

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

1 (one) Research Fellowship (BI) for a 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 “Space debris algorithms on satellite constellation pictures for debris characterisation and orbit determination”, financed by European Space Agency (ESA), under the following conditions:

1. **Scientific Area:** Physical engineering or related area
2. **Requirements for admission:** 1) Master in astrophysics and instrumentation for space; 2) Advanced knowledge in the aerospace field; 3) Knowledge in instrumentation for space; 4) Knowledge in Python; 5) Knowledge in the space debris field; 6) knowledge in programming of star tracking and streak detection algorithms in python for arm processors
3. **Additional optional skills and qualifications:** Basic knowledge of astronomy and celestial mechanics. Also, experience with night sky observations. Good English skills. Capacity to write scientific publications
4. **Contracting requirements:** Presentation of the academic qualifications and/or diplomas. Enrolment in a PhD course
5. **Work plan:**
The work plan may be developed entirely or partially in a national institution (fellowship in Portugal or both in Portugal and abroad, respectively).
 - 1) State-of-the-art review;
 - 2) Definition of the requirements in terms of space debris detection, cataloguing, orbit determination and preferable characteristics for the payload instruments;
 - 3) Debris detection algorithm and photometry development;
 - 4) Orbit determination models development;
 - 5) Method evaluation and testing;
 - 6) Publication and thesis writing.Main goal: The main objective of this project is to deliver a toolkit capable of identifying, providing essential information like magnitude and size estimation, and accurately determining the orbit of debris in images taken by different satellites.
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 16th 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 12th May 2020 (available at [Regulamento de Bolsas de Investigação Científica da FCIências.ID](#)).
7. **Place of work:** The work will be developed at the CENTRA of the Faculty of Sciences of the University of Lisbon, and at the ESA, ESOC (European Space Operations Centre) under the scientific supervision of Professor Paulo Romeu Seabra Gordo.
8. **Fellowship duration:** This position is initially opened for 12 months due to start in September 2023. The fellowship contract may be potentially renewed for 24 months, in accordance with the provisions of Regulation of Research Fellowships from the Foundation for Science and Technology, I.P and FCIências.ID Fellowship Regulation. In

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the case of a fellowship carried out both in Portugal and abroad, the work plan period in a foreign institution cannot exceed 24 months.

9. **Monthly allowance:** The fellowship amounts to € 1199,64, according to [table values](#) of the FCiências.ID Fellowship Regulation. During the period abroad, the fellowship amounts to € 2008,65, 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, it may be paid a tuition fees support grant (SAP) to support the costs with the annual tuition fees.

10. **Evaluation and selection process:** Candidates will be assessed by CV (50%), motivation letter (20%), publications in the area of this call (30%).

Applicants whose application is scored with a final classification of less than 50 points are not eligible for granting a fellowship.

11. **Selection Committee:** President of the jury: Paulo Gordo; Members of the jury: Rui Melicio and Nuno Peixinho; Alternate Members: Antonio Amorim and José Figueiredo.

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 04/09/2023 to 12/09/2023 .

14. **Application:** Applications should be sent via e-mail to Prgordo@ciencias.ulisboa.pt, by attaching the following documents:

- a. Curriculum vitae;
- b. Certificate of completion of previous degree ^{Note 1, 2;}
- c. Motivation letter;
- d. Publications in the area of this call.

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. You also have the right to lodge a complaint with the National Data Protection Commission.

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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) 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 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>.