

## CALL FOR AWARDING RESEARCH FELLOWSHIPS WITHIN PROJECT GRANTS AND R&D INSTITUTIONS

### 1 (one) Research Fellowship (BI) for PhD student

1 Research Fellowship(s) (BI) is (are) open at the **FCiências.ID – Associação para a Investigação e Desenvolvimento de Ciências**, for the Project “3BATwin - Bone, Brain, Breast and Axillary Medical Microwave Imaging Twinning”, Reference HORIZON-WIDERA-2023-ACCESS-02-101159623, financed by the European Union’s Horizon Europe Research & Innovation Programme under the Grant Agreement No. 101159623 , under the following conditions:

1. **Scientific Area:** Biomedical Engineering, Physics Engineering, Electronic/Electrotechnical Engineering and similar
2. **Requirements for admission:** Masters in Biomedical Engineering, or Physics Engineering, or Electronic/Electrotechnical Engineering or similar. Experience in programming in MATLAB and/or Python, signal and image processing.
3. **Additional optional skills and qualifications:** Participation in research projects, preferable prior experience in the topics that will be addressed in the fellowship (dielectric property measurement, development of antennas for biomedical applications, and/or medical signal and image processing), proficiency in English (information to be provided in the CV).
4. **Contracting requirements:** Presentation of the academic qualifications and/or diplomas. Enrollment in the PhD in Biomedical Engineering and Biophysics from the Faculty of Sciences of the University of Lisbon (<https://ciencias.ulisboa.pt/en/applications-doctoral-programmes> or <https://ciencias.ulisboa.pt/en/applications-international-student-3rd-cycle>).

5. **Work plan:**

The project is divided in the following tasks.

Task 1 – The candidate will receive training on measuring dielectric properties of biological tissues and tissue mimicking materials, and engage in short missions for dielectric property measurements of biological tissues, in collaboration with the University of Galway, Ireland (GALWAY) – year 1 and 1st half of year 2.

Task 2 – The candidate will receive training on antenna systems for biomedical applications, and will engage in short missions for the development of antennas for medical applications in collaboration with Politecnico di Torino (POLITO) – Year 2.

Task 3 – The candidate will receive training on software development for medical microwave imaging, on radar algorithms by GALWAY and on microwave tomography algorithms by POLITO. The candidate will also engage on short missions for the development of algorithms with the collaboration of both GALWAY and POLITO – Year 3.

Task 4 – The candidate will receive training on bringing medical devices to clinical trials, namely training on clinical trial design and management, and on translation of microwave technology into industry, in collaboration with GALWAY – Year 3.

Task 5 – The PhD project comprises the development of a medical microwave imaging device to combine breast and axillary region imaging for breast cancer detection and axillary lymph nodes’ diagnosis.

The characterisation of breast tissues and lymph nodes will be performed in collaboration with GALWAY in the scope of Task 1. Following the knowledge acquired in Task 2, the PhD student will contribute to the set up of IBEB’s antenna lab, including an anechoic chamber, for professional antenna development and testing.

A second generation of the breast + axillary region imaging prototype will be built. This will include different features resulting from the knowledge acquired in the training and short missions of Tasks 1-4. This new generation prototype will incorporate new antennas, which will be developed as a result of the training provided by POLITO in Task 2, and optimised algorithms, which will be a result from the training provided by GALWAY and POLITO in Task



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3. The establishment of new clinical protocols will be planned, following the experience obtained in the training in Tasks 1 and 4 – Years 1-3.

6. **Legislation framework:** Research Fellowship Holder Statute, in accordance with Law 40/2004, of 18 August, in its current version and the FCT Regulation for Research Studentships and Fellowships, in its current version (Reg. 950/2019 published in DR on 16<sup>th</sup> December: <https://dre.pt/application/file/a/127230968>, or at the FCT website: <https://www.fct.pt/apoios/bolsas/regulamento.phtml.pt>), and FCIências.ID Fellowship Regulation, as approved on 12<sup>th</sup> May 2020 (available at [Regulamento de Bolsas de Investigação Científica da FCIências.ID](#)).

7. **Place of work:** The work will be developed at Instituto de Biofísica e Engenharia Biomédica (Institute of Biophysics and Biomedical Engineering), Faculdade de Ciências, Universidade de Lisboa under the scientific supervision of Professor Raquel Cruz da Conceição.

8. **Fellowship duration:** This position is initially opened for 12 months and due to start in September 2024. The fellowship contract may be potentially renewed for until the end of the project, in accordance with the provisions of Regulation of Research Fellowships from the Foundation for Science and Technology, I.P and FCIências.ID Fellowship Regulation.

9. **Monthly allowance:** The fellowship amounts to € 1259,64, according to [table values](#) of the FCIências.ID Fellowship Regulation. The fellowship holder will have a personal accident insurance and can ensure the right to social security through adherence to the voluntary social insurance scheme, if not covered by any other social protection scheme, pursuant to *Código dos Regimes Contributivos do Sistema Previdencial de Segurança Social*. The fellowship will be paid monthly by bank transfer. Additionally, a tuition fees support grant (SAP) may be paid to support the costs with the annual tuition fees; as well as a single travel and installation allowance (1).

10. **Evaluation and selection process:** Candidates will be assessed by  
Criterion A – CV, 60%;  
Criterion B – Motivation letter, 20%  
Criterion C – Most significant Scientific document during academic path (in Portuguese or English), for example Masters dissertation or a significant journal publication, 20%.  
Candidates will be ordered as per this grade:  
 $\text{Classification} = (60\% \times A) + (20\% \times B) + (20\% \times C)$   
If there is a tie, the order will prioritise criterion A, then criterion B and then criterion C.  
The top 5 candidates in Grade-Phase 1 will be interviewed, the final evaluation will be as follows: the sum obtained in the evaluation of criteria A) to C) will correspond to 70% of the final classification and the interview will correspond to 30%.  
Applicants whose application is scored with a final classification of less than 75 points are not eligible for granting a fellowship.

11. **Selection Committee:**  
- President of the jury: Raquel Cruz da Conceição, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa, Campo Grande, 1749-016 Lisboa.  
- Effective member 1: Daniela Marques Godinho, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa, Campo Grande, 1749-016 Lisboa.  
- Effective member 2: Nuno Miguel de Pinto Lobo e Matela, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa, Campo Grande, 1749-016 Lisboa.  
- Alternate member 1: Nuno Manuel Garcia dos Santos, Instituto de Biofísica e Engenharia Biomédica, Faculdade de



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Ciências da Universidade de Lisboa, Campo Grande, 1749-016 Lisboa.

- Alternate member 2: Brígida da Costa Ferreira, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa, Campo Grande, 1749-016 Lisboa.

12. **Publication/notification of results:** All the candidates will be notified by e-mail, sent by the call holder, with the selection meeting minutes enclosed.

13. **Deadlines:** This call for applications is open from 25/06/2024 to 08/07/2024 .

14. **Application:** Applications should be sent via e-mail to [rcconceicao@fc.ul.pt](mailto:rcconceicao@fc.ul.pt), by attaching the following documents:

- a. Curriculum vitae;
- b. Certificate of completion of previous degree <sup>Note 1, 2</sup>;
- c. Motivation letter;
- d. Most significant Scientific document during academic path (in Portuguese or English), for example Masters dissertation or a significant journal publication.

\*The certificates must indicate the grade for each course individually or alternatively the candidate can submit a declaration on their honour with the grade for each course individually.

15. **Processing of personal data:** FCIências.ID – Associação para a Investigação e Desenvolvimento de Ciências, as the controller under the General Data Protection Regulation, collects and processes the personal data requested in the context indicated in paragraph 14., under the legitimate interests in ensuring the award of the research fellowship to candidates with the indicated profile.

The personal data will be kept for the period necessary for the execution of the purposes for which they are intended, being ensured the processing and protection in an appropriate and diligent way, the confidentiality and integrity of these data, through appropriate technical and organizational measures.

Personal data may be transmitted to third parties, namely the entity funding the research project, solely for the purposes specifically established. In this sense, whenever the transfer of personal data to countries outside the European Union and/or international organizations is necessary, compliance with the applicable legal provisions is ensured.

You have the right to request access, rectification, elimination, limitation of processing, the right to object and also data portability (if technically feasible), through the e-mail address: [dpo@fciencias-id.pt](mailto:dpo@fciencias-id.pt). You also have the right to lodge a complaint with the National Data Protection Commission.

For more information, we recommend consulting the Internal Rules of Data Protection of FCIências.ID - Association for Research and Development of Sciences at <https://fciencias-id.pt/>.

16. **Time limits for the appeal procedure:** In case of negative decision, the candidates have 10 business days, after the date of announcement of the results of the candidates evaluation, to pronounce their disagreement in accordance with the *Código do Procedimento Administrativo*. Appeals against the final decision may be submitted to the Administration Board of FCIências.ID ([fciencias.id@fciencias-id.pt](mailto:fciencias.id@fciencias-id.pt)) within 15 business days after the notification date.

**Note 1:** The documents that prove the entitlement of the academic qualifications and diplomas can be dismissed during the application period and replaced by a declaration on their honour from the applicant ([Minuta PT](#), [Minute EN](#)). Their delivery is mandatory for the fellowship contractualization.

**Note 2:** Please note that - higher education degrees and diplomas awarded by foreign higher education institutions need to be recognized by a Portuguese higher education institution, pursuant to the [Decree-Law nr. 66/2018](#) (August 16) and the [Ministerial](#)



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[Order nr. 33/2019](#) (January 25). The presentation of the recognition certificate is mandatory for contract signature. More information can be obtained at: <https://www.dges.gov.pt/en/pagina/degree-and-diploma-recognition>.

