

Applied Artificial Intelligence Laboratory (2Ai)

Announcement for 2 (two) Research Grants - PhD Research Scholarships

Reference: 2Ai-BID_2020_2_3

The Applied Artificial Intelligence Laboratory (2Ai), R&D unit at School of Technology of the Polytechnic Institute of Cávado and Ave, opens a call for 2 (two) Research Scholarships (BI - PhD Students), within the scope of the KidneyNav R&D project financed by the multinational company for the production and sale of medical devices for medicine KARL STORZ SE & Co. KG. The study takes place at the Applied Artificial Intelligence Laboratory (2Ai), an R&D unit at the School of Technology of the Polytechnic Institute of Cávado and Ave (IPCA) and at the Research Institute in Life Sciences and Health (ICVS), an R&D unit of the School of Medicine (EM) of the University of Minho (UMinho).

Scientific Area: Biomedical Engineering, Eletronic Engineering, Informatic Engineering or similar areas.

Admission Requirements:

- Master in the areas of Biomedical Engineering, Electronic Engineering, Computer Engineering or in areas considered to be related, and enrolled in the PhD in Health Sciences at the School of Medicine of the University of Minho, or that satisfy the necessary conditions to enroll in it.

Eligibility of candidates: The following are eligible for the award of scholarships financed directly or indirectly by the IPCA:

- a. National citizens or citizens of other member states of the European Union;
- b. Third-country citizens;
- c. Stateless candidate;
- d. Beneficiaries of political refugee status.

For scholarships whose work plan runs, in whole or in part, in foreign institutions, only candidates who prove that they are permanently and habitually resident in Portugal are eligible on the date of the start of the scholarship.

Work plan: Artificial intelligence applied to minimally invasive surgery, namely in the areas of surgical navigation, collaborative robotics, machine learning and ultrasound.

Objectives of the work plan: The candidate must develop innovative methods and / or technologies for application in the area of minimally invasive surgery in the work plan area. These methods / technologies must give rise to at least 3 international articles or 1 patent. In addition, the result of this work plan should be included in the writing of a doctoral thesis.

Applicable legislation and regulations: the Research Fellowship Statute, approved by Law No. 40/2004 of 18 August, in the current wording published by Decree-Law No. 123/2019 of 28 August; Regulation of Research Grants of the Polytechnic Institute of Cávado and Ave, Regulation No. 821/2020 (Diário da República No. 191/2020, Series II of 2020-09-30).

R&D unit and supervision: the work plan will be developed at the Applied Artificial Intelligence Laboratory (2Ai), an R&D unit at the Escola Superior de Tecnologia of the Polytechnic Institute of Cávado and Ave, under the scientific guidance of Doctor João Vilaça, and at ICVS, of EM da UMinho, located at the Campus of Gualtar, in Braga, under the scientific guidance of Doctor Estevão Lima and/or Doctor Jorge Correia-Pinto.

Scholarship duration: the scholarship will have a duration of 01 (one) year, starting in December 2021, possibly renewable for identical periods, after a positive evaluation and not exceeding the maximum duration of the approved project and the maximum duration of the scholarship (4 years : PhD students).

Monthly maintenance allowance: the amount of the grant corresponds to € 1,094.00, according to the table of values of the grants of the Regulation of Research Grants Research Grants of the Polytechnic Institute of Cávado and Ave, in accordance with the update authorized by order of the IPCA President for the year 2021. This amount will be paid monthly by bank transfer.

Other benefits: Tuition fees up to a maximum of € 2,750; Reimbursement of Voluntary Social Security, corresponding to the 1st Level of the contributory tax base (for scholarships lasting 6 months or more) and Personal Accident Insurance.

The selected scholarship holders undertake to return all amounts paid by the IPCA, as payment of tuition fees, in the following situations:

- In the event that the contract awarding the research grant ends for reasons attributable to them, before the completion of the project;

- In case the contract lasts until 31.12.2024 or 4 years and the scholarship holders do not obtain a doctorate degree within two years after the conclusion of the scholarship contract.

Each year, scholarship holders must submit a report on the development of their PhD to the Project's coordinator and scientific advisor.

Juri:

President:

João Luis Araújo Martins Vilaça, Associate Professor of EST/IPCA, Coordinator of 2Ai;

Effective Members:

Estevão Augusto Rodrigues Lima, Invited Auxiliar Professor of the School of Medicine of the University of Minho.

Jorge Manuel Nunes Correia Pinto, Full Professor at the University of Minho School of Medicine.

Sandro Filipe Monteiro Queirós, Junior Researcher of ICVS, School Medicine University of Minho.

Pedro André Gonçalves Morais, Auxiliar Researcher of 2Ai, EST/IPCA.

If the President of the Jury is not present throughout the selection meeting, he will be replaced by the first effective member.

Evaluation and selection criteria and procedures: the evaluation of the applications will focus on the candidate's merit, applying the following evaluation criteria, valued on a scale of 0 to 20:

Merit of the candidate - MC (100%):

Applications considered admissible will be scored on a scale of 0 to 20 in each of the following evaluation factors:

Factor A – Curricular evaluation (AC), with a weight of 55%;

Subfactor A1 - Classification obtained in the master's degree plus a degree, weighing 70%;

Subfactor A2 - Related scientific and / or professional experience, weighing 30%;

Factor B - Interview (Ent), weighting 40%:

Subfactor B1 - Motivation and interest in the place, with a weight of 20%;

Subfactor B2 - Capacity for expression, argumentation and verbal fluency, weighing 20%;

Subfactor B3 - Posture and experience of team work, weighing 20%;

Subfactor B4 - Compatibility with the work plan profile, weighing 20%;

Subfactor B5 - Proven command of the English language, weighing 20%;

Factor C - Motivation Letter (CM), weighting 5%:

The interview has a maximum duration of 30 minutes.

For the purposes of deciding on the award of scholarships, applicants will be ranked according to the weighted average of the classification obtained in each of the three factors, translated by the following formula:

$$\textit{Final Classification (CF)} = (A \times 0.55) + (B \times 0.4) + (C \times 0.05)$$

For tie-breaking purposes, the ranking of candidates will be performed based on the ratings assigned to each of the evaluation criteria in the following order of precedence: factor A followed by factor B and factor C. Next, the following order of precedence for the sub-criteria, namely: A1, A2, B4, B5, B1, B3, B2, C. As a last resort, it will be the responsibility of the jury president to untie the candidates.

Ranking of candidates: the classification of each candidate is obtained by the average of the ratings of each of the elements of the Jury.

In the event of a tie, the decision of the tiebreaker will rest with the President of the Selection Jury.

Based on the CF, the candidates in the first 2 positions will be selected for the award of this scholarship, if the Selection Jury considers that it has the appropriate profile.

In the event of non-acceptance of the vacancy by one of the serial candidates, the members of the Jury reserve the right to contact the serial candidates in the following positions, in order of ranking, for the award of this scholarship. The Jury reserves the right not to award the scholarship if candidates with an appropriate profile are not presented for the competition.

Publication of results: The assessment results project, at each stage, duly substantiated in the minutes, will be sent to candidates by email, within 60 working days after the deadline for submission of applications.

If the result is unfavorable to the granting of the requested scholarship, candidates have a period of 10 working days to comment, if they wish, in the context of a prior hearing with interested parties, under the terms of article 121 and 122 of the Administrative Procedure Code (DL nº 4 / 2015 of January 7).

Candidates participation and decision: The Final Ordering List Project is notified to candidates, by email with receipt of delivery of the notification, to comment for the purpose of holding the hearing of interested parties, under the terms of article 121 and following of the Administrative Procedure Code. In the absence of allegations by the candidates, the final ordering project is considered automatically approved.

Submission of applications: the tender is open during the period of twenty business days.

Applications must be exclusively sent by email to (ailaboratory@ipca.pt), indicating the competition reference:

2Ai_BID_2020_2_3.

When submitting the application, the candidate must formally formalize by sending (via email) the following documents in PDF format:

- Certificates of qualification of the academic degree of Master, specifying mandatorily the final classification and, if possible, the classifications obtained in all subjects taken, or, alternatively, the candidate's declaration of honor on how he completed the master's degree by the end of the year. application deadline *;
- Curriculum vitae (<https://cienciavitae.pt/>);
- Letter of motivation.
- At least 1 letter of recommendation.
- Document proving enrollment in the current academic year - PhD (if applicable) **;
- Proof of grades obtained in the course units in which the student is enrolled (if applicable).

* The presentation of the certificate of qualification of the academic degree of Master, when it has been awarded by foreign higher education institutions, can be dispensed in the application/submission phase, being replaced by the candidate's declaration of honor, being obligatory the presentation of the document of recognition of foreign degree and diploma in the process of contracting the scholarship. In situations of divergence between the information contained in the declaration and the documentation delivered for the purpose of contracting the scholarship, only the information contained in the latter will be considered. If it is found that 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 16 August, do not correspond to the classifications attributed in the evaluation of the academic path and may, consequently, changing the candidate's ranking, the scholarship will not be contracted.

** Only at the time of contracting is it mandatory to present the document proving enrollment in the PhD in Health Sciences at the School of Medicine of the University of Minho.

It is optional for the candidate to present any other documents that he considers relevant for consideration by the Selection Jury.

The application and all associated documents, including letters of motivation and recommendation, must be written in Portuguese or in English. The absence of any mandatory document, required when submitting the application, is a reason for exclusion from this contest. And, applications sent by other means will not be admitted.

It is mandatory for the candidate to present his / her application by the submission deadline set in this announcement. The submission of the application after the deadline set in this announcement is a reason for not being eligible for this call.

The Selection Jury has the power to require any candidate, in case of doubt, to present supporting documents for their

statements.

False statements made by candidates will be punished under the law.

Complaint: Complaints from the final ordering list, duly ratified, may be made to the IPCA president, to be submitted within 15 working days from the notification, to the email [direccao_est@ipca.pt.](mailto:direccao_est@ipca.pt), which does not have a suspensive effect.

Non-discrimination and equal access policy: The IPCA actively promotes a policy of non-discrimination and equal access, so that no candidate can be privileged, benefited, harmed or deprived any right or exemption from any duty due, in particular, to ancestry, age, sex, sexual orientation, marital status, family status, economic status, origin or social status, genetic heritage, reduced work capacity, disability, illness chronicle, nationality, ethnic or race origin, territory of origin, language, religion, political or ideological convictions and union membership.