

## **ANNOUNCEMENT FOR THE AWARD OF A POST-DOCTORAL RESEARCH FELLOWSHIP**

### **Post-Doctoral research Fellowship - 1 vacancy**

#### **34/ECUM/CFUM/2023 - NanOx4Estor**

A call for applications is now open for the attribution of 1(one) grant of Post-Doctoral research fellowship (BIPD) within the scope of the R&D project “Nanoscaled ferroelectric (pseudo)-binary oxide thin film supercapacitors for flexible and ultrafast pulsed power electronics, M-ERA-NET3/0003/2021” financed by national funds through Foundation for Science and Technology (FCT, IP), through the Operational Program OE, under the following conditions:

**Scientific Area:** Physics, Physics Engineering or Materials Engineering

**Recipient category:** The BIPD are intended for doctorates in the area of Physics, Physics Engineering or Materials Engineering, who cumulatively meet the following requirements:

- 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 Physics Center of Minho and Porto Universities;
- 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.

Mandatory requirements are:

- The candidate must have knowledge on physical vapor deposition techniques for thin films fabrication;
- The candidate must have knowledge on ferroelectric materials, synthesis and energy storage capacitors.
- The candidate must have experience in the development of ferroelectric materials, study of their properties, and their use in devices for energy storage applications.
- The candidate must have proven experience, by means of scientific publications, in the area of ferroelectrics for energy storage.
- The candidate must be (co)-author of peer reviewed papers (indexed to Scopus or Web of Science), equal to or greater than 5 (five), h index equal or higher than 5 (five).
- The candidate must be (co)-author of at least 3 (three) peer reviewed papers (indexed to Scopus or Web of Science) with impact factor equal or higher than 8 (eight).

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

**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:**

The scholarship holder must carry out work in the area of development of supercapacitors, based on ferroelectric materials, for energy storage.

The work plan involves the preparation of thin films of ferroelectric binary oxides by laser ablation and by ion beam sputtering, as well as their structural, microstructural, chemical, ferroelectric, electrical, energy storage characterization, among others. Taking advantage of the combination of different materials and epitaxial growth, it is intended, in this way, to obtain films with improved ferroelectric and energy storage properties.

**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:** The workplan will be carried out in the Physics Center of Minho and Porto Universities, in Gualtar, under the scientific guidance of Dr. José Pedro Basto da Silva and co-supervision of Professor Luís Silvino Alves Marques

**Fellowship duration:** The grant will take place for a period of 24 months, with a provisional starting date on the september of 2023. The fellowship grant is non-renewable.

**Amount of the research grant:** The value stipend (Monthly Maintenance Allowance) is 1741,00 euros, 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 (*for research grants with a total duration 6 months or higher*) and personal accident insurance.

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

**Selection panel:**

President: José Pedro Basto da Silva, Assistant Researcher, Centre of Physics, School of Sciences of the University of Minho;

Effective Member: Mário António Caixeiro Castro Pereira, Assistant Professor, Department of Physics, School of Sciences of the Minho University; Luís Silvino Alves Marques, Assistant Professor, Department of Physics, School of Sciences of the Minho University;

Substitute member: Maria de Jesus de Matos Gomes, Full Professor, Department of Physics, School of Sciences of the University of Minho; Bernardo Almeida, Assistant Professor with Habilitation, Department of Physics, School of Sciences of the Minho University;

**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 (or another scale):

Applicant Merit - AM:

- a) Personal curriculum (considering professional and scientific background), with a weighting of 100%

1. Applicant Merit - MC:

- a) Absolute merit based on curriculum assessment (50% weighting);

- b) Adequacy of the profile to the work plan and intended functions, including appreciation of the letter of motivation and/or letters of recommendation (weighting 50%).

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

$$MC = a * 0.5 + b * 0.5$$

The final classification (CF) is equal to the classification obtained in the Candidate Merit (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 considered. 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 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 (*alphabetically, 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 Research and Projects, Professor Filipe Vaz.

**Complaint and appeal procedures:** The final results of the evaluation will be published through an ordered list (*alphabetically, 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 Research and Projects, Professor Sandra Cristina Almeida Paiva.

**Application deadline and submission:** The call for applications is open for 10 working days from the date of publication of the announcement 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 interest*; *letters of recommendation (one)*; *other documents considered relevant to the assessment of the scientific and professional path*.

Applications must be sent by email to **bolsas@ecum.uminho.pt**, indicating the reference **34/ECUM/CFUM/2023 - NanOx4Estor** of the call for applications 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 6 months [including evidences of doctoral degree or its recognition in Portugal, under Decree-law no. 66/2018 of august 16th].

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.