



## **ANNOUNCEMENT FOR THE AWARD OF A RESEARCH FELLOWSHIP**

**Title:** Research Fellowship for Master degree; 1 vacancy

**Reference:** APDI\_DSD\_01\_2024\_CALG

A call for applications is now open for the attribution of one Research Fellowship for Master degree within the scope of the R&D project of Algoritmi Center, Data Science applied to diabetes to increase patient quality of life and rationalize costs, with reference 01/SAMA2020/2019, under the following conditions:

**Scientific Area:** Engineering

**Specific Scientific Area:** Information Systems and Technology

**Recipient category:** Students enrolled in a **doctoral program** in the area requested in the notice or related area.

### **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 the academic services of the Higher Education Institution, indicating, respectively, the academic year or its duration (star and term).

### **Candidates profile:**

- Candidates must have, at the date of application, a Master degree in in Biomedical Engineering or related areas. Is required for contractualization, proof of academic qualifications completed at the deadline for applications, including those resulting from academic degree recognition processes.

**Applicants eligibility:** Applicants must comply with the eligibility conditions laid down in article 9 of the Regulation of Scientific Research Fellowships of the University of Minho.

**Workplan and objectives to be achieved:** The work will consist in activities/tasks associated with the R&D project “Data Science applied to diabetes to increase patient quality of life and rationalize costs”, which aims at, using the AIDA (Agency for Interoperation, Difusion and Archive) platform, the development and implementation of:

- i) blockchain infrastructure;
- ii) adequacy of blockchain infrastructure to clinical information;
- iii) a blockchain analytics layer;
- iv) integration of this layer in the AIDA-BI system.



**Applicable legislation and regulations:** Research Fellowship Holder Statutes, approved by Law no. 40/2004 of August 18, in its current version published by Decree-Law no. 123/2019 of August 28; Regulation of Scientific Research Fellowships of the University of Minho (RBIC), published in “Diário da República”, 2nd serie, no. 119, through dispatch no. 6524/2020 of 22-06-2020, ratified by ratification declaration no. 447/2021 of 22-06-2021 and Regulation of Research Studentships and Fellowships (RBI) of the Foundation for Science and Technology, I.P. - in force.

**Host/Contracting institution and scientific supervision:** The workplan will be carried out in the ALGORITMI Research Centre, School of Engineering, of University of Minho, located in the Azurém Campus, under the scientific supervision of the Professor Manuel Filipe Vieira Torres dos Santos.

**Fellowship duration:** The grant will take place for a period of **12 months**, with a provisional starting in March of 2024.

The scholarship may eventually be renewable, up to 4 years, in the case of a student enrolled in a PhD. Under no circumstances may it exceed the maximum period allowed by the project and/or provided for in the legislation and regulations in force.

**Amount of the research grant:** The value stipend (Monthly Maintenance Allowance) is 2008,65 euros per month, in accordance with the stipends values published by the Foundation for Science and Technology (FCT I.P.) in the country (Annex I – Monthly Stipends Values for the maintenance allowances of the FCT Regulation for Research Studentships and Fellowships) and Annex II of the Regulation of Scientific Research Fellowships of the University of Minho (RBIC), published in “Diário da República”, 2nd serie, no. 119, through dispatch no. 6524/2020 of 22-06-2020, ratified by ratification declaration no. 447/2021 of 22-06-2021, according to the applicable regulation.

Payment is made on the 23rd 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 5º of the Research Fellow Statutes and applicable regulations, Regulation of Scientific Research Fellowships of the University of Minho (RBIC).



**Selection panel:** The selection panel has the following composition:

**President:** Manuel Filipe Vieira Torres dos Santos, Associate Professor with Habilitation at the Department of Information Systems at the School of Engineering at the University of Minho.

**Effective members:** José Manuel Ferreira Machado, Associate Professor with Habilitation at the Department of Informatics at the School of Engineering of the University of Minho and António Carlos da Silva Abelha, Assistant Professor at the Department of Informatics at the School of Engineering of the University of Minho;

**Substitute members:** Hugo Daniel Abreu Peixoto, Assistant Researcher at the ALGORITMI Center of the University of Minho and Júlio Miguel Marques Duarte, Researcher at the ALGORITMI Center of the 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:

**A.** Applicant Merit - AM (100%):

**A.1:** Academic path, which reflects the course's training area and the classifications of academic degrees (using tables A.1.1. and A.1.2.), with a weighting of **30%**;

**A.1.1:** Course training area, with a weighting of 50%;

**A.1.2:** Classifications of academic degrees, with a weighting of 50%;

$$\mathbf{A.1. = (A.1.1 \times 0,5) + (A.1.2 \times 0,5)}$$

**A.1.1 - Auxiliary training area table**

Relevance of the training area	
Area	Valuation
Biomedical engineering	5
Other related areas	2
Non-related areas	0

**A.1.2 - Reference table for defining the scoring of academic degree classifications**

<b>Bachelor's + Master's</b> (pre or post Bologna) Integrated Master (300-360 credits)		<b>Bachelor's Degree</b> - 180 credits (pre or post Bologna)		<b>Master's</b> (90-120 credits) (Pre or post-Bologna)	
Classification	Score	Classification	Score	Classification	Score
≥ 18	5,0	≥ 17	3,5	≥ 17	3,0
17	4,5	16	3,0	16	2,5
16	4,0	15	2,5	15	2,0
15	3,5	14	2,0	14	1,5
14	3,0	< 14	1,5	< 14	1,0
< 14	2,5				



**A.2:** Personal curriculum (considering professional and scientific background), with a weighting of **60%**;

Scientific-Technological Component

1. Creation and configuration of private blockchain networks with Hyperledger Fabric in healthcare;
2. Chaincode creation in private Blockchain networks with Hyperledger Fabric in healthcare;
3. Creation of Smart Contracts in Public Blockchain Networks (ERC20, BEP20);
4. Advanced knowledge in Docker, Python, Nodejs, Unix environment;
5. Advanced knowledge in Machine Learning and Data Science with Python/R;
6. Advanced knowledge in SQL databases (MySql, MariaDB, Oracle, Sql Server, PosgreSQL);
7. Advanced knowledge in NoSQL databases (mongodb, couchdb);
8. Advanced knowledge in intelligent clinical decision support systems, clinical terminologies and open data models in the hospital area (HL7, FHIR, OPENEHR);
9. Implementation and configuration of integration services with AIDA and NextGen MirthConnect interoperability agents;
10. Creation and advanced configuration of Oracle Business Intelligence servers in Windows and Linux operating systems;
11. Practical knowledge in creating advanced dashboards in AIDA-BI, Oracle BI 10 and 12C and PowerBI;
12. Practice knowledge with technologies and programming with RFID IMPINJ technology;
13. Practice knowledge with technologies and programming with IOT devices (Bluetooth Beacons, Smart bracelets and Smart sensors).

Project Management

14. Practice knowledge in management and supervision of R&D projects with implementations in a hospital environment (Intensive Care Medicine, Operating Room, Nursing, Complementary means of diagnosis, Inpatient Services, Hospital Management);
15. Practice knowledge in using the SCRUM methodology;

Scientific Publishing

16. Articles published in Journals and Indexed Scientific Conferences. At least one Q1 or Q2 publication (SJR) related to the scholarship topics.
17. Practice knowledge in organizing scientific events.

**A.3:** Motivation letter, with a weighting of **10%**.

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

$$\mathbf{MC = (A.1. \times 0,3) + (A.2. \times 0,6) + (A.3. \times 0,1)}$$



Failure to comply with at least one of points 1 to 17 will be grounds for exclusion.

If none of the candidates demonstrate to have a suitable profile for the execution of the work plan, the Jury is entitled to close this call without selecting a candidate.

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 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.

**Notes:** 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 previous 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.

**Disclosure of results:** The draft evaluation results, based on minutes, will be sent to candidates via email, in accordance with article 13. of the Regulation of Scientific Research Fellowships of the University of Minho.

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 no. 4 / 2015 of January 7th).

*[The hearing of the interested parties, if excluded, should be justified accordingly with article 124º of CPA]*

**Complaint and appeal procedures:** The final results of the evaluation will be published through an ordered list (*alphabetically, 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 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.

Interested parties may also appeal against the final decision, pursuant to paragraph 3 of Article 13 of the Regulation of Research Fellowships of the University of Minho in its current wording.



**Application deadline and submission:** The call for applications is open from **08/02/2024** till **23/02/2024**.

Applications must be formalized by sending an application letter with the following documents: curriculum vitae; qualifications certificate or declaration of the applicant; motivation letter; statement proving that meets the conditions for the grant typology, according to the application requirements; other documents important to the evaluation process.

Applications must be sent by email to ***recrutamento@algoritmi.uminho.pt***, indicating the reference of the call for applications in Subject. Applications submitted by other means will not be accepted.

**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 IV of the Regulation of Research Fellowships of the University of Minho (RBIC), published in *Diário da República, 2nd Série, no. 119*, through dispatch no. 6524/2020 of 22-06-2020, ratified by ratification declaration no. 447/2021 of 22-06-2021, 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”.

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 or non-conferring courses, depending on the type of scholarship].

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. 119*, through dispatch no. 6524/2020 of 22-06-2020, ratified by ratification declaration no. 447/2021 of 22-06-2021.



**ANNEX:**



**Declaration of Honor**  
**Academic habilitations**

(name), applicant to the research fellowship vacancy under the I&D project (title or reference), published in the Euraxess portal, reference xxx, hereby declares to have a degree on **XXXX (name of the course)**, concluded in the **University of XXXX**, on the **XX/XX/XXXX**, with the final grade of XX.

I have submit my diploma for recognition in the **University of XXXX**, according to the Decree-Law n° 66/2018 of August 16<sup>th</sup>, concluded In the XX/XX/XXXX, with the final grade of XX.

I further declare that I undertake to present proof of my diploma recognition obtained under the Portuguese Law, until the date of the conclusion of the fellowship contract, in case of being selected for the vacancy in this competition.

As this is true, this declaration will be dated and signed by me.

(Place), (date).

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(name)





**Declaration of Honor**  
**Requirements Grant Typology**

**(name)**, applicant to the research fellowship vacancy under the I&D project (title or reference), published in the Euraxess portal, reference **(fellowship Reference)**, hereby declares that complies with the conditions for the type of scholarship of the referred call, reference above, in accordance with the application requirements, legislation and regulations indicated in the notice.

As this is true, this declaration will be dated and signed by me.

(Place), (date).

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