

ANNOUNCEMENT FOR THE AWARD OF POST-DOCTORAL RESEARCH SCHOLARSHIP – 1 vacancy

42/ECUM/CFUM/2023-UIDP/04650/2020

A call for applications is now open for the attribution of 1 (one) post-doctoral research grant, within the scope of the R&D project “UIDP/04650/2020 - Physics Centre of Minho and Porto Universities (CF-UM-UP), School of Sciences, Univerisit of Minho, Strategic Line 2 – Physics of Quantum Materials and Bionanostructures”, financed by national funds through Portuguese Foundation for Science and Technology (FCT), under the following conditions:

Scientific Area: Physics

Recipient category: The BIPD is intended for doctorates in the area of Physics or Physics Engineering

Requirements for granting the fellowship:

- Holders of a PhD degree obtained in the three years prior to the date of submission of the fellowship application**;
- Have carried out the research work that led to the attribution of a PhD degree in an entity other than the host unit Centro de Física da Universidade do Minho***;
- Do not exceed, with the conclusion of the contract in question, including possible renewals, a cumulative period of three years in this type of fellowship, consecutive or interpolated.

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

Other requirements:

Applicants must have a profile suited to the research activities involved in the research project they are applying for. Specifically, it is intended that candidates have experience in the deposition of (nano)particles on solid surfaces by the ultrasonic spray technique and in the preparation of nanoparticles using a microwave oven.

**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.

***Different R&D Units are included, even if headquartered in the same Organic Unit (UOEI) of UMinho (Article 7(4) and (5) of the current FCT I.P Research Grants Regulation).

Applicants eligibility: Applicants must comply with the eligibility conditions laid down in article 9 of the Research Grants Regulation of the Portuguese Foundation for Science and Technology (2019).

Workplan and objectives to be achieved: It is intended that the scholarship holder collaborate in the research activities of the CF-UM-UP, integrating a project whose objective is the preparation of photoluminescent and

photocatalytic nanoparticles of g-C₃N₄, their deposition on a solid substrate through an ultrasonic spray and photocatalytic properties related to the photoreduction of water into hydrogen. The activities will be developed through the execution of the following tasks:

- 1: Synthesis and characterization of graphitic carbon nitride (g-C₃N₄) nanoparticles using a microwave oven;
- 2: Deposition on solid substrate using an ultrasonic spray of particles dispersed in aqueous medium;
- 3: Study of photocatalytic properties through irradiation experiments.

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 serie, 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: The workplan will be carried out in the Centre of Biological Engineering of University of Minho, located in the University of Minho, Campus of Gualtar - Braga, under the scientific supervision of Professor Paulo Coutinho and Assistant researcher Stanislav Ferdov.

Fellowship duration: The grant will take place for a period of 4 months, with a provisional starting date on the July 1, 2023. The grant will not be renewed.

Amount of the research grant: The value stipend (Monthly Maintenance Allowance) is 1.741 € per month, in accordance with the stipends 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 23st 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 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: The jury will be composed of three effective members and two alternate members:

President: Assistant Professor of Physics Department, effective member of CF-UM-UP, School of Sciences, University of Minho.

Effective members: Luis Manuel Fernandes Rebouta, Associate Professor with habilitation of Physics Department, effective member of CF-UM-UP, School of Sciences, University of Minho, and Stanislav Lazarov Ferdov, Assistant Researcher at CF-UM-UP, School of Sciences, University of Minho.

Substitute members: Mário Rui da Cunha Pereira, Assistant Professor of Physics Department, effective member of CF-UM-UP, School of Sciences, University of Minho, and Elisabete Maria dos Santos Castanheira Coutinho, Assistant Professor of Physics Department, effective member of CF-UM-UP, School of Sciences, University of Minho.

The first effective member will substitute the President of the selection panel in case of impediment, being nominate the first alternate member in the place of the first effective member.

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 20 values:

A. Curriculum evaluation of candidates (AC – 60%)

The curriculum evaluation method was divided into the following categories:

- a) Academic qualifications (HA), with a weighting of 70%;
- b) Scientific publications (PC) on topics related to the work to be carried out, with a weighting of 30%;

For point a), the doctorate of the candidates in the competition will be valued according to:

- PhD in one of the scientific areas indicated in the public notice = 20;
- PhD in other scientific areas = up to 15.

Point b) considers the following scoring system:

- scientific article published in an international scientific journal in a scientific area relevant to the competition = 5
- scientific article published in an international scientific journal in another scientific area = 1

The maximum rating for each of the items in this section is 20. If the total score for each item is greater than 20, the rating for that item will only be 20.

The classification of the curriculum evaluation criterion will be obtained by applying the following formula:

$$AC = (HA*0.7) + (PC*0.3)$$

B. Research experience in the study area (EI – 30 %)

Experience in synthesis of nanoparticles using a microwave oven and its characterization and in processes of dispersion/application of nanoparticles by ultrasonic spray.

1. Candidates with an assessment of less than 10 points in these two parameters are immediately considered excluded.
2. For candidates whose evaluation is equal to or greater than 10, the evaluation process includes an Interview (ENT).

C. Selection interview (ENT - 10%)

The interview aims to obtain clarifications and explanations about the curriculum elements and additional information, as well as to assess the candidate's attitude profile and motivation, taking into account the following sub-criteria:

C1: Interpersonal skills (30%)

C2: Demonstrated knowledge in the contest area (40%)

C3: Motivation (20%)

C4: Language skills (10%)

The classification of the Interview (ENT) will be obtained by applying the following formula:

$$\mathbf{ENT = (C1*0.3) + (C2*0.4) + (C3*0.2) + (C4*0.1)}$$

The final merit classification of the candidate will be obtained by applying the following formula:

$$\mathbf{MC = (AC*0.6) + (EI*0.3) + (ENT*0.1)}$$

Disclosure of results: The provisional results of applications, based in the selection panel minutes, will be send to the applicants by email, under the terms of article 12 of the FCT Research Grants Regulation.

If case of unfavourable results, the candidates have a period of 10 working days to comment, if desired, in 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.

Each 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 Research and Projects, Professor Sandra Paiva.

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 by sending an application letter with the following documents:

- curriculum vitae;
- qualifications certificate or declaration of the applicant;
- motivation letter;
- statement proving that meets the conditions for the grant typology, according to the application requirements;
- other documents important to the evaluation process.

Applications must be sent by email to **bolsas@ecum.uminho.pt** indicating the reference of the call for applications in the Subject: **42/ECUM/CFUM/2023-UIDP/04650/2020**. 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 Series, no. 119*, through

dispatch no. 6524/2020 of June 22nd 2020, ratified by ratification declaration no. 447/2021 of June 22nd 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 6 (six) months [including proof of ownership of academic degrees or diplomas and enrollment in study cycles or non-degree courses, depending on the type of scholarship].

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 be begun 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 Series, no. 119*, through dispatch no. 6524/2020 of June 22nd 2020, ratified by ratification declaration no. 447/2021 of June 22nd 2021.