



Universidade do Minho
Escola de Arquitetura, Arte e Design



Laboratório de Paisagens,
Património e Território

INOV.AM
INNOVATION IN
ADDITIVE MANUFACTURING

Notice for the attribution of Research Fellowship Lab2PT/BI-INOV.AM/02

Title: 1 research fellowship BI, reference Lab2PT/BI-INOV.AM/02

There is an open call for a Research Fellowship under 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 N.º 02/C05-i01/2022, Component 5 - Capitalization and Business Innovation - Mobilizing Agendas for Business Innovation, ongoing in Lab2PT - Landscapes, Heritage and Territory Laboratory, University of Minho, under the following conditions:

1. Scientific area: Architecture, Civil Engineering or related areas.

2. Funding source: The fellowship granted under the present tender will be financed by 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 N.º 02/C05-i01/2022, Component 5 - Capitalization and Business Innovation - Mobilizing Agendas for Business Innovation.

3. Recipients: The fellowship to be granted is intended for Doctoral Students in the area of Architecture, Civil Engineering or related areas or Masters in Architecture, Civil Engineering or related areas, enrolled in a non-academic degree course integrated in the educational project of a higher education institution developed in association or cooperation between the institution of higher education and one or more R&D units.

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

5. Profile:

Can apply for the present tender:

- National citizens or citizens of other Member States of the European Union;
- Citizens of third States;
- Stateless;
- Citizens who are beneficiaries of political refugee status.

5.1 Candidate admissibility requirements

- Candidates must hold, at the time of application, a Master's degree in the scientific areas of Architecture, Civil Engineering or related fields;
- Fluency in written and oral Portuguese and English;





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- Have an academic record and *curriculum vitae* whose merit the members of the jury consider to be of scientific level, research capacity and activity developed, compatible with the disciplinary area and category for which the tender is open;
- Have knowledge in some of the following areas: digital fabrication, 3D printing and robotics; parametric and generative design, programming and AI; simulation and performance analysis (e.g. material, environmental, energy, comfort) and life cycle analysis (LCA); building information modeling (BIM); mechatronics; virtual reality and augmented reality;

5.2 Application Admissibility Requirements

It is imperative, under penalty of non-admission to the tender, to attach the following documents to the application:

- Candidate's curriculum vitae;
- Candidate's portfolio;
- Qualification certificate(s) mandatorily specifying the final classification and, if possible, the classification obtained in all subjects taken, or, in alternative, a declaration of honour by the candidate.
- For degrees obtained abroad, a certified document of recognition, issued by a Portuguese institution, of the academic degrees granted by foreign higher education institutions, with the respective conversion of the final classification to the Portuguese classification scale, or, alternatively, a declaration of honour by the candidate;
- Motivation letter.

Candidates may apply without prior registration for the courses for which the scholarship is open. The requirement enrolment in degree or non-degree courses shall be verified on the date on which the fellowship is contracted.

- Fellowships will only be contracted if the selected candidates present valid proof of enrolment in the degree or non-degree course, according to the type of fellowship being applied for, issued by the academic services of the Higher Education Institution, respectively indicating the academic year in progress or its duration (start and end).

6. Work plan and objectives to be achieved:

The Fellow will carry out activities under the "INOV.AM - Innovation in Additive Manufacturing" project, specifically related to "WP19 - Rein4concrete" assigned to the University of Minho. In that context, the aim is to collaborate in the development of research and methodology development activities 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. In particular, in works of:

- survey and systematisation of 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;
- documentation, dissemination and transfer of knowledge of the research, through the production of articles, communications and contents for electronic platforms, organisation





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of events, scientific guidance and training.

7. 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.

8. Contracting Entity: Universidade do Minho, *Campus* de Azurém, 4800-058 Guimarães, Portugal

8.1 Hosting unit for the research work and scientific guidance: Work will be developed at the Landscape, Heritage and Territory Laboratory, School of Architecture, Art and Design of Universidade do Minho, on the *Campus* of Azurém, under the scientific guidance of Professor Bruno Acácio Ferreira Figueiredo.

9. Duration of the fellowship(s): The fellowship will have a duration of 6 (six) months, scheduled to begin in July 2023, possibly renewable, depending on the financial availability of the project. Under no circumstances may the grant exceed the maximum duration of the project and/or the applicable legislation.

Note: Candidates admitted to the tenders must meet the conditions that enable them, under the applicable Research Fellowships Regulations, to comply with the maximum legal duration for the type of fellowship stipulated in the opening notice for the tender, considering the fellowships from which they eventually benefited previously, in a consecutive or interpolated period.

9.1 Amount of the monthly maintenance stipend: The amount of the fellowship, paid monthly by bank transfer to the account identified by the candidate, corresponds to 1.199,64 euros, according to the table of fellowship values of FCT, I.P. in the country (available for consultation at https://www.fct.pt/wp-content/uploads/2023/02/Tabela-de-Valores-SMM_2023.pdf).

9.2 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.

9.3 Exclusivity regime: The execution of functions as a fellowship holder is exercised on an exclusive basis, under the terms set in article 5 of the Research Fellowship Holder Statute and applicable research fellowship regulations.





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10. 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 email accompanied by the following documents:

- a) Candidate's *curriculum vitae*;
- b) Candidate's portfolio;
- c) Qualification certificate(s) mandatorily specifying the final classification and, if possible, the classification obtained in all disciplines taken, or, in alternative, a declaration of honour by the candidate.
- d) For degrees obtained abroad, registration of recognition of academic degrees granted by foreign higher education institutions and registration of the conversion of the respective final classification to the Portuguese classification scale, or, alternatively, a declaration of honour by the candidate;
- e) Motivation letter.

Applications must be sent by email to info@lab2pt.uminho.pt, indicating the reference of the tender in the Subject "Lab2PT/BI-INOV.AM/02". Applications sent by other means or extemporaneous will not be accepted.

11. Evaluation and selection criteria and procedures:

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 20 points:

Merit of the candidate - MC (70%):

- a) A.1: Academic path (which reflects the classifications of the academic degrees in the scientific areas of the fellowship, according to the reference table), with a weighting of 30%;
- b) A.2: Personal Curriculum and portfolio (which reflects the applicant's scientific and professional background, when applicable), with a weighting of 60%, evidencing:
 - Knowledge in some of the following areas: digital fabrication, 3D printing and robotics; parametric, generative design, programming and AI; simulation and performance analysis (e.g. material, environmental, energy, comfort) and life cycle analysis (LCA); building information modeling (BIM); mechatronics; virtual reality and augmented reality;
 - Mastery of the English language;
 - Autonomy and organisational skills.
- c) A.3: Motivation letter, with a weighting of 10%.

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

$$\mathbf{MC=(A1*0,3)+(A2*0,6)+(A3*0,1)}$$





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Candidates classified in the first 3 (three) positions, as long as obtaining the minimal classification of 15 (fifteen) in the MC, will be admitted to the Interview phase, with the Jury proceeding to evaluate the following sub-criteria:

Interview – INT (30%):

- a) B.1: Interpersonal skills (30%);
- b) B.2: Knowledge demonstrated in the area of the tender (40%);
- c) B.3: Motivation (20%);
- d) 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, 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.

Note: Candidates with degrees obtained abroad must present a proof of recognition of those qualifications in Portugal and a conversion of the final classification obtained in the degree to the Portuguese classification scale or a declaration in the terms indicated in the previous point. To the candidates who do not comply





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with one of these provisions, the jury will assign the minimum grade in the degree and / or master's course grade, according to the defined scale of values.

12. Composition of the Selection Jury

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.

13. Dissemination of the Results

The final results of the evaluation will be publicized through a list sorted by the grade obtained, posted in a visible and public place of the Hosting Unit, as well as by email to all candidates, being attached, for that purpose, the minutes with the deliberations of the jury, up to 90 working days after the deadline for submission of applications. The notification will be sent to the email address used/indicated by the candidates when submitting the application, with a message delivery report.

14. Complaint and Appeal Procedures:

In case of the result being unfavourable to the grant of the requested fellowship, candidates have a period of 10 working days to pronounce themselves, if they wish, in the context of a hearing with the interested parties, under the terms of article 121º and 122º of the Administrative Procedure Code (DL nº 4 / 2015 of January 7).

The final decision can be appealed, within 15 working days, with a complaint 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.





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15. Documentation to be provided for contracting

The selected applicant must express his / her intention to accept the scholarship in a written response. In case of non-acceptance, the fellowship will be awarded to the candidate by the order of the final ranking.

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. Curriculum Vitae;
8. CIÊNCIA ID (requires registration on the platform <https://www.cienciaid.pt/CiencialD/HomePage.aspx>);
9. Declaration of exclusivity (minute sent by email).

The failure to deliver any of the necessary documents to complete the fellowship contracting process, within 6 months from the date of communication of the decision conceding the fellowship, implies the forfeiture of said conceding and the termination of the process.

16. Mandatory documents for contracting:

The granting of the fellowship occurs through the signature of a contract between Universidade do Minho and the grantee, according to the contract minute (annex IV of the Scientific Research Grant Regulation of the University of Minho – order n° 6524/2020 of 22-06-2020, rectified through rectification statement No. 447/2021 of 06-22-2021) in its updated version in accordance with point 2.4 of the "[Norms for Granting and Management of Fellowships in the context of R&D Projects, including infrastructure projects, from the pluriannual financing program for R&D units and other FCT financing instruments \(Version 2021\)](#)".

Without prejudice to the other predicted causes in the applicable fellowship regulations (FCT and UMinho) and in the Research Fellowship Statute, the fellowship ends with the conclusion of the contracted work plan, as well as with the end of the period for which it was granted or renewed. At the end of the fellowship, the fellowship holder is obligated to present the Final Report of the accomplished work, in accordance with the objectives and evaluation criteria defined with the scientific advisor, within 30 days after the end of the fellowship. The final report must be elaborated in accordance with annex I of the Scientific Research Fellowships Regulation of the Universidade do Minho - order No. 6524/2020 of 06-22-2020, amended by rectification statement No. 447/2021 of 06-22-2021. Contract template and final report template ([link](#)).





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17. Reserve/substitutes list: in case of cancellation of the fellowships, within 6 months after their attribution, the vacancy(s) will be filled by the candidate(s) from the list of substitutes, according to the final order.

