selection process:** Candidates will be assessed by the quality of their CV (65%), relevance of previous experience (25%), and assessment of the references provided by the candidate (10%) and possibly, a selection interview. If the jury chooses to carry out the selection interview, it will be to the 3 candidates with the best classification, and the final evaluation will be as follows: 60% for the curriculum evaluation, 20% to previous experience, 10% to the references and 10% for the selection interview. The jury reserves the right not to award the scholarship if the profile of the candidates does not meet the minimum qualities for the execution of the work plan, i.e. if the candidate receive a classification lower than 70% in the evaluation.

11. **Selection Committee:** Ana Sofia Mestre (President), Rui Viegas (Vogal), Ana Paula Carvalho (Vogal), Elsa Mesquita (Suplent vogal)

12. **Publication/notification of results:** All the candidates will be notified by e-mail, sent by the call holder, with the selection meeting minutes enclosed.

13. **Deadlines:** This call for applications is open from 20/05/22 to 02/06/2022 .

14. **Application:** Applications should be sent via e-mail to asmestre@fc.ul.pt, by attaching the following documents:

- a. Curriculum vitae - **CV may be provided in PDF or through the [CIÊNCIAVITAE](#) system;**
- b. Certificate of completion of previous degree;
- c. Motivation Letter with contact details (affiliation, e-mail and telephone) of two references

15. **Time limits for the appeal procedure:** In case of negative decision, the candidates have 10 business days, after the date of announcement of the results of the candidates evaluation, to pronounce their disagreement in accordance with the *Código do Procedimento Administrativo*. Appeals against the final decision may be submitted to the Administration Board of FCiências.ID (fciencias.id@fciencias-id.pt) within 15 business days after the notification date

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Note 1: The documents that prove the entitlement of the academic qualifications and diplomas, or the proof of registration in the academic degree or diploma requested on the call, can be dismissed during the application period and replaced by a declaration on their honour from the applicant. Their delivery is mandatory for the fellowship contractualization.

NOTE 2: Please note that - higher education degrees and diplomas awarded by foreign higher education institutions need to be recognized by a Portuguese higher education institution, pursuant to the [Decree-Law nr. 66/2018](#) (August 16) and the [Ministerial Order nr. 33/2019](#) (January 25). The presentation of the recognition certificate is mandatory for contract signature. More information can be obtained at: <https://www.dges.gov.pt/en/pagina/degree-and-diploma-recognition>.