

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

1 (one) Research Fellowship (BI) for a Master Student

1 Research Fellowship(s) (BI) is(are) open at the **FCiências.ID – Associação para a Investigação e Desenvolvimento de Ciências**, for the project/R&D institution “PP-CLOUD: Participação na Experiência CLOUD /CENTRA-Ciências”, “CERN/FIS-COM/0008/2021”, funded by the Fundação para a Ciência e a Tecnologia, I.P./MCTES through national funds (PIDDAC) under the programme concurso CERN 2021, under the following conditions:

1. **Scientific Area:** Physics Engineering
2. **Requirements for admission:** Hold a bachelor's degree in Physics Engineering, Physics or other related areas. Be available to stay at CERN, Switzerland for periods of one month, as stated in the motivation letter, as long as they do not interfere with class or exam periods. Have programming and simulation knowledge associated with physical or chemical systems. Have knowledge to perform statistical analysis of data and create its graphical representation.
3. **Additional optional skills and qualifications:** Have some knowledge of C/C++ and Python programming and being available to deepen it. Have knowledge of computer statistical data processing and the willingness to apply “machine learning” tools to large time series sets. Know the basic development of electronic instrumentation and sensors.
4. **Contracting requirements:** Presentation of the academic qualifications and/or diplomas. Enrolment in Master's in Physics Engineering, or in Physics or similar.
5. **Work plan:** Participate in the data acquisition, monitoring and processing for the cloud experience, including the evaluation of artificial intelligence methods applied to time series. The student will participate, with our CLOUD partner group, in the planned data collection campaigns that take place at CERN and will be co-responsible for the data collection and monitoring infrastructure implemented in the experiment. Outside the campaign periods, the fellow will investigate the methods of processing data from the experience, in particular by applying clustering methods and identifying dependencies in the time series by artificial intelligence methods. The student will follow the process of metadata collection for the instruments used in the present and past CLOUD campaigns.
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>), and FCiências.ID Fellowship Regulation, as approved on 12th May 2020 (available at [Regulamento de Bolsas de Investigação Científica da FCiências.ID](https://www.fciencias.id/regulamento-de-bolsas-de-investigacao-cientifica-da-fciencias.id)).
7. **Place of work:** The work will be developed at the CENTRA at the Faculty of Sciences of the University of Lisbon under the scientific supervision of Professor António Amorim.
8. **Fellowship duration:** This position is initially opened for 6 months due to start in September 2023. 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.
9. **Monthly allowance:** The fellowship amounts to € 930,98, according to [table values](#) of the fellowships awarded directly by the FCT, IP. The fellowship holder will have a personal accident insurance and can ensure the

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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.

10. **Evaluation and selection process:** Candidates will be assessed by

A) Knowledge of programming and C/C++ programming (25%).

B) Working knowledge of Linux and Windows (25%).

C) Knowledge of statistical methods of data processing and including familiarity with R, Machine Learning tools or ROOT (10%).

D) Ability to communicate orally in writing in English (15%).

E) Motivation letter (25%).

Criteria A, B, C, D and E will be classified from 0 to 100 points.

Candidates will be ranked using the following algebraic expression: $NF = A + B + C + D + E$.

Applicants whose application is scored with a final classification of less than 70 points are not eligible for granting a fellowship.

11. **Selection Committee:** President: Professor António Amorim (FCUL); Effective members: Professor António Tomé (U. Beira Interior) and Professor André Moitinho (FCUL); and Alternate members: Professor José Figueiredo (FCUL) and Paulo Garcia (FEUP).

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 03/08/2023 to 29/08/2023 .

14. **Application:** Applications should be sent via e-mail to antonio.amorim@sim.fc.ul.pt, by attaching the following documents:

- a. Curriculum vitae;
- b. Certificate of completion of previous degree;
- c. Motivation letter.

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.

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/>.

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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, or the proof of registration in the academic degree or diploma requested on the call, can be dismissed during the application period and replaced by a declaration on their honour from the applicant. 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>.