



Universidade do Minho

UNIVERSIDADE DO MINHO

Centro de Física (CFUM)

**ANNOUNCEMENT FOR THE AWARD OF MASTERS NON-CONFERRING DEGREE RESEARCH FELLOWSHIP
- 19/ECUM/CFUM/2024-Design-Solar (2 vacancies)**

A call for applications is now open for the attribution of 2 (two) grants for a MASTERS NON-CONFERRING DEGREE research fellowship within the scope of the R&D project “**Criação de células solares CIGSe superiores através da compreensão e controlo do crescimento, PTDC/CTM-CTM/2241/2021**”, funded by the Fundação para a Ciência e Tecnologia (FCT), under the following conditions:

Scientific Area: Physics, Physics Engineering, Materials Science and Engineering

Recipient category: Master in Physics, Physics Engineering, or Materials and Engineering

Candidates who do not cumulatively meet the requirements described will be excluded.

Important requirements are: Experience in thin film deposition, vacuum technology, and materials characterization.

** Different R&D Units are included, even if located in the same Organic Unit (UOEI) of UMinho (no. 4 and 5 of article 7 of the FCT I.P Research Grant Regulation, in force)

***Documents proving the ownership of academic degrees and diplomas, or their respective recognition when they have been awarded by foreign higher education institutions, when applicable for the type of scholarship in the call for applications, may be waived at the application stage, being replaced by declaration of honor of the candidate, with the verification of this condition occurring only in the phase of contracting the scholarship. This statement must attest facts that occurred on a date prior to the application. In situations of divergence between the information contained in the declaration and the documentation submitted for the purpose of contracting the grant, only the information contained in the latter will be considered. If it is verified that the documents proving the ownership of the academic degree and diploma, or the respective recognition under the terms of Decree-Law No. 66/2018, of August 16, do not correspond to the classifications awarded in the evaluation of the academic path and may, consequently, change the candidate's ranking, the fellowship contracting will not be done.

Applicants eligibility: Candidates must meet the eligibility conditions set out in article 9 of the FCT I.P Research Grant Regulations (2019).

Workplan and objectives to be achieved:

Design and optimization of electrodes for CIGS solar cells. Electrodes are in the form of a transparent conductive oxide with capability to harvest thermal energy and convert into electricity in order to enhance the solar cell efficiency. Doped-TiO₂ and -ZnO electrodes will be produced by magnetron sputtering, where deposition process conditions need to be studied and tailored for the deposition as electrodes on the CIGS solar cell. The electrical and optical properties of the electrodes will be studied by Hall Effect and UV-Vis spectrophotometry. The thermoelectric properties will be analysed by a custom made in-house equipment operating in vacuum.

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.

Host/Contracting institution and scientific supervision: Host/Contracting institution and scientific supervision: Centre of Physics of the University of Minho. Work location is at the Guimarães campus and at the International Iberian Nanotechnology Laboratory (INL) in Braga.

Fellowship duration: The grant will take place after the selected candidate accepts and signs the contract, with a provisional starting date on July of 2024. The fellowship grant may eventually be renewed according to the execution of the project and the applicable legislation.

Amount of the research grant: The value stipend (Monthly Maintenance Allowance) is **1.259,64 euros**, per month, in accordance with the stipend values published by the Foundation for Science and Technology (FCT I.P.) in the country (Annex I – Monthly Stipends Values for the maintenance allowances of the FCT Regulation for Research Studentships and Fellowships) and Annex II of the 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, according to the applicable regulation. Payment is made on the 23rd of each month, through bank transfer to the Bank Identification Number of the fellow identified in the contractualization process.

Other benefits: Reimbursement of Voluntary Social Security (Social Security contributions), corresponding to the 1st level of discounts (for research grants with a total duration of 6 months or higher) and personal accident insurance.

Exclusivity regime: The grantee will perform the activities under exclusivity, as foreseen in article 5^o of the Research Fellow Statutes and applicable regulations.

Selection panel:

President: Carlos José de Macedo Tavares, Associate Professor with Habilitation, Centre of Physics, School of Sciences, University of Minho.

Effective members:

Maria de Fátima Guimarães Cerqueira, Assistant Professor, Centre of Physics, School of Sciences, University of Minho.

Stanislav Ferdov, Associate Researcher, Centre of Physics, School of Sciences, University of Minho.

Substitute members: Martin Andritschky, Full Professor, Physics Department, School of Sciences, University of Minho

The first effective member will substitute the President of the selection panel in case of impediment, being nominated the first substitute member in the place of the first effective member. The Jury, including the President, undertakes the commitment to respect a set of responsibilities essential to the evaluation process, such as the duties of impartiality, of stating any potential situations of conflict of interest and confidentiality.

Criteria and procedures for applications assessment and selection: The applications assessment will focus on the candidate's Merit, following evaluation criteria, valued on a scale of 1 to 5 values:

Applicant Merit - MC (100%):

A.1: Academic path based on academic degree classifications (50% weighting);

A.2: Adequacy of the profile to the work plan and intended functions, including in the scientific and professional path (weighting 40%).

A.3: Letter of motivation and/or letters of recommendation (weighting 10%).

The final classification of the applicant's merit with the achieved through the following formula:

$$MC=(a*0,5)+(b*0,4)+(c*0,1)$$

Candidates who do not achieve the minimum score of 3.5 on Candidate Merit (MC) will be excluded from the competition.

The final classification (CF) is equal to the classification obtained in the Candidate Merit (MC):

$$CF = MC$$

The academic degrees and diplomas documents, or their respective recognition when awarded by foreign higher education institutions are not mandatory in the application phase, being replaced by a declaration of honor of the candidate with the contents of academic results. The documents of academic qualification or respective recognition will be required in the contracting phase and must attest facts that occurred on a date prior to the application. In situations of divergence between the information contained in the declaration and the documentation submitted for contracting the grant, only the information contained in the latter will be consider. If the documents proving the ownership of the academic degree and diploma, or the respective recognition under the terms of Decree-Law No. 66/2018, of August 16, do not correspond to the classifications awarded in the evaluation of the academic path, which can change the candidate's ranking, the fellowship won't be contracted.

Disclosure of results: The provisional results of applications, based in the selection panel minutes, will be sent to the applicants by email until 90 working days from the applications deadline. If the result is unfavourable to the granting of the requested scholarship, the candidates have a period of 10 working days to comment, if desired, in the context of a prior hearing to interested parties, pursuant to articles 121 and 122 of the Code of Administrative Procedure (DL nº 4 /2015 of January 7th).

Complaint and appeal procedures: The final results of the evaluation will be published through an ordered list by final grade obtained, posted in a visible and public place of the host unit, as well as by email to all applicants, enclosing for that purpose, the minutes of the jury deliberations. The selected candidate must inform its willingness to accept the grant, in writing. In case of rejection, the fellowship will be awarded to the next candidate in the ordered list of applicants. The final decision can be contested within 15 working days, by sending to the President of the jury the corresponding claim. Interested parties may also submit an optional hierarchical appeal, addressed to the Pro-Rector for Scientific Projects and Research Management, Professor Doctor Sandra Paiva.

Constitution of a selection reserve list: The applicants ranked in the next positions on the ordered list will be included in a selection reserve list, which can be used until 31/12/2024.

Application deadline and submission: The call for applications is open for a period of **10 working days** from the date of publication on the Euraxess portal.

Applications must be formalized, mandatorily, by sending an application letter accompanied by the following documents: *curriculum vitae*; *certificate of qualifications or declaration of the candidate (if applicable)*; *letter of motivation*; *letters of recommendation (maximum two)*; *other documents considered relevant to the appreciation of the scientific and professional path*. Applications must be sent by email to **bolsas@ecum.uminho.pt**, indicating the reference of the call - **19/ECUM/CFUM/2024-Design-Solar**, in Subject. Applications submitted by other means will not be accepted.

Fellowship contractualization: The fellowship will be attributed by signing a fellowship contract between the University of Minho and the fellow, accordingly with the contract minute (annex IV of the Regulation of Research Fellowships of the University of Minho (RBIC), published in Diário da República, 2nd Série, no. 119, through dispatch no. 6524/2020 of 22-06-2020, ratified by ratification declaration no. 447/2021 of 22-06-2021, as indicated in 2.4 of the FCT document: “Rules for Granting and Management of Grants within the scope of R&D projects, including infrastructure projects, the multi-annual financing program for R&D units and other FCT financing instruments (Version 2021)”. The contract may only be concluded after all the documentation required is collected, which must take place within a maximum period of 10 days. Once all the documentation has been received, the contracting entity has a period of 60 working days to conclude the scholarship contract. Once received, the fellow must return the contract duly signed within 15 working days. The activities under the fellowship contract can only began after proper authorization by the contracting entity.

Term and cancellation of fellowship contracts: Without prejudice to the other causes provided the fellowship regulations (FCT and UMinho) and in the Statute of the Research Fellow, the fellowship ends with the completion of the work plan, as well as with the expiration date for which it was granted or renewed. At the end of the fellowship, the grantee is obliged to present a Final Report of the work carried out, in accordance with the objectives and evaluation criteria defined with the scientific advisor, within 30 days after the end of the scholarship. The final report must be prepared in accordance with Annex I of the Scientific Research Fellowships Regulation of the University of Minho (RBIC), published in Diário da República, 2nd Série, no. 119, through dispatch no. 6524/2020 of 22-06-2020, ratified by ratification declaration no. 447/2021 of 22-06-2021.