

ANNOUNCEMENT FOR THE AWARD OF A RESEARCH FELLOWSHIP

Research Fellowship for Bachelors - 2 vacancies

BI3-BI4/PRODUCEOIT/UMINHO/2025

A call for applications is now open for the attribution of 2 (two) Research Grants within the scope of the project “PRODUCEOIT – Prediction of Eye Diseases with Advanced Imaging Techniques”, ref. 2024.07555.IACDC, supported by measure RE-C05-i08. M04 – “Apoiar o lançamento de um programa de projetos de I&D orientado para o desenvolvimento e implementação de sistemas avançados de cibersegurança, inteligência artificial e ciência de dados na administração pública, bem como de um programa de capacitação científica”, of the “Plano de Recuperação e Resiliência – PRR” (financed by the European Union – NextGenerationEU), within the framework of the funding contract signed between the “Estrutura de Missão Recuperar Portugal (EMRP)” and the Foundation for Science and Technology I.P. (FCT), as intermediate beneficiary, under the following conditions:

Scientific Area: Engineering

Specific Scientific Area: Informatics Engineering / Biomedical Engineering

Recipient category: The open position is intended for candidates **holding a bachelor's degree** who, on the date of their hiring, prove their enrollment in a Master's/Integrated Master's course.

Requirement for granting the fellowship:

- The applicants may apply without prior registration in the course for which the fellowship is open. The requirement to be enrolled in a 2nd Cycle degree course will be verified on the date of contracting the fellowship;
- Only fellowships whose selected applicants present a valid proof of enrolment in a 2nd Cycle degree course, indicating the current academic year, will be contracted.

Candidates profile: The following are eligible to apply for this competition:

- Nationals or citizens of other member states of the European Union;
- Citizens of third countries;
- Stateless persons;
- Citizens with political refugee status.

Candidate admissibility requirements:

- Degree in Biomedical Engineering, Informatics Engineering, or related areas (mandatory requirement);
- Knowledge in Data Analysis and Exploration (preferential requirement);
- Knowledge in Machine and Deep Learning (preferential requirement);
- Knowledge in Programming, namely in Python (preferential requirement).

Admissibility requirements: It is essential, under penalty of not being admitted to the competition, to attach the following documents to the application:

- The candidate's *curriculum vitae*;
- 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;
- 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, the candidate's declaration of honor.

Applicants eligibility: Applicants must comply with the eligibility conditions laid down in article 9 of the Research Grants Regulation of the Portuguese Foundation for Science and Technology (2019).

Workplan and objectives to be achieved: The work plan should provide the fellowship holder with a structured scientific research experience, aligned with their academic path, focused on developing skills in systematic review, clinical data modelling, and technical fundamentals of AI applied to eye health.

The Comprehensive State of the Art Review includes the following activities:

- Guided training on PRISMA methodology.
- Research and critical analysis of scientific articles on:
 - Machine learning models in ocular diagnostics;
 - Clinical applications of Optical Coherence Tomography (OCT);
- Clinical decision support systems.
- Guided discussion of articles with supervisors.
- Preparation of a technical report and oral presentation of the results.

Expected outcome:

- D1 - Technical report on the state-of-the-art review finalised and presented internally.

The task of Formulating the Data Model and Centralised Repository includes the following activities:

- Participation in training sessions on HL7 FHIR and openEHR standards.
- Mapping ophthalmological clinical data (e.g. OCT images, demographic variables).
- Support in designing the logical data model.
- Support for the initial implementation of the repository (structuring and testing).
- Discussion on ethical and legal implications of health data management.

Expected result:

- - D2 - Blueprint of the ophthalmological clinical data model.

Objectives to be achieved

1. Consolidation of scientific competences in carrying out systematic literature reviews.
2. Technical and methodological development in clinical data modelling and repository engineering.

3. Active involvement in research tasks applied to AI-assisted medical diagnosis.
4. Production of two scientific artefacts: technical report of the review and blueprint of the data model.
5. Integration into a multidisciplinary collaborative environment, promoting teamwork and scientific communication.

The evaluation of the work carried out will be verified through the results obtained and expressed in the activities report, which will be elaborated by the researcher.

This research context and methodological approach is adequate for the consolidation of the researcher's scientific training within the course leading to an academic degree or diploma.

Applicable legislation and regulations: Research Fellowship Holder Statutes, approved by Law n° 40/2004 of August 18, in its current version published by Decree-Law n° 123/2019 of August 28; Regulation of Scientific Research Fellowships of the University of Minho (RBIC), published in "Diário da República", 2nd serie, n° 81, through dispatch n° 4998/2025 of 28-04-2025 and Regulation of Research Studentships and Fellowships (RBI) of the Foundation for Science and Technology, I.P. - in force (<https://www.fct.pt/financiamento/programas-de-financiamento/bolsas/>).

Host/Contracting institution and scientific supervision: The workplan will be carried out at Algoritmi Centre of the School of Engineering of the University of Minho, located at the Gualtar Campus, Braga, under the scientific supervision of Doctor António Carlos Silva Abelha, Assistant Professor at the Department of Informatics of the School of Engineering of University of Minho.

Fellowship duration: The grant will take place for a period of **3 months**, with a provisional starting date in July 2025. The research grant contract may eventually be renewable for additional periods, considering that under no circumstances may it exceed the maximum duration of the project and/or provided for in the applicable legislation and regulations in force.

Amount of the research grant: The value stipend (Monthly Maintenance Allowance), accordingly with the stipend values published by the Foundation for Science and Technology (FCT I.P.) in the country, is the following:

- Master and integrated master students: 1040,98 euros/per month

(Annex I – Monthly Stipends Values for the maintenance allowances of the FCT Regulation for Research Studentships and Fellowships:

https://www.fct.pt/wp-content/uploads/2025/02/Tabela_valores_SMM_2025.pdf).

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

Other benefits: Reimbursement of Voluntary Social Security (Social Security contributions), 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 5° of the Research Fellow Statutes and applicable regulations.

Selection Panel:

- President: António Carlos Silva Abelha, Assistant Professor at the Department of Informatics, School of Engineering, University of Minho;
- First effective member: José Manuel Ferreira Machado, Full Professor at the Department of Informatics, School of Engineering, University of Minho;
- Second effective member: Hugo Daniel Abreu Peixoto, Assistant Researcher at the ALGORITMI Centre, School of Engineering, University of Minho;
- First substitute member: Paulo Jorge Freitas Oliveira Novais, Full Professor at the Department of Informatics, School of Engineering, University of Minho;
- Second substitute member: Victor Manuel Rodrigues Alves, Associate Professor at the Department of Informatics, School of Engineering, University of Minho.

The first effective member or the second effective member, in case of impediment of the latter, will substitute the President of the Selection Panel in case of impediment, being nominated the designated substitute members in the place of the effective members.

Criteria and procedures for applications assessment and selection: The applications assessment will focus on the Applicant's Merit (MC), according to the following criteria and sub-criteria and corresponding weightings, valued on a scale of 0 to 20 values.

A. Curricular assessment, with a weight of 40%:

- A1: Final average score of the degrees, with a weighting of 60%;
- A2: Relevance of the training area to the work plan (as defined in Table 1), with a weighting of 30%;
- A3: Motivation letter and/or letters of recommendation, with a weighting of 10%

B. Consolidated knowledge in Data Analysis and Exploration, Machine and Deep Learning and Programming, with a weighting of 60%:

- B1: Knowledge in Data Analysis and Exploration, with a weighting of 30%;
- B2: Knowledge in Machine and Deep Learning, with a weighting of 30%;
- B3: Knowledge in Programming, namely Python, with a weighting of 40%.

The final classification will be obtained by applying the following formula:

$$MC = (A \cdot 0,4) + (B \cdot 0,6)$$

where:

$$A = (A1 \cdot 0,6) + (A2 \cdot 0,3) + (A3 \cdot 0,1)$$

and

$$B = (B1 \cdot 0,3) + (B2 \cdot 0,3) + (B3 \cdot 0,4)$$

The jury may decide to interview the 3 (three) candidates with the best classification.

In case the jury conducts interviews, the selection methods change, becoming the following:

A. Curricular assessment, with a weight of 40%:

A1: Final average score of the degrees, with a weighting of 60%;

A2: Relevance of the training area to the work plan (as defined in Table 1), with a weighting of 30%;

A3: Motivation letter and/or letters of recommendation, with a weighting of 10%.

B. Consolidated knowledge in Data Analysis and Exploration, Machine and Deep Learning and Programming, with a weighting of 30%:

B1: Knowledge in Data Analysis and Exploration, with a weighting of 30%;

B2: Knowledge in Machine and Deep Learning, with a weighting of 30%;

B3: Knowledge in Programming, namely Python, with a weighting of 40%.

C. Interview, with a weighting of 30%:

C1: Interpersonal skills, with a weighting of 30%;

C2: Specific knowledge and experience in the project area, with a weighting of 30%;

C3: Motivation, with a weighting of 30%;

C4: Language skills, with a weighting of 10%.

The final classification will be obtained by applying the following formula:

$$MC = (A \cdot 0,4) + (B \cdot 0,3) + (C \cdot 0,3)$$

where

$$A = (A1 \cdot 0,6) + (A2 \cdot 0,3) + (A3 \cdot 0,1)$$

and

$$B = (B1 \cdot 0,3) + (B2 \cdot 0,3) + (B3 \cdot 0,4)$$

and

$$C = (C1 \cdot 0,3) + (C2 \cdot 0,3) + (C3 \cdot 0,3) + (C4 \cdot 0,1)$$

Table 1 - Reference for scoring Subcriterion A2 (relevance of training area)

| Training Area | Valuation |
|-------------------------|-----------|
| Informatics Engineering | 20 |
| Biomedical Engineering | 20 |
| Related areas | 12 |
| Not-related areas | 0 |

The final ranking of candidates will be expressed on a scale of 0 to 20 values and will result from the weighted arithmetic average of the quantitative scores obtained in each selection method.

Candidates will only be admitted if they obtain a minimum of 9.5 values in each of the criteria, A, B or C (optional).

In addition, the jury reserves the right not to award one or more fellowships if there are no candidates with the appropriate profile.

The academic degrees and diplomas documents, or their respective recognition when awarded by foreign higher education institutions are not mandatory in the application phase, being replaced by a declaration of honor of the candidate (**Annex I**) with the contents of academic results. The documents of academic qualification or respective recognition will be required in the contracting phase and must attest facts that occurred on a date prior to the application. In situations of divergence between the information contained in the declaration and the documentation submitted for contracting the grant, only the information contained in the latter will be considered. If the documents proving the ownership of the academic degree and diploma, or the respective recognition under the terms of Decree-Law No. 66/2018, of August 16, do not correspond to the classifications awarded in the evaluation of the academic path, which can change the candidate's ranking, the fellowship won't be contracted.

The degree recognition must include the respective conversion of the final classification obtained in the foreign qualification, to the Portuguese classification scale. Candidates who do not comply with these terms, when there is a selection method in which the final grade of the course is indicated as an evaluation criterion, the jury will assign a classification of 0 (zero) values in that component.

In the application stage, when a declaration of honor is presented in replacement of degree recognition by a Portuguese higher education institution, and the degree recognition process has not yet been completed, the indication of the final grade of the academic degree will not be admitted as evidence for evaluation, when there is a selection method in which the final course grade is indicated as an evaluation criterion. Thus, in this situation, or when presenting only a certificate of qualifications from a foreign institution, the jury will assign a classification of 0 (zero) values in the aforementioned selection method.

Disclosure of results: The evaluation results project, based in the selection panel minutes, will be sent to the applicants by email, in accordance with article 12 of the FCT's RBI.

If case of unfavourable results, the candidates have a period of 10 working days to comment, if desired, in a prior hearing to interested parties, pursuant to articles 121 and 122 of the Code of Administrative Procedure (DL n° 4 / 2015 of January 7th).

Complaint and appeal procedures: The final results of the evaluation will be published through an ordered list (by final grade obtained), posted in a visible and public place of the host unit, as well as by email to all applicants, enclosing for that purpose the minutes of the jury deliberations.

The selected candidate must, within 10 working days of notification of the granting of the fellowship, inform its willingness to accept the grant, in writing. In case of rejection, the fellowship will be awarded to the next candidate in the ordered list of applicants.

The final decision can be contested within 15 working days, by sending to the President of the jury the corresponding claim. Interested parties may also submit an optional hierarchical appeal addressed to the Rector.

Constitution of a selection reserve list: The applicants ranked in the next positions on the ordered list will be included in a selection reserve list, which can be used until the project completion date, scheduled for 31/01/2026.

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 formalized by sending an application letter with the following documents:

- *Curriculum vitae*;
- Certificate of qualifications indicating the final classification obtained or a declaration of honor from the applicant (Annex I);
- Motivation letter;
- Other documents important to the evaluation process.

Applications must be sent by email to **recrutamento@di.uminho.pt**, indicating in “Subject” the reference of the call: **B13-B14/PRODUCEOIT/UMINHO/2025**. Applications submitted by other means will not be accepted.

Failure to indicate the call reference, the lack of any of the documents required in the application, or sending/delivering it to a location other than the one indicated above, may imply its exclusion.

Fellowship contractualization: The fellowship will be attributed by signing a fellowship contract between the University of Minho and the fellow, accordingly with the contract minute (Annex II of the Regulation of Research Fellowships of the University of Minho (RBIC), published in *Diário da República*, 2nd Série, nº 81, through dispatch nº 4998/2025 of 28-04-2025), as indicated in 2.4 of the FCT document: “Rules for Granting and Management of Grants within the scope of R&D projects, including infrastructure projects, the multi-annual financing program for R&D units and other FCT financing instruments (Version 2021)”:

https://www.fct.pt/wp-content/uploads/2022/03/Normas_de_Atribuicao_de_Bolsas_2021.pdf

The contract may only be concluded after all the documentation required is collected, which must take place within a maximum period of 6 months (including evidences of the academic degrees or diplomas and enrolment in degree courses).

Once all the documentation has been received, the contracting entity has a period of 60 working days to conclude the scholarship contract. Once received, the fellow must return the contract duly signed within 15 working days.

The activities under the fellowship contract can only began after proper authorization by the contracting entity.

Term and cancellation of fellowship contracts: Without prejudice to the other causes provided the fellowship regulations (FCT and UMinho) and in the Statute of the Research Fellow, the fellowship ends with the completion of the work plan, as well as with the expiration date for which it was granted or renewed.

At the end of the fellowship, the grantee is obliged to present a Final Report of the work carried out, in accordance with the objectives and evaluation criteria defined with the scientific advisor, within 30 days after the end of the scholarship.

The **final report** must be prepared in accordance with Annex I of the Scientific Research Fellowships Regulation of the University of Minho (RBIC), published in *Diário da República*, 2nd Série, nº 81, through dispatch nº 4998/2025 of 28-04-2025.

Non-discrimination and equal access policy: UMinho promotes a policy of non-discrimination and equal access, whereby no candidate may be privileged, benefited, harmed or deprived of any right or exempt from any duty due to, in particular, of ancestry, age, sex, sexual orientation, marital status, family situation, economic situation, education, origin or social condition, genetic heritage, reduced work capacity, disability ,chronic illness, nationality, ethnic origin or race, territory of origin, language, religion, political or ideological convictions and union membership.

ANNEX I

Declaration of Honor Academic qualifications

I, (full name), bearer of identification document/passport number XXXXXX, applicant to the Research Fellowship vacancy within the scope of the project PRODUCEOIT – “Predicting Ocular Diseases Using Cutting Edge Ocular Imaging Techniques”, ref.^a 2024.07555.IACDC, published on the Euraxess portal, with the reference BI3-BI4/PRODUCEOIT/UMINHO/2025, hereby declare on my honor to 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 XX/XX/XXXX (conclusion date), with the final grade of XX values on the YY scale¹.

I also declare that I have submitted my diploma for recognition at the University of XXXXX, according to the Decree-Law n° 66/2018 of August 16th² (if applicable).

As it is not possible for me to present proof of qualifications/proof of my diploma recognition obtained under the Portuguese Law, until the end of the competition, I declare that I undertake to present the aforementioned documents at the conclusion of the fellowship contract, in case of being selected for the vacancy in the competition.

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

(Place), (date).

(full name)

¹ The declaration may only attest to facts that occurred on a date 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 fellowship, only the information contained in the latter will be considered.

² DGES (Foreign Degrees and Diplomas): <https://www.dges.gov.pt/en/pagina/degree-and-diploma-recognition?plid=1536>; University of Minho: Recognition of foreign degrees and diplomas: <https://www.uminho.pt/EN/education/Pages/recognition-offoreign-qualifications.aspx>