

Reference: Public notice BI/CESAM/SYNERGY/2023-2

NOTICE FOR THE AWARD OF GRANTS IN THE SCOPE OF R&D PROJECTS AND INSTITUTIONS

A tender is hereby opened for the award of 1 **Research Grant** (RG) in the scope of R&D project SYNERGY - Upgrading wastewater treatment via synergistic adsorption-degradation of organic microcontaminants by enzyme-modified carbon materials, 2022.02028.PTDC, under the following conditions:

- 1. Scientific Area:** Chemistry
- 2. Funding Source:** Foundation for Science and Technology, I.P./MCTES, through national funds (PIDDAC)
- 3. Admission Requirements:** Students enrolled in a Chemistry Master. The following will be preferential factors for selection: i) Previous experience in the use of chromatographic techniques and/or immunological assays for the quantification of organic compounds, with special emphasis on pharmaceuticals, in aqueous samples. ii) Experience in the evaluation of pharmaceutical degradation in aqueous matrices; iii) Experience in immobilization of enzymes on solid supports.

The proof of enrolment must be made available until the contract is awarded, and the candidates may attach a [declaration of honor](#) to confirm that they meet the requirements for enrolment in an integrated master's degree, master's or doctoral program or in a course that does not confer an academic degree.

If the qualification has been conferred by a foreign higher education institution it must be **recognized by a Portuguese higher education institution**, under the terms of the provisions of article 25 of Decree-Law no. 66/2018, of August 16th, which approves the legal regime of recognition of academic degrees and diplomas of Higher Education, attributed by foreign higher education institutions, and of paragraph e) of no. 2 of article 4 of Decree-Law no. 60/2018, of August 3rd, and any formalities established therein must be fulfilled by the date of the hiring act.

4. Eligibility: Applicants are eligible if they comply with paragraph a) of no. 1 of article 2, of the Research Fellow Statute as amended by Decree-Law no. 123/2019, of August 28th, as well as nos. 1 and 2 of article 6 of the Research Grant Regulations of the Foundation for Science and Technology. The RG(s) awarded to undergraduate or master students enrolled in courses that do not confer academic degree may only be granted to those who do not exceed, upon conclusion of the grant contract in question, including possible renewals, an accumulated period of two years in that type of grant, consecutive or interpolated, under the terms of no. 5 of article 6 of the aforementioned Regulations.

5. Work plan: The main objective of this grant is to develop a carbon material produced from brewing industry wastes and subsequent modification of the surface of the material with enzymes capable of acting on the degradation of pharmaceuticals. In this context, during this research grant, the research fellow will develop the following activities: i) Optimization of the surface modification process of a carbon material produced from the aforementioned waste, with different enzymes, namely laccase and peroxidase, considering the evaluation of the impact of different variables (temperature and synthesis time; material:enzyme ratio; pH, stirring conditions) in the characteristics of the composite material (enzyme activity of the enzyme in the composite, specific surface area, percentage of enzyme immobilization and ability to remove pharmaceuticals from contaminated waters); ii) Application of the developed materials in the removal of drugs, through combined degradation-adsorption processes, using analytical methodologies for the evaluation of the performance of the material; iii) Evaluation of the degradation products formed in aqueous solution, resulting from the application of the developed material.

6. Applicable legislation and regulations: Statute of Scientific Research Grant Holder, as amended by Decree-Law no. 123/2019, of August 28th; Regulation no. 950/2019, of November 29th, published in Diário da República, no. 241, Series II, of December 16th (FCT, I.P. Research Grants Regulation); Decree-Law no. 66/2018, of August 16th (Legal regime for recognition of academic degrees and diplomas of higher education awarded by foreign higher education institutions).

7. Workplace: The work will be carried out at CESAM (Centre for Environmental and Marine Studies)/ Chemistry Department of the University of Aveiro, under the scientific supervision of Professor Vânia Maria Amaro Calisto.

8. Duration of the grant(s): The grant duration will be 9 months, starting in April of 2024, and may be renewed for additional periods of 3 months, up to the maximum limit of approved funding. Under no circumstances shall it exceed the limits defined in nos. 3 and 4 of article 6, of Regulation no. 950/2019, of November 29th, published in Diário da República, no. 241, Series II, of December 16th (Research Grants Regulation of FCT, I.P.).

9. Amount of monthly maintenance allowance: The amount of the grant corresponds to € 990,98, according to the table of monthly maintenance allowance amounts set out in Annex I of Regulation no. 950/2019, subject to any updates that may be applicable, under the terms of no. 2 of article 18 of Regulation no. 950/2019, of November 29th, published in Diário da República, no. 241, Series II, of December 16th (Research Grants Regulation of FCT, I.P.). The fellow may also be reimbursed for the amount corresponding to the Voluntary Social Security, in case of adherence to this plan.

10. Selection methods: The selection methods to be used will be the following: i) *curriculum vitae* assessment and ii) interview (to be carried out only if the jury considers that the *curriculum vitae* assessment is not sufficient for the selection of candidates; in this case, only the three candidates with the best score in the curricular evaluation will be interviewed).

The *curriculum vitae* evaluation will be expressed on a numerical scale from 0 to 20 and will focus on:

- Academic qualifications - bachelor degrees classification: 6.0 points;

- Previously developed scientific activity: 14.0 points, assigned according to: i) previous experience in the use of chromatographic techniques and/or immunological assays for the quantification of organic compounds, with special emphasis on pharmaceuticals, in aqueous samples (4.0 points); ii) experience in the evaluation of pharmaceutical degradation in aqueous matrices (4.0 points); iii) experience in immobilization of enzymes in solid supports (3.0 points); vi) scientific dissemination activities (such as communications in congresses or publications) (3.0 points). All scientific activities must be documented through appropriate documentation, publications or scientific communications described in the CV.

The evaluation of the individual interview will be expressed on a numerical scale from 0 to 20 and will focus on knowledge in the scientific area of the project, interest pursuing research in the project area and the ability to communicate orally and in writing, namely in English.

The final score of each candidate will be obtained through a weighted average, with a weighting factor of 60% being to *curriculum vitae* assessment and a weighting factor of 40% to the interview. If the jury decides that the interview is not needed for the selection of the candidates, the final score will consist of the score of the curricular evaluation.

11. Composition of the Selection Jury: Chair of the selection jury: Professor Vânia Maria Amaro Calisto, Assistant Professor at the Chemistry Department of the University of Aveiro; Permanent members: Doctor Maria Goreti Pereira, Assistant Researcher at the Chemistry Department of the University of Aveiro e Doctor Ângela Augusta Soares de Almeida, Level 1 PhD Researcher at the Chemistry Department of the University of Aveiro; Alternate members: Professor Valdemar Inocência Esteves, Assistant Professor at the Chemistry Department of the University of Aveiro and Master Diogo Esteves Pereira, Research fellow at the Chemistry Department of the University of Aveiro.

12. Deadline for applications and how to submit applications: The call is open from 21th February to 5th March 2024, and only applications submitted within the deadline will be admitted.

Applications must be formalized by sending a letter of application accompanied by the following documents: Curriculum Vitae, certificate of qualifications, declaration of honor and other supporting documents deemed relevant to demonstrate previous experience in accordance with the preferred factors indicated. They shall also indicate the e-mail address to which by such indication they accept to be notified for all purposes within this procedure.

Applications should be sent by e-mail to vania.calisto@ua.pt.

13. Form of publication/notification of results: The final results of the evaluation will be published through an ordered list by final mark obtained posted on the University's website, within 90 working days after the final date of submission of the application, and the successful candidate will be notified by email. For the purposes of prior hearing of interested parties, the deadline of 10 working days is set, as provided for in the Code of Administrative Procedure. At the end of the period for hearing the interested parties, and in the absence of any response from them, the list of candidates will become final. Candidates may lodge a complaint against the final decision within 15 working days, or appeal to the maximum executive body of the funding entity within 30 working days after notification of the final decision, in accordance with the provisions of article 12 of the Research Grants Regulation of the Foundation for Science and Technology.

14. Tender duration: The final ranking list of candidates will be valid until 01st June 2024 for the purpose of constituting a reserve list for selection.

The models of the grant contract and of the final report to be prepared by the grant holder and the supervisor are available at [Research fellows - sgrh - Universidade de Aveiro \(ua.pt\)](#).

University of Aveiro (03/11/2023)

Vânia Maria Amaro Calisto