ANNOUNCEMENT FOR THE AWARD OF A RESEARCH FELLOWSHIP

Title: Research Fellowship; 1 vacancy

Reference: 38/ECUM/CMAT/2026 - IA-Olivais

A call for applications is now open for the attribution of 1 grant of research fellowship within the scope of the I&D project *"Inteligência Artificial na Otimização da Rega para Olivais Resilientes às Alterações Climáticas"* of the Centre of Mathematics of University of Minho, with reference PL24-00057, financed by funds through *Programa Promove* by "la Caixa" Foundation| BPI and the Portuguese Foundation for Science and Technology (FCT), under the following conditions:

Scientific Area: Mathematics

Recipient category The research grant (BI) is intended for I&D activities by masters enrolled in a PhD degree.

Requirement for granting the fellowship:

- The applicants may apply without prior registration in the course for which the fellowship is open. The requirement to enroll in a degree course will be verified on the date of contracting the fellowship;
- Only fellowships whose selected applicants present a valid proof of enrollment in a degree course will be contracted, according to the type of the fellowship, issued by a Higher Education Institution, indicating, respectively, the academic year or its duration (start and term).

Applicants' eligibility: Candidates who meet the conditions set out in Article 9 of the Research Grant Regulations, No. 950/2019, of 16-12-2019, of FCT I.P. are eligible.

Nationals or citizens of other European Union member states, third-country nationals, stateless persons, and citizens with political refugee status are eligible to apply for this competition.

Candidate eligibility requirements:

- Mandatory requirements – the applicants should have a master degree in Mathematics or related area.
- In the contracting phase, the applicants should be enrolled on one of the following Ph.D. programs: PhD in Mathematics, or Doctoral Program in Mathematics and Applications.
- Preferential factors: previous experience with Deep Learning for time-series; previous research experience in precision agriculture.

Workplan and objectives to be achieved:

The work plan aims to collect, preprocess, and use sensor data to optimize irrigation in olive groves, within the scope of the R&D project "Inteligência Artificial na Otimização da Rega para Olivais Resilientes às Alterações Climáticas". It will involve statistical analysis, deviation correction, the development of training algorithms for neural networks, and the development of a graphical user interface. Theoretical studies will also be conducted on the algorithms developed.

The objectives are to write at least three scientific papers and deliver a cross-platform graphical user interface.

The work plan will be developed in collaboration with the members of the R&D project "Inteligência Artificial na Otimização da Rega para Olivais Resilientes às Alterações Climáticas".

Applicable legislation and regulations: Research Fellow Statute (EBI), approved by Law nº. 40/2004 of August 18, in its current wording and FCT Research Fellowship Regulation, approved by Regulation nº 950/2019, published in the Diário da República, 2nd series, of December 16, 2019, in its current wording, and Scientific Research Fellowship Regulation (RBIC) of the University of Minho, approved by order nº 4998/2025, published in the Diário da República, 2nd series, nº 81, of April 28, 2025 Amended and republished through amendment statement no. 634/2025/2, published in the Official Gazette, 2nd series, no. 132, of July 11.

Host/Contracting institution and scientific supervision: The workplan will be carried out in the Centre of Mathematics of University of Minho, located in the Campus de Gualtar, 4710-057, Braga, under the scientific supervision of the Doctor Cecília Eduarda Coelho Machado da Cruz Martins, Contracted Post-Doctoral Researcher of the Professorship Computer Science in Mechanical Engineering, Helmut Schmidt University Hamburg; and Integrated Member of the Centre of Mathematics of University of Minho and coordination by the same.

Fellowship duration: The grant will take place for a period of 12 months, with a provisional starting date on the January of 2027. The fellowship grant may, eventually, be renewed up to the maximum limit allowed by the project and/or applicable.

Amount of the research grant: The amount of the grant corresponds to 1359,64 €/month, according to the table of values of the Research scholarship of the University of Minho, updated annually, as decided by the Management Board.

Payment is made on the 23rd of each month, through bank transfer to the Bank Identification Number of the fellow identified in the contratualization process.

Other components of the research grant: Tuition fees for obtaining the academic degree and corresponding to the duration of this scholarship may be covered.

Other benefits: Reimbursement of Voluntary Social Insurance, if the candidate chooses to receive it, corresponding to the 1st level of discounts (for research grants with a total duration 6 months or higher) and personal accident insurance.

Exclusivity regime: The grantee will perform the activities under exclusivity, as foreseen in article 5º of the Research Fellow Statutes and applicable regulations.

Selection panel: Cecília Eduarda Coelho Machado da Cruz Martins, Contracted Post-Doctoral Researcher of the Professorship Computer Science in Mechanical Engineering, Helmut Schmidt University Hamburg; and Integrated Member of the Centre of Mathematics of University of Minho;

First effective member: Maria Fernanda Pires da Costa, Associate Professor with Habilitation, Department of Mathematics, School of Sciences, University of Minho.

Second effective member: Luís Jorge Lima Ferrás, Assistant Professor with Habilitation, Faculty of Engineering, University of Porto.

First substitute member: Susana Margarida Ferreira Sá Faria, Associate Professor, Department of Mathematics, School of Sciences, University of Minho.

Second substitute member: Carolina Paula Baptista Ribeiro, Assistant Professor, Department of Mathematics, School of Sciences, University of Minho.

The first effective member will substitute the President of the selection panel in case of impediment, being nominate the first substitute member in the place of the first effective member.

Criteria and procedures for applications assessment and selection: The applications assessment will focus on the candidate's Merit, following evaluation criteria, valued on a scale of 0 to 5 values:

Applicant Merit - AM (60%):

A.1) Personal curriculum (considering professional and scientific background), with a weighting of 70%;

A.2) Research experience in the fields of Deep Learning, time-series and precision agriculture, with a weighting of 30%.

The final classification of the applicant's merit (AM) with the achieved through the following formula:

AM= (A.1* 0.70) + (A.2* 0.30)

Workplan Merit - WM (40%):

B.1) Scientific quality of the work plan, reflecting the relevance of the topic and its pertinence to the R&D project "Inteligência Artificial na Otimização da Rega para Olivais Resilientes às Alterações Climáticas",

presenting the state of the art, outlining the methodology and the schedule of tasks, with a weighting of 70%;

B.2) Motivation letter, with a weighting of 30%.

The final classification of the workplan merit (WM) with the achieved through the following formula:

WM= (B.1* 0.70) + (B.2* 0.30)

The final classification (FC) for each candidate will be obtained by weighting the Applicant Merit (AM) and the Workplan Merit (WM), using the formula:

FC = (AM*0.60) + (WM*0.40)

Applicants with degrees obtained abroad must present proof of recognition of qualifications in Portugal and conversion of the final classification obtained in them to the Portuguese classification scale or declaration under the terms indicated in the next point. Candidates who do not comply with one of these provisions, the selection panel will assign "0" in the grade of the graduation and/or master course. Candidates will be evaluated on the remaining parameters.

Application deadline and submission: The call for applications is open for a period of 10 working days from the date of publication on the Euraxess portal.

Applications must be submitted by email to bolsas@ecum.uminho.pt , indicating the reference number of the competition in the subject line: **38/ECUM/CMAT/2026 - IA-Olivais**. Only applications submitted within the established deadline and accompanied by the following documents will be accepted:

a) Candidate's updated curriculum vitae;

b) Certificates of the academic degrees obtained or, if applicable, the candidate's declaration of honor that he/she has completed the degrees required in the notice by the application deadline (not applicable to research initiation grants).

For degrees obtained abroad, the record of recognition of the academic degrees and record of the conversion of the respective final classification to the Portuguese classification scale must be presented, or, alternatively, a declaration of honor from the candidate.

This declaration must attest to facts that occurred prior to the application. In the event of a discrepancy between the information contained in the declaration and the documentation submitted for the purposes of contracting the scholarship, only the information contained in the latter will be considered. If it is found that the documents proving the academic degree and diploma, or their recognition under the terms of Decree-Law n. º 66/2018, of August 16, do not correspond to the

classifications awarded in the assessment of the academic career and may consequently alter the candidate's ranking, the scholarship will not be contracted;

c) Motivation letter;

d) Master's dissertation and all scientific works mentioned in the curriculum vitae in PDF format;

e) Workplan to be developed with a maximum of six A4 pages, aligned with the research objectives of the I&D project "Inteligência Artificial na Otimização da Rega para Olivais Resilientes às Alterações Climáticas", signed by the candidate.

Form of publication/notification of results: The results of the evaluation are published in a single list by final score obtained, posted in a visible and public place in the host unit, as well as by email to all candidates, attaching, for this purpose, the minutes of the jury's deliberations, within a maximum period of 90 working days from the deadline for submission of applications.

Candidates are informed, at a preliminary hearing, in accordance with Articles 121 and 122 of the Administrative Procedure Code, of the likely outcome of the final decision, and may comment within 10 working days of this notification.

An appeal may be lodged against the final decision within 15 working days, or an appeal may be lodged with the highest executive body of the funding entity within 30 days, both after the respective notification (Article 12(n°6) of the FCT Research Grant Regulations).

Within 10 working days of notification of the grant award, the applicant must declare their acceptance in writing. In case of non-acceptance, the next highest ranked applicant will be notified immediately.

Fellowship contractualization: The scholarship is awarded through the signing of a contract between the University of Minho and the scholarship recipient, in accordance with point 2.4 of the Rules for the Award and Management of Scholarships https://www.fct.pt/wpcontent/uploads/2022/03/Normas_de_Atribuicao_de_Bolsas_2021.pdf and the draft contract in Annex II of the University of Minho's Scientific Research Scholarship Regulations.

The contract can only be signed after receipt of all the documentation required for the type of scholarship, which must occur within a maximum period of 6 months, including proof of academic degrees or diplomas, as well as enrollment in non-degree study cycles or courses, as applicable.

Once all the documentation has been received, the contracting entity has 60 working days to sign the scholarship contract. Once received by the scholarship holder, the contract must be returned, duly signed, within 15 working days.

Term and cancellation of fellowship contracts: Without prejudice to the other grounds laid down in the University of Minho's Scientific Research Scholarship Regulation and in the Research Fellow Statute, the scholarship will cease on completion of the contracted work plan, as well as on expiry of the period for which it was granted or renewed.

The **final report** must be submitted to the scientific advisor, in accordance with the defined objectives and evaluation criteria, no later than 60 working days after the end of the scholarship and must be drawn up in accordance with Annex I of the Regulations of the University of Minho.

Non-discrimination and equal access policy: Universidade do Minho actively promotes a policy of non-discrimination and equal access, so that no candidate may be privileged, benefited, harmed or deprived of any right or exempt from any duty due, namely, to ancestry, age, sex, sexual orientation, marital status, family status, economic situation, education, 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 trade union membership.

Declaration of Honor

Academic qualifications

I, (full name), candidate for the vacancy for the award of a (type of scholarship), within the scope of the project (name or reference of the project), published on the Euraxess portal, with the reference (ref. notice), declare on my honor that I have completed the academic degree of (academic degree), qualifying for the type of scholarship in the competition, namely the course (designation), by the (University conferring the degree), on the date XX/XX/XXXX, with a final average of XXXXX values on the YY scale.

As it is not possible for me to present proof of qualifications until the end of the competition, I declare that I undertake to present the aforementioned certificate at the conclusion of the scholarship contract, in the event that I am selected for the vacancy in the competition.

As this is true, I hereby date and sign this declaration.

(Place), (date).

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(full name)

NOTE: The declaration may only attest to facts that occurred prior to the application.

In the event of a discrepancy between the information contained in the declaration and the documentation submitted for the purpose of contracting the scholarship, only the information contained in the latter will be taken into account.

Declaration of Honor

I, (full name), bearer of identification document number (XXXX), candidate for a research grant (type of grant), within the scope of the project (name or reference of the project), published on the Euraxess portal, with the reference (ref. call for proposals), declare on my honor that (I have not received any research grants to date / I have received the following research grants) under the Research Grant Holder Statute.

University	Financing Entity	Project	Type of Grant	Duration	Start	Term

As this is true, I hereby date and sign this declaration.

(Place), (date).

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(full name)