



## PhD Scholarship Competition Opening Notice

The Polytechnic Institute of Cávado and Ave (IPCA), opens a call for applications for 1(one) research scholarship, (scholarship type: mixed), hereinafter referred to as Doctoral Research Scholarships, in the area of Computer Science and Information Systems under the Research Grant Regulations (Regulamento de Bolsas de Investigação - RBI) from the Foundation for Science and Technology (FCT) and the Grant Holder Statute (Estatuto do Bolseiro de Investigação - EBI).

The scholarship will be financed by the Foundation for Science and Technology (FCT) under the Collaboration Protocol between the Foundation for Science and Technology, the Polytechnic Institute of Leiria (IPL) and the Polytechnic Institute of Cávado and Ave (IPCA), with a view to financing PhD research scholarships in the scope of the Regional University Network - European University (RUN-EU), in the areas of the industry of the future, sustainable development, environment and climate change, population aging, and social inclusion, among other priorities of the consortium.

### 1. SUBMISSION OF APPLICATION

The tender is open between May 24, 2023 and 23:59 (Lisbon time) on June 7, 2023.

The applications and respective documents, further detailed in this notice, must be submitted, obligatorily, by email sent/submitted to [ailaboratory@ipca.pt](mailto:ailaboratory@ipca.pt). In the subject of the e-mail, it is mandatory to put the reference of the scholarship you are applying for, namely "2AiRUN\_2".

If the scholarship reference is not indicated in the subject of the e-mail, the candidate will be automatically excluded from the procedure.

Each candidate may submit only one application, under penalty of cancellation of all submitted applications.

False statements or plagiarism on the part of the candidates will be grounds for cancellation of the application and other sanctions

### 2. TYPE AND DURATION OF SCHOLARSHIPS

PhD research grants are intended to fund the successful candidate in the research activities leading to the conclusion of a PhD Program in Technological University of the Shannon (TUS), Ireland.

The research activities leading to the doctoral degree will take place at 2Ai – Applied Artificial Intelligence Laboratory - IPCA which will be the host institution for the grantees, although the work may be carried out in collaboration with more than one institution.

The research activities leading to a doctoral degree for the selected grantees must fit into the 2Ai plan of activities and strategy and must be developed within the scope of the doctoral programs of the Technological University of Shannon (TUS).

The work plan take place partially in a national institution (mixed fellowship).

The duration of the fellowships is, as a rule, one year, renewable up to a maximum of four years (48 months), and no

fellowship may be awarded for a period of less than 3 consecutive months.

In the case of mixed grants, the period of the work plan that takes place in a foreign institution cannot exceed 24 months.

### 3. SCHOLARSHIP RECIPIENTS

Doctoral Research Fellowships are intended for candidates enrolled in or who meet the conditions necessary for enrollment in TUS doctoral programs and who intend to develop research activities leading to a doctoral degree at 2Ai or at associated host institutions.

### 4. ELIGIBILITY

#### 4.1 Eligibility Requirements for Candidates

The following are eligible to apply to this competition:

- Portuguese citizens or citizens of other member states of the European Union;
- Citizens of third States;
- Stateless persons;
- Citizens benefiting from political refugee status.

To apply for the PhD Research Scholarship, it is necessary to:

- Have graduated or have a master's degree in the scientific areas of Computer Science and Information Systems or in related areas;
- Reside in Portugal on a permanent and regular basis, if the work plan associated with the scholarship takes place partially in foreign institutions (mixed scholarships), a requirement applicable to both national and foreign citizens.
- Not have benefited from a doctoral or doctoral fellowship in companies directly financed by the FCT, regardless of its duration.
- Not hold a PhD degree

#### 4.2 Admissibility Requirements of the Application

It is indispensable, under penalty of not being admitted to the Contest, to attach the following documents to the application:

- Elements of the identity card/citizen card/passport;
- *Curriculum vitae* of the candidate;
- Certificates of academic qualifications, specifying the final classification and, if possible, the classifications obtained in all the courses taken, or alternatively, a declaration of honor from the candidate that he/she has concluded the degree of licentiate or master by the end of the application deadline;
- A record of recognition of academic degrees awarded by foreign higher education institutions and a record of the conversion of the respective final classification into the Portuguese classification scale, or alternatively, a declaration of honor from the applicant that he/she has obtained the recognition of the foreign degree equivalent to a licentiate or master's degree by the application deadline;
- Motivation letter;

- 1 (one) Letter of Recommendation;
- Please write your application and all associated documents, including the letters of motivation and recommendation, in Portuguese or English.
- Please indicate the reference of the scholarship you are applying for in the subject of the e-mail, namely "2AIRUN\_2". If the candidate does not indicate the reference of the scholarship, he/she will automatically be excluded from the procedure.

Regarding the above admissibility requirements, the following should be noted:

- In the case of academic degrees awarded by foreign higher education institutions, and to ensure the application of the principle of equal treatment to applicants holding foreign and national academic degrees, the recognition of these degrees and the conversion of the respective final classification into the Portuguese classification scale is mandatory.
- The recognition of foreign degrees and diplomas as well as the conversion of the final classification into the Portuguese classification scale may be requested at any public higher education institution, or at the Directorate General of Higher Education (DGES, only in the case of automatic recognition). In this regard, we suggest that you consult the DGES portal at the following address: <http://www.dges.gov.pt>.
- Applicants will only be admitted if they have completed the cycle of studies leading to a bachelor's or master's degree by the application deadline. If they do not yet have a degree certificate, a declaration of honor from the candidates that they have completed the necessary qualifications for the competition by the application deadline will be accepted. The awarding of the scholarship is conditional on the presentation, during the contractualization phase, of proof of academic qualifications.

## 5. RESEARCH PLAN AND SCIENTIFIC SUPERVISORS OF THE SCHOLARSHIPS

The research plan aims to develop systems with artificial intelligence based on reinforcement learning to, in a collaborative environment, help optimizing industrial processes in their different dimensions: improvement of manufacturing processes; reduction of environmental impact; increase of information security; optimized task scheduling; increase of productivity; predictive maintenance.

The research plan will be supervised by Professor Joaquim José de Almeida Soares Gonçalves from the 2Ai of the Technology School of the Polytechnic Institute of Cávado and Ave, Professor Nuno Alberto Ferreira Lopes from the 2Ai of the Technology School of the Polytechnic Institute of Cávado and Ave, and Professor John Cosgrove, from the Technological University of the Shannon.

## 6. EVALUATION CRITERIA AND BONUSES

### 6.1 Evaluation Criteria

The evaluation considers the candidate's merit in terms of academic qualifications, Curriculum Vitae and Interview for evaluation of competencies, considering the aspects and evaluation criteria, as well as the weighting factors set out in this announcement.

The admissible applications will be scored on a scale from 0 to 20 points in each of the following evaluation criteria: Criterion A - Curriculum Evaluation (50% weighting), Criterion B - Motivation Letter (5% weighting), Criterion C - Selection Interview (45% weighting).

- Criterion A - Curriculum Evaluation (50%);
  - Subcriterion A1 - Classification of academic degrees obtained (50%)
    - Subcriterion A1.1 – Classification in the Bachelor (50%)
    - Subcriterion A1.2 - Classification obtained in the master's degree (50%)

- Evaluation obtained in the curricular component (70%)
- Evaluation obtained in the dissertation (30%)
  - o Subcriterion A2 - Command of the English language (oral and written) (20%)
  - o Subcriterion A3 - Participation in research activities (30%)
- Criterion B - Motivation letter (5%)
- Criterion C - Selection interview (45%)
  - o Subcriterion C1 - Motivation and interest (20%)
  - o Subcriterion C2 - Capacity for expression, argumentation, and verbal fluency (20%)
  - o Subcriterion C3 - Sense of teamwork (20%)
  - o Subcriterion C4 - Compatibility with the job profile (40%)

This interview will be evaluated through the following classification levels:

Qualitative Classification	Quantitative Classification
Insufficient	4
Low	8
Sufficient	12
Good	16
High	20

For the purpose of the decision on the award of grants, candidates will be ranked according to the weighted average of the classification obtained in each of the 3 criteria, translated by the following formula:

$$\text{Final Classification} = (0.5 \times A) + (0.05 \times B) + (0.45 \times C)$$

For tie-breaking purposes, candidates will be ranked based on the marks awarded for each of the evaluation criteria in the following order of precedence: criterion A, criterion C, criterion B.

**Important notice for applicants with diplomas issued by foreign higher education institutions:**

- Applicants with diplomas issued by foreign higher education institutions can apply and will be evaluated with the same criteria as candidates with diplomas issued by Portuguese institutions, provided that they present, in their application, proof of recognition of academic degrees and conversion of the final classification for the Portuguese classification scale under the applicable legislation.
- Applicants with foreign diploma who do not present proof of conversion of the final classification to the Portuguese classification scale will be evaluated with the minimum classification (10 points) in criterion A.
- In any case, scholarship contracts with candidates with diplomas issued by foreign institutions will only be concluded upon presentation of proof of recognition of academic degrees and conversion of the final classification, as indicated above.

Candidates whose application is evaluated with a final classification of less than 10 points are not eligible for granting a scholarship.

## 7. EVALUATION

The candidate evaluation panel is formed by the following members:

### Effective members:

- Professor Doctor Vítor Hugo Mendes da Costa Carvalho of the School of Technology of the Polytechnic Institute of Cávado e Ave (panel coordinator).
- Professor Doctor Luís Gonzaga Martins Ferreira of the School of Technology of the Polytechnic Institute of Cávado e Ave.
- Professor Doctor José Henrique de Araújo Silveira de Brito of the School of Technology of the Polytechnic Institute of Cávado e Ave.

### Substitutes members:

- Professor Doctor Siobhan Moane of the Technological University of Shannon.
- João Luís Araújo Martins Vilaça of the School of Technology of the Polytechnic Institute of Cávado e Ave and Coordinator of 2AI.

The evaluation panel will assess the applications according to the criteria contained in this Notice, considering the elements of assessment.

All panel members, including the coordinator, commit to respecting a set of responsibilities essential to the assessment process, such as the duties of impartiality, the declaration of any potential conflict of interest situations and confidentiality. During the evaluation process, confidentiality is fully protected and ensured at all times in order to guarantee the independence of all opinions expressed.

For each application, a final evaluation form will be produced by the panel where the arguments that led to the classifications attributed to each of the evaluation criteria and sub-criteria are presented in a clear, coherent, and consistent way.

Sessions minutes will be produced from the meetings of the evaluation panel, under the responsibility of all its members.

The session minutes and their attachments must include the following information:

- Name and affiliation of all evaluation panel members;
- Identification of all excluded applications and their respective reasons;
- Methodology adopted by the panel for cases considered to be exceptional;
- Final Assessment Forms for each candidate;
- Provisional ranking list of candidates, in descending order of the final ranking, of all applications evaluated by the panel;
- Conflict of Interest Statements from all panel members;
- Possible delegations of vote and competence due to justified absence.

## 8. EVALUATION RESULTS

The results of the evaluation are communicated via e-mail to the e-mail address used by the candidate to send the application/indicated in the application.

## 9. DEADLINES AND PROCEDURES FOR PRIOR HEARING, COMPLAINT, AND APPEAL

After the publication of the provisional list with the evaluation results, the candidates have 10 working days to express their opinion during a hearing of interested parties, pursuant to articles 121 et seq. of the Portuguese Code of Administrative Procedure.

The final decision will be made after the analysis of the statements presented during a hearing of interested parties. A complaint may be filed against the final decision within 15 working days, or, alternatively, an appeal may be filed within 30 working days, both deadlines counting from the respective notification. Candidates who choose to submit a complaint must address their statement to the member of the Board of Directors of the FCT with delegated competence. Candidates who choose to present an appeal must address it to the FCT Directive Council.

## 10. SCHOLARSHIP GRANTING REQUIREMENTS

Research grant contracts are made directly with FCT.

The following documents must be submitted, at the time of the grant award, for contractualization purposes:

- a) Copy of the civil, fiscal and, when applicable, social security identification document(s)<sup>1</sup>;
- b) Copy of the qualification certificates of the academic degrees held;
- c) Presentation of the record of recognition of foreign academic degrees and conversion of the respective final classifications to the Portuguese classification scale, if applicable;
- d) Research Plan;
- e) Document proving enrolment and registration in one of the Doctoral Programs identified in this Notice
- f) Statement from the advisor(s) assuming responsibility for the supervision of the research plan, in accordance with article 5-A of the Research Grant Holder Statute (draft of the statement to be made available by FCT);
- g) Document proving acceptance of the applicant by the institution where the research activities will take place, guaranteeing the necessary conditions for its good development, as well as the fulfillment of the duties established in article 13 of the Research Grant Holder Statute (draft declaration to be made available by FCT);
- h) Up-to-date document proving compliance with the regime of exclusive dedication (draft declaration to be made available by FCT);

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<sup>1</sup>Availability of these documents may be replaced, at the option of the applicant, by face-to-face presentation to the funding entity, which will keep the elements contained in them that are relevant to the validity and execution of the contract, including civil, tax, and social security identification numbers, as well as the validity of the respective documents.

The granting of the scholarship is still dependent on:

- compliance with the requirements set out in this Tender;
- the result of the scientific evaluation;
- the absence of unjustified non-compliance with the grantee's duties under a previous grant contract financed, directly or indirectly, by the FCT;
- FCT budget availability.

Failure to submit any of the documents required to complete the grant contracting process within 6 months of the date of communication of the decision to award the grant conditionally will result in the expiration of the grant and the termination of the process.

## 11. FUNDING

The payment of scholarship will start after the return, by the candidates, of the signed scholarship contract, which should occur within 15 working days from the date of reception.

Grants awarded under this call will be financed by FCT with funds from the State Budget and, when eligible, with funds from the European Social Fund, through the Demography, Qualifications and Inclusion Program (PDQI), in accordance with the regulations established for this purpose.

## 12. SCHOLARSHIP COMPONENTS

Scholarship holders are awarded a monthly maintenance allowance in accordance with the table in Annex I of the RBI.

The scholarship may also include other components, under the terms set out in article 18 of the RBI and the amounts indicated in Annex II.

All scholarship holders benefit from a personal accident insurance for research activities, supported by the FCT.

All scholarship holders who are not covered by any social protection scheme can exercise their right to social security by joining the voluntary social insurance scheme, under the terms of the Code of Contribution Schemes of the Social Security System, as FCT is responsible for the contributions under the terms and within the limits provided for in article 10 of the EBI.

## 13. SCHOLARSHIP COMPONENTS PAYMENTS

Payments to the scholarship holder are made by bank transfer to the account identified by him/her. Payment of the monthly maintenance allowance is made on the first working day of each month.

Payments for the enrollment, or tuition fees are made by the FCT directly to the national institution where the scholarship holder is enrolled in the PhD.



#### **14. TERMS AND CONDITIONS FOR SCHOLARSHIP RENEWAL**

Renewal of the grant always depends on a request submitted by the grant recipient within 60 working days prior to the renewal date, accompanied by the following documents

- a) opinions issued by the supervisor/s and the host entity/s on the monitoring of the fellow's work and the evaluation of his/her activities;
- b) up-to-date document proving compliance with the regime of exclusive dedication;
- c) document proving renewal of enrollment in the study cycle leading to a doctoral degree.

#### **15. INFORMATION AND ADVERTISING OF THE GRANT**

In all R&D activities directly or indirectly funded by the grant, namely in all communications, publications and scientific creations, as well as theses, carried out with the support provided by the grant, mention must be made of financial support from FCT and the European Social Fund, namely through the Demography, Qualifications and Inclusion Program (PDQI). To this end, the documents relating to these actions shall bear the insignia of the FCT, the MCTES, the ESF and the EU, in accordance with the graphic standards of the Community support program.

The dissemination of research results funded under the RBI must comply with the open access rules for data, publications and other research results, according to the FCT rules.

In all scholarships, and in particular in the case of actions supported by EU funding, namely from the ESF, monitoring and control actions may be carried out by national and EU bodies, in accordance with the applicable legislation in this matter, and scholarship holders have an obligation to collaborate and submit the requested information, which includes responding to surveys and evaluation studies in this area, even after the grant has already ended.

#### **16. POLICY OF NON-DISCRIMINATION AND EQUAL ACCESS**

The FCT 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 on grounds, namely, of ancestry, age, sex, sexual orientation, marital status, family situation, economic situation, education, origin or social condition, genetic heritage, reduced work capability, disability, chronic illness, nationality, ethnic origin or race, territory of origin, language, religion, political or ideological convictions and union affiliation.

#### **17. APPLICABLE LEGISLATION AND REGULATIONS**

This Competition is governed by this Opening Notice, by the FCT Research Grant Regulation, approved by Regulation No. 950/2019, published in the II Series of the DR of December 16, 2019, by the Grant Holder Statute approved by Law No. 40/2004, of August 18, and by other applicable national and EU legislation.