



CALL FOR APPLICATION FOR A RESEARCH SCHOLARSHIP

Ref^a: SUNRISE BI_1

[Portuguese version](#)

A call for tenders is now open for the attribution of one Research Scholarship within the scope of the Project “SUNRISE- Smart Use of SuNlight Radiation for Innovative and Sustainable Cooking. (COMPETE2030-FEDER-00897700)”, financed by the FEDER, PITD - Innovation and Digital Transition Program, under the following conditions, set out below:

Scientific areas: Biological Engineering; Chemical Engineering; Engineering; Computer Engineering

Admission requirements:

General requirements:

Candidates for the Research grant must, at the date of application, be enrolled, or present a commitment to enroll in a study cycle conferring a PhD degree in the field of Biotechnology – Food Science and Engineering or related areas. In fact, candidates for the Research scholarship, after selection, to begin contracting the scholarship, must enroll in the doctoral program in Biotechnology of the Escola Superior de Biotecnologia, according to the theme and scholarship work plan to be carried out within the scope of the project identified above. This doctoral program should be carried out at Escola Superior de Biotecnologia of the Universidade Católica Portuguesa and guided by the team identified for the implementation of the work plan.

Specific requirements:

They should have knowledge/research experience in the following areas of activity:

- a) Academic qualifications at the level of Master's Degree in Food Science and Engineering, Biotechnology, Chemical Engineering or related areas.
- b) Previous experience in scientific research, in at least one of the following areas: food quality, kinetic modeling, heat transfer, or application of digital tools (such as sensors, Arduino, or artificial intelligence).
- c) Good knowledge of English, spoken and written, and strong motivation to integrate multidisciplinary teams in an applied research environment.



Preferential factors:

Preferential factors will be considered

- a) Experience in the characterization of food and valorization of agri-food products, in particular through cooking, drying, or thermal stabilization processes;
- b) Knowledge in mathematical modelling of food transformation processes, namely kinetics of quality change and heat transfer phenomena;
- c) Experience in applying artificial intelligence (AI) techniques, such as machine learning or deep learning, to the prediction of thermal performance or quality of food products;
- d) Previous participation in applied research projects and/or experience in scholarly communication, including publications, presentations at congresses or dissemination actions to the public.

Plan of activities and objectives to be achieved:

The activity to be developed by the scholarship holder is part of a research project that aims to optimize slow solar cooking as a sustainable food process, with an emphasis on preserving the nutritional and sensory quality of legumes. The work involves experimental and computational methodologies applied to the development of an intelligent cooking system.

Initially, the grant holder will support the performance of cooking trials with different types of solar ovens, following the nutritional, textural and sensory characterization of the food. Kinetic data on quality changes will be collected, which will serve as a basis for mathematical modelling and integration into heat transfer simulators.

In a second phase, the grantee will actively participate in the development of predictive models using artificial intelligence, based on experimental and environmental data obtained with Arduino sensors and platforms. These models will make it possible to predict, with greater precision, the cooking time and the final quality of food in different climatic contexts.

The main objective will be to directly support the development of an improved solar oven with smart control, using the previously developed mathematical and AI models. The grantee will monitor the functional design, the choice of sustainable materials and the validation tests of the prototype, contributing to optimize the thermal performance and stability of cooking.

Finally, the grantee will be involved in the assessment of the environmental and economic impact of the system, by carrying out a life cycle analysis (LCA). This phase will allow quantifying benefits such as the re-



duction of the carbon footprint and the return on investment time, promoting the valorization of the furnace as a viable and sustainable solution.

Applicable legislation and regulations:

- Applicable legislation and regulations: <https://dre.pt/web/guest/legislacao-consolidada/-/lc/58216179/view?w=2019-08-28>;
- Regulation of Research Scholarships of the Science and Technology Foundation, I.P.: <https://dre.pt/application/conteudo/127238533>;
- Regulation of Research Scholarships of the Portuguese Catholic University: http://www.porto.ucp.pt/sites/default/files/files/DRH/RegBolsasInvestigacao_Cientifica_UCP_2020.pdf

Workplace:

The work will be developed at the CBQF - Centro de Biotecnologia e Química Fina of the Universidade Católica Portuguesa in Portugal, in Porto, under the scientific supervision of Prof. Cristina L.M. Silva.

Duration of the scholarship:

The scholarship, which is expected to begin on January 1, 2025, will have a duration of 30 months on an exclusive basis. The scholarship cannot extend beyond the project completion date, currently scheduled for August 31, 2028, and the duration of the scholarship type (48 months).

Monthly maintenance allowance amount:

The amount of the scholarship corresponds to 1309.64€, according to the research scholarship values awarded directly by FCT, I.P. in the Country (https://www.fct.pt/wp-content/uploads/2025/02/Tabela_valores_SMM_2025.pdf) and will be paid by bank transfer.

Selection methods:

The selection methods to be used will be the following: i) curriculum evaluation (50%); ii) previous experience (50%). The final decision, if necessary, may involve an interview with the best positioned candidates, and in this situation, the weighting will be curriculum evaluation (35%); ii) previous experience (50%) and selection interview (15%).



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Only candidates with a final classification equal to or greater than seventy-five values, on a scale of 0 to 100, will be selected for this position.

Ineligible applications will be considered those that do not meet the admission requirements, submitted after the deadline and those that are incomplete.

Composition of the Selection Jury: President of the Jury: Prof. Cristina L.M. Silva, Effective Members: Prof. Pedro Rodrigues and Dr. Teresa R.S. Brandão. Alternate: Prof. Ana Gomes.

Form of advertising/notification of results: The jury deliberates in accordance with the selection criteria adopted and disclosed. The jury meeting minutes will contain a summary of the meeting content. After completing the application of the selection criteria, the jury proceeds with the elaboration of the ordered list, with the ranking of the approved candidates. The ranking list of eligible candidates will be published on the premises of the Universidade Católica Portuguesa, in Porto, located at Rua de Diogo Botelho, 1327, 4169-005 Porto - Portugal, with each candidate being notified of his/her position on the list ranking of candidates via email. Ineligible applicants will be notified by email, with details of the missing eligibility elements.

Complaint and appeal procedures: Candidates have a period of ten working days, after the disclosure referred to in the previous number, to give their opinion at a prior hearing.

Deadline for acceptance of the scholarship: Within ten working days following notification of the grant award, the selected candidate must confirm in writing his/her availability to start the scholarship on the proposed date. Failing to do so or not having availability, the candidate placed in the next position will be called.

Application deadline and form of submission:

Candidates submit their application from October 17, 2025 until November 23, 2025 (until 5 pm, Lisbon time).

Applications are formalized by completing the **Application Form:** <https://hr-ucpporto.inqueritos.porto.ucp.pt/837673?lang=en>



It will be necessary to submit the following documents:

- 1) Cover letter, identifying the title and reference of the project, describe the motivation and professional objectives of the candidate.
- 2) Detailed Curriculum Vitae (should contain all the elements to assess the admission requirements, including language knowledge and research experience).
- 3) Copy of the certificate(s) of qualifications conferring academic degree in the terms requested in the notice.
- 4) Registration of recognition of the academic degree awarded by a foreign higher education institution.¹
- 5) Proof of registration or letter with the commitment to register/enroll in a degree-awarding study cycle under the terms already described in this notice.²

Only applications received during the opening period of the above-mentioned call shall be considered. Candidates who incorrectly formalize their application or who do not prove the requirements of this call are excluded. False statements made by applicants will be punished under the law.

Privacy Policy:

Universidade Católica Portuguesa is the controller responsible for the processing of Personal Data in accordance with Regulation (EU) 2016/679 – General Regulation on Data Protection.

The personal data processed in the scope of this tender procedure is processed within the framework of said tender procedure only and will be processed by Universidade Católica Portuguesa with the purpose of verifying the fulfillment, by the candidates, of the assumptions established in the applicable legislation for their contracting. Opposition to the processing of data by the candidates will make it impossible to accept the application and, therefore, to analyse and evaluate it.

The personal data of the Data Subject, if it be indispensable for the fulfillment of the obligations of

¹ If the required academic degree has been conferred by a foreign higher education institution, it must comply with the Portuguese legislation on the recognition of foreign degrees, regulated by DL no. 66/2018 of 16 August.

Applicants are advised to consult the website of the Directorate-General for Higher Education (DGES) for additional information on this matter: <https://www.dges.gov.pt/pt/pagina/reconhecimento>

² The contracting of the research scholarship requires the candidate to provide enrollment in the degree-awarding course required in this notice. If the document is not presented within a maximum period of 30 days (in a row), counting from the date of communication of the selection to the candidate, the Jury Panel will have the power to disqualify the application due to failure to present the registration within the aforementioned period.



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Universidade Católica Portuguesa, may be conveyed to third parties, namely to the Financing Entities identified in this announcement.

The data retention period shall correspond to the legally defined period of five years.

The Data Subject is entitled to oppose to the collection and processing of data, has the right to verification, the right to rectification, the right to deletion, and the right to restriction of processing of the data collected. However, the exercise of such rights may be excluded when the personal data is used to protect public interest, namely in the detection and prevention of crimes or when subject to professional rules of confidentiality.

The Data Subject has the right of access and portability of the data.

Rights of Personal Data Subjects: <https://www.ucp.pt/rights-data-subjects> .

For purposes of exercising the respective rights, contact the University through the e-mail address compliance.rgpd@ucp.pt or by using the address found at the end of this announcement, through the means set out in "Contacts for clarification".

The Data Subject is always entitled to contact and file a complaint with the Comissão Nacional de Proteção de Dados (Portuguese Supervisory Authority for Personal Data).

Non-discrimination and equal access policy:

Universidade Católica Portuguesa actively promotes a non-discrimination and equal access policy, wherefore no candidate can be privileged, benefited, impaired or deprived of any rights whatsoever, or be exempt of any duties based on their ancestry, age, gender, sexual orientation, marital status, family status, family and economic conditions, instruction, social origin or condition, genetic heritage, reduced working capacity, disability, chronic illness, nationality, ethnic origin or race, territory of origin, language, religion, political or ideological convictions, and union membership.

If you have any questions about this position, please contact:

Universidade Católica Portuguesa

Rua Diogo Botelho, 1327

4169-005 Porto, Portugal

Direção de Recursos Humanos

drh.recrutamento.porto@ucp.pt