

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

1 PhD student Fellowship research

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 SELCON-Selective contacts for high efficiency solar cells, PTDC/CTM-CTM/28860/2017, financed by national funds by FCT / MCTES (PIDDAC) under the programme All Scientific Domains, under the following conditions:

1. **Scientific Area:** Physics, Chemistry or Materials Science.
2. **Requirements for admission:** Applicants must hold a Master's degree and be enrolled in a PhD.
3. **Additional optional skills and qualifications:** experience in the area of Materials for PV energy production; semiconductor processing and characterization.

4. **Work plan:** The work program includes:

Activity 1: Selective contact formation

This activity will include all the developments necessary for the successful production of carrier selective junctions (CSJs) based on CSJs based on doped thin Si layers, along with device simulation by software.

CSJs based on deposited doped Si layers prepared on top of ultra-thin dielectrics (e.g. SiOx), and using a thermal treatment to activate the contact properties, will be developed. Different oxidation methods (HNO₃, UV/O₃, DIO₃) and thicknesses will be explored and their function as tunneling oxide will be evaluated.

Activity 2 Materials characterization

The prepared structures will be characterized for the development and improvement of CSJs. Symmetrical structures with the CSJ on both sides and simplified cell test structures will be co-prepared to extract the implied IV curve (QSSPC), pseudo-IV curve (SunsVoc) to evaluate its ability to reach the required Voc levels, among other techniques

5. **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 available at <https://www.fct.pt/apoios/bolsas/docs/RegulamentoBolsasFCT2019.pdf>.

6. **Place of work:** The work will be developed at the Instituto Dom Luiz of the Faculty of Sciences of the University of Lisbon under the scientific supervision of Professor João Serra.

7. **Fellowship duration:** This position is initially opened for 6 months and will begin on July 2020. The fellowship contract may be potentially renewed for 6 months, in accordance with the provisions of Regulation of Research Fellowships from the Foundation for Science and Technology, I.P.

8. **Monthly allowance:** The fellowship amounts to € 1064, 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 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.

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9. **Evaluation and selection process:** Candidates will be assessed as follows: academic record (30%); experience in the area (50%); publications (20%).
10. **Selection Committee:** President: João Serra; members: Killian Lobato e José Silva; member replacement in case of need: Miguel Brito.
11. **Publication/notification of results:** All the candidates will be notified by e-mail, sent by the call holder, with the selection meeting minutes enclosed.
12. **Deadlines:** This call for applications is open from 06 July 2020 to 17 July 2020.
13. **Application:** Applications should be sent via e-mail to cleef@fc.ul.pt, by attaching the following documents:
- Curriculum vitae;
 - Certificate of completion of previous degree;
 - Proof of registration in the study cycle that confers the requested degree in this call;
14. **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 during 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>.