

ANNOUNCEMENT FOR THE AWARD OF A POST-DOCTORAL RESEARCH FELLOWSHIP Lab2PT/BIPD-INOV.AM/01

Title: 1 Post-Doctoral Research Fellowship, reference Lab2PT/BIPD-INOV.AM/01

A call for applications is now open for the attribution of one Post-Doctoral Research Fellowship (PDRF) within the scope of the Project N.º 79999 - INOV.AM - Innovation in Additive Manufacturing, in WP19 - Rein4Concrete, project supported by PRR - Recovery and Resilience Plan and the European Funds Next Generation EU, following the Notice No. 02/C05-i01/2022, Component 5 - Capitalization and Business Innovation - Mobilizing Agendas for Business Innovation, in progress in Lab2PT - Laboratory of Landscape, Heritage and Territory, University of Minho, under the following conditions:

Scientific Area: Architecture, Civil Engineering or related areas

Recipient category: The PDRF is intended for doctorates in the area of Architecture, Civil Engineering or related areas, who cumulatively meet the following requirements:

- Holders of a doctoral degree obtained in the three years prior to the date of submission of the post-doctoral research fellowship application;
- Have carried out the research work that led to the attribution of a doctoral degree in an entity other than the host unit Lab2PT - Landscapes, Heritage and Territory Laboratory of University of Minho;
- Do not exceed, with the conclusion of the contract in question, including possible renewals, a cumulative period of three years in this type of fellowship, consecutive or interpolated.

Documents proving the ownership of academic degrees and diplomas, or their respective recognition when they have been awarded by foreign higher education institutions, when applicable for the type of scholarship in the call for applications, may be waived at the application stage, being replaced by declaration of honor of the candidate, with the verification of this condition occurring only in the phase of contracting the scholarship. This statement 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 the purpose of contracting the grant, only the information contained in the latter will be considered. If it is verified 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 August 16, do not correspond to the classifications awarded in the evaluation of the academic path and may, consequently, change the candidate's ranking, the fellowship contracting will not be done.

Candidates who do not meet all the above requirements will be excluded.



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Other Application Admissibility Requirements:

- Doctorate developed in the scientific area of Architecture, Civil Engineering or a related area, aiming to develop design methodologies on the integration of digital tools for the definition of more sustainable architectural and construction systems;
- CV with research activity in the areas of Computational Design, Digital Fabrication and Robotics, BIM, Virtual and Augmented Reality, 3D Laser Scanning, Photogrammetry, Cyber-Physical Systems and Artificial Intelligence;
- Experience in laboratory practice and applied research in the scientific area;
- Good communication skills (oral and written) in English;
- Participation in research projects within the scientific areas to which the application refers (preferential);
- Capacity to propose and implement scientific projects, as well as to participate and create scientific networks;
- Immediate availability to start work and flexible working hours (to be indicated in the letter of motivation);
- Aptitude to work in transdisciplinary teams.

Candidates eligibility: Candidates must meet the eligibility conditions provided in the Article 9 of the FCT I.P Regulation for Studentships and Fellowships (2019).

Workplan and objectives to be achieved: Incorporating the research group Design and Technology of Lab2PT, and the Architecture, Construction & Technology Hub (ACT-Hub) of EAAD, it will develop tasks of the project "INOV.AM - Innovation in Additive Manufacturing", specifically related to "WP19 - Rein4concrete" assigned to the University of Minho. In this context, the aim is to collaborate in the development of the following activities:

- research and methodology development for 3D printing systems of cement mortars (3DPC) with structural reinforcement, focusing on the use of natural fibres, to be integrated in architectural and modular construction systems;
- coordination of human and technological resources of the laboratories assigned to the ACT-Hub, supporting the planning of its operation, as well as the installation and use of equipment for additive manufacturing of cement mortars by robotic manufacturing systems;

In addition, he will collaborate with the project team in supporting the tasks of:

- survey and systematisation of the state of the art of the central themes of the project;
- development of a robotic/automatic system for the placement of structural reinforcement in 3DCP processes;
- development of practical experiments involving design, analysis and digital fabrication;
- definition of a proposal for a modular system of multifunctional façades;
- production of study prototypes and final demonstrators;





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- documentation, dissemination and transfer of knowledge of the research, through the production of articles, communications and contents for electronic platforms, organisation of events, scientific guidance and training.

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 series, 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 developed at the Landscapes, Heritage and Territory Laboratory, School of Architecture, Art and Design of the University of Minho, on the *Campus* of Azurém, under the scientific guidance of Professor Paulo Jorge de Sousa Cruz.

Fellowship duration: The fellowship will have the length of 12 (twelve) months, predictably starting in July 2023. The fellowship contract may be eventually renewed, according to the project's financial availability. Under no circumstances may the scholarship exceed the maximum duration of the project and/or the applicable legislation.

Amount of the monthly maintenance stipend: The amount of the fellowship is 1741 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 series, 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 23st of each month, through bank transfer to the Bank Identification Number of the fellow identified in the contractualization process.

Other benefits: Refund of the Voluntary Social Insurance, corresponding to the 1st Level of the contributory base (for fellowships with a duration equal to or greater than 6 months) and Personal Accident Insurance.

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

Composition of the Selection Jury





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President

Paulo Jorge de Sousa Cruz, Full Professor of Escola de Arquitetura, Arte e Design of the Universidade do Minho.

Effective vowels:

Bruno Acácio Ferreira Figueiredo, Associate Professor of Escola de Arquitetura, Arte e Design of the Universidade do Minho.

Aires Fernando Fernandes Leite Camões de Azevedo, Associate Professor of Departamento de Engenharia Civil of the Escola de Engenharia of the Universidade do Minho.

Substitute vowels:

Paulo Jorge Figueira de Almeida Urbano de Mendonça, Associate Professor of Escola de Arquitetura, Arte e Design of the Universidade do Minho.

Raul Manuel Esteves de Sousa Fangueiro, Full Professor of Departamento de Engenharia Mecânica of the Escola de Engenharia of the Universidade do Minho.

In the event of impediment by the President of the Jury, he will be replaced by the first effective vowel, and the substitute vowel will be appointed to replace the effective vowel.

Criteria and procedures for applications assessment and selection: The evaluation of the applications will focus on the candidate's Merit, being applied the following evaluation criteria, valued on a scale of 1 to 100 points:

Merit of the candidate - MC (70%):

In the Evaluation of the **Candidate's Merit (MC)** the following parameters and evaluation criteria with the respective weightings/weights are considered:

A.1 - Doctorate and Research carried out in the area of Architecture or Civil Engineering, preferably on subjects related to digital transformation, and/or additive manufacturing, and/or modular construction, and/or sustainability, DI = up to 100 points; in related areas, DI = up to 60 points; in other areas, DI = 0 points. – with a weighting of 30%;

A.2 - Scientific and technological production, and applied or practice-based research activities, obtained by the formula $0,40PQ + 0,40PV + 0,20AI$ - with a weighting of 50%:

A.2.1 - Corresponds to the **quantitative evaluation** of publications in ISI/SCOPUS journals, PQ = up to 100 points in: digital fabrication, 3D printing and robotics (30 points); parametric, generative design, programming and AI (30 points); simulation and performative analysis (e.g. material, environmental, energy, comfort) and life cycle analysis (LCA) (20 points); building information modeling (BIM) (10 points); virtual reality and augmented reality (10 points).

A.2.2 - Corresponds to the **qualitative evaluation** of 3 papers to be provided by the applicant, PV = up to 100 points.





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A.2.3 - Corresponds to the **evaluation of research activities** developed in R&D projects with funding obtained on a competitive basis, in the project areas, IA = up to 100 points; in related areas, IA = up to 60 points; in other areas, IA = 0 points.

A.3 – Motivation Letter, describing the relevance of the scientific background for the position and personal career goals: CM = up to 100 points - with a weighting of 20%.

The classification for the **merit of the candidate (MC)** will be obtained by applying the following formula:

$$\mathbf{MC = (A1*0,3) + (A2*0,5) + (A3*0,2)}$$

Candidates classified in the first 3 (three) positions, as long obtaining the minimal classification of 60 (sixty) points in the MC, will be admitted to the Interview phase, with the Jury proceeding to evaluate the following sub-criteria:

Interview – INT (30%):

- B.1** – Interpersonal skills (30%);
- B.2** – Knowledge demonstrated in the area of the tender (40%);
- B.3** – Motivation (20%);
- B.4** – Language skills (10%).

The classification of the **Interview (INT)** will be obtained by applying the following formula:

$$\mathbf{INT= (B1*0,3) + (B2*0,4) + (B3*0,2) + (B4*0,1)}$$

The final classification (FC) of the Merit of the Candidate (MC) and Interview (INT) will be obtained by applying the following formula:

$$\mathbf{FC = (MC*0,7) + (INT*0,3)}$$

The jury reserves itself the right not to grant the fellowship if there are no candidates with the appropriate profile for the tender.

The documents proving the ownership of academic degrees and diplomas, or the respective recognition when they have been awarded by foreign institutions of higher education, can be dismissed in the application phase, being replaced by a declaration of honour of the applicant, occurring the verification of this condition only during the contracting phase of the fellowship. This declaration of honour must address facts that occurred on a date prior to the application. In situations of divergence between the information contained in the declaration of honour and the documentation delivered for the purpose of the contract for the fellowship, only the information contained in the latter will be considered. If it occurs that the documents proving ownership of the academic degree and diploma,





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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 change the candidate's ranking, the fellowship contracting will not be made effective.

Disclosure of results: The evaluation results project, based on the minutes, will be sent to candidates by email, pursuant to article 12 of the FCT 's RBI.

If the result is unfavourable to the granting of the requested fellowship, candidates have a period of 10 working days to pronounce themselves, if they wish, in a prior hearing to interested parties, pursuant to Articles 121 and 122 of the Administrative Procedure Code. (DL No. 4/2015 of January 7th).

Complaint and appeal procedures: The final results of the evaluation will be publicized through an ordered list (alphabetically, by final grade obtained), posted in a visible and public place of the host Unit, as well as through e-mail to all candidates, attaching, for this purpose, the minutes with the deliberations of the jury.

The selected candidate must express in writing the intention to accept the scholarship. In case of non-acceptance, the scholarship will be awarded to the candidate in order of final ranking.

A complaint can be interposed against the final decision, within 15 working days, addressed to the President of the Jury. Interested parties may also submit an optional hierarchical appeal, addressed to the Pro-Rector for Research and Projects, Professor Sandra Paiva.

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 6 months after the award of the fellowship. In the event that none of the candidates demonstrates the profile indicated for the execution of the work plan, the jury reserves the right not to award the fellowship.

Period of application and form of presentation of the applications: The tender is open from the period of 08/05/2023 to 26/05/2023.

Applications must be formalized, mandatorily, by sending an application letter accompanied by the following documents: *Curriculum vitae*; candidate's certificate of qualifications or declaration of honor; motivation Letter, indicating the availability of starting date, work plan and flexibility of working hours; 3 articles selected by the candidate that are most representative of his/her scientific career; other documents considered relevant to the assessment of the candidate's scientific and professional career.

Applications must be sent by email to info@lab2pt.uminho.pt, indicating the reference of the tender in the Subject "Lab2PT/BIPD-INOV.AM/01". Applications sent by other means or extemporaneous 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





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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 \(Version 2021\)](#)".

For the purpose of contracting the fellowship, the granted candidate(s) must send the following documents:

1. Individual identification form (minute sent by email)
2. Fellowship usufruct history (certificates/declaration of honour);
3. Declaration of acceptance of the fellowship (minute sent by email);
4. Copy of the civil, fiscal and, when applicable, social security identification document(s);
5. IBAN;
6. Copy of the qualifications certificate for the academic degree required in the opening notice of the tender or proof of enrolment in a course of non-academic degree and/or presentation of the registration of recognition of foreign academic degrees and conversion of the respective final classifications to the Portuguese rating scale, if applicable;
7. CV CienciaVitae;
8. CIÊNCIA ID (requires registration on the platform <https://www.cienciaid.pt/CiencialD/HomePage.aspx>);
9. Declaration of exclusivity (minute sent by email).

The contract may only be concluded after the receipt of all documentation required according to the type of fellowship, which must take place within a maximum period of 6 months, including proof of the doctoral degree or its recognition in Portugal, under Decree-law no. 66/2018 of august 16th.

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. Contract template and final report template ([link](#)).

