

Opening call for awarding a PhD Research Grant

The Research Institute for Volcanology and Risk Assessment (IVAR) is calling for the award of 1 (one) research scholarship, herein after referred to as PhD Research Grant, in the area of Chemistry with emphasis in atmospheric chemistry, under the FCT Research Grants Regulation (RBI) and the Research Scholarship Statute (EBI).

The scholarship will be financed by the Foundation for Science and Technology (FCT) under the Collaboration Protocol for Financing the Multiannual Plan for Research Grants for Doctoral Students, signed between FCT and the R&D Unit Research Institute for Volcanology and Risk Assessment (ref. 00643/Chem).

1. APPLICATION SUBMISSION

The call is open between the July 12 and 17h (Lisbon time) September the 12th 2021.

Applications and supporting documents for the application must be submitted by email to ivar@azores.gov.pt, and directed to the President of the Jury with reference to the scholarship number 00643/Chem.

Each candidate should submit only one application, under penalty of annulment of all the submitted applications. False statements or the plagiarism by the candidates is reason for canceling the application without prejudice to the adoption of other measures of a sanctioning nature.

2. NATURE AND DURATION OF THE SCHOLARSHIP

The scholarships of research for PhD application aim at funding the execution of research activities by the fellow, which will ultimately lead to the granting of an academic degree of Doctor in Portuguese universities.

The research activities leading to the granting of the academic degree of Doctor will take place in the Research Institute for Volcanology and Risk Assessment, which will be the host institution of the fellow, without any limitation to the possibility of parts of the work being carried in collaboration among more than one institution.

The activities of research leading to the granting of the academic degree of Doctor by the fellow selected are to be pursued in the frame of the plan of activities and strategy of the Research Institute for Volcanology and Risk Assessment.

The workplan will take place totally in national institutions.

The scholarship duration is one year and may be renewed until a maximum of four years (48 months), and no scholarship with a duration of less than 3 months may be granted.

3. POTENTIAL FELLOW APPLICANTS

The scholarships of research for PhD application may be granted to candidates engaged, or in conditions of being engaged, in a PhD programme, and want to undertake activities of research that will lead to the granting of an academic degree of Doctor in the Research Institute for Volcanology and Risk Assessment, or any other associated host institution.

A meaningful fraction of the experimental work includes the Pico Mountain Observatory (OMP) located in an area only reachable by a walking trail of 3km (including a steep and tiring climbing and a physically demanding descent), and the need to carry loads of about 30 kg along this path that links the installations of the Natural Park of Pico, in the beginning of the trail, to the OMP, located 2225m above sea level, in the Pico mountain volcano crater.

4. ADMISSIBILITY

4.1 Applicant's Admissibility Requirements

To the present call can apply candidates that are:

- National citizens or citizens of another member state of the European Union;
- Citizens of third countries.
- Stateless citizens.
- Citizen that benefit from the statute of political refugee.

In other to apply for a Scholarship of research for PhD application, it is necessary that the applicant has:

- Master's degree in the areas of Chemistry or Physics or engineering or other formation having a strong base in chemistry and physics;
- Have permanent residence in Portugal at the moment of contract signature;
- Not having benefited from a PhD scholarship, or a PhD in business context, directly funded by the FCT, regardless of its duration.

4.2 Admissibility Requirements

It is indispensable for the application to be accepted, to attach to the application the following documents:

- The elements of the identity card/citizen card/passport;
- The *Curriculum vitae* of the candidate;
- Certificates of the academic degrees (Bachelor and Master or Integrated Master), stating explicitly the final grade;
- Registration of the recognition of academic degrees attributed by foreign institutions, and registration of the conversion of the respective final grades to the Portuguese classification scale;

- Motivation letter where the candidate must show the five main reasons that lead him/her to apply for the proposed doctorate plan (Point 5 - Work Plan and Scientific Supervision of the Scholarship, maximum of 10 000 characters);
- The e-mail contact of two professors/researchers that may be contacted by the evaluation committee to provide information upon the candidate;
- Present all the application text and attached application documents, including the motivation letter, in Portuguese or English.

In respect to the above requirements for admissibility the following applies:

- When academic degrees attributed by foreign institutions are involved, in order to assure the principle of equal treatment of candidates bearing national and foreign degrees, **the recognition of the foreign degrees and the conversion of the respective grades to the Portuguese classification scale, is compulsory.**
- The recognition of foreign academic degrees and certificates, as well as the conversion of the final classification to the Portuguese classification scale, may be required in any Portuguese public higher education institution, or in the Directorate-General for Higher Education (DGES, only in the case of automatic recognition). Regarding this matter, it is suggested to consult the DGES portal through the following address: <https://www.dges.gov.pt/en/pagina/degree-and-diploma-recognition>.
- Only the candidates that have concluded the cycle of studies leading to the degree of Master until the closure of the call, will be admitted. In the case where the candidate does not have in its possession the certificate of the conclusion of the course, **a declaration of honour of the candidates stating that they have concluded the course and comply with the requirements of the call, will be accepted for the purpose of the application once a copy of the receipt of the request of the certificate is attached to the application documents.** The granting of the scholarships, is nevertheless, always dependent of the delivery of the documents proving that the candidate has the required academic degrees.

5. WORK PLAN AND SCIENTIFIC SUPERVISION OF THE SCHOLARSHIP

The work plan to be followed aims at the reinforcement of the component of research on studies of the composition of the atmospheric aerosol in the North central Atlantic region as well as its variability due to emissions originated either locally or in the surrounding continents, both from natural as well as anthropogenic provenance, which play an important role in the radiative balance of the region atmosphere. In this context, IVAR is responsible by the management of the Pico Mountain Observatory (OMP), an infrastructure where it is possible to install, among other components, instrumentation for the monitoring of the gases and the aerosol transported by air masses that cross the North Atlantic central region. The research infrastructure of the C2TN/IST also has instrumental resources that allow to complement the sensors installed at OMP, and laboratories having advanced analytical capabilities, which allow to obtain the chemical characterization of the aerosol samples collected in the OMP.

The use of the analytical techniques of C2TN/IST, allows the researchers from IVAR and C2TN to advance the knowledge about the composition of the samples collected in the Aethalometer, which will allow to improve the quality of the information registered since 2001. Based on the analysis of the records of the Aethalometer, obtained at different wave lengths, it is possible to identify, for the aerosols absorbing energy in these wave lengths, if a sampled air mass contains Black Carbon (BC - originated in the burning of fossil fuel), if it corresponds to a mixture of BC and iron oxides, or if there is a possibility of the presence of brown carbon (originated from biomass burning). This characterization requires a deeper study, which should emerge from the added information that originates from the chemical speciation of elements present in the samples collected in the Aethalometer filters.

The PhD student has as main objectives, to increase the information on elements speciation in the aerosol samples collected in the Aethalometer filters, study calibration factors that allow to increase the information on the sampled aerosol, deepen the study of time series of data, already available and classify the sampled aerosol according to the emission sources and their trajectories, when appropriate, study their possible correlation with sources of volcanic origin. Student work, would also include the development of skills to perform tasks of maintenance and instrumentation deployment at the OMP, development of automation routines for data management, collaborative work in the development of real time data system transmission to IVAR facilities, and in the development of protocols to integrate OMP data in the IVAR database and open access.

The scientific supervision of the activities to be carried out in the frame of the work plan for the attribution of the academic degree of PhD in Chemistry will be of the responsibility of Doctor Paulo João de Lemos Cabral de Sousa Fialho, without any limitation to the settling of other co-supervision that is justifiable.

6. EVALUATION CRITERIA AND BONUSSES

6.1 EVALUATION CRITERIA

The evaluation is based on the merit of the candidate and the quality of the letter of motivation of the candidate, to carry out the research outlined in the work plan (Point 5)..

Applications taken as admissible will receive points in a scale of 0 to 100 points in each of the following evaluation criteria and sub-criteria:

- **Criterion A - Merit of the Candidate, a maximum of 100 points, with the weight of 40%;**
 - Sub-criterium A1 - Master in Chemical-Physics, Physics, Chemistry or Engineering and other formations with strong component in Physics and/or Chemical-Physics **(0 to 40 points)**;
 - Sub-criterium A2 - Experience in computer programming **(0 to 40 points)**;
 - Sub-criterium A3 - Research experience **(0 to 20 points)**.
- **Criterion B – Motivation letter explaining the reasons that took the candidate to apply to this doctoral plan, a maximum value of 100 points, with the weight of 30%;**

- **Criterion C – Interview to the candidate, a maximum value of 100 points, with the weight of 30%;**
 - Sub-criterion C1 – Communication Skills **(0 to 20 points)**;
 - Sub-criterion C2 – Critical sense and innovation **(0 to 20 points)**;
 - Sub-criterion C3 – Motivation and interest **(0 to 20 points)**;
 - Sub-criterion C4 – Expertise of and for the field to develop **(0 to 20 points)**;
 - Sub-criterion C5 – Fitness for fieldwork **(0 to 20 points)**.

Applicants who do not obtain at least 100 points in the sum of Criteria A and B (the maximum is 200 points) will not be admitted for oral interview and will not be eligible for scholarships.

The five candidates with the highest scores on the weighted sum ($0.4 \times A + 0.3 \times B$) will be subject to an oral interview.

Candidates will be ranked according to the weighted average of the three criteria, which results in the final grade, translated by the following formula:

Criterion A = A1 + A2 + A3 + A4, a maximum of **100 points**.

Criterion B, a maximum of **100 points**.

Criterion C = C1 + C2 + C3 + C4 + C5, a maximum of **100 points**.

$$\text{Final Score} = (0.4 \times A) + (0.3 \times B) + (0.3 \times C)$$

For the purposes of tie-break, the ordering of candidates will be based on the rankings assigned to each of the evaluation criteria in the following order of precedence: criterion A, criterion C and criterion B.

Candidates who do not obtain a minimum of 50 points in criterion C and candidates whose application is evaluated with a final score of less than 50 points are not eligible for scholarships.

Important advice for candidates with certificates attributed by foreign higher education institutions:

- Candidates with certificates attributed by foreign higher education institutions can apply and will be evaluated using the same criteria as candidates with diplomas issued by Portuguese institutions, if they present, in their application, proof of recognition of academic degrees and of the conversion of the final classification for the Portuguese classification scale under the terms of the applicable legislation.
- Applicants with diplomas issued by foreign higher education institutions that do not present the recognition or equivalence of foreign degrees, or basis for their recognition or automatic equivalence will be excluded.
- The candidates with foreign degrees that do not present proof of the conversion of the classification to the Portuguese scale of classification, will be evaluated with minimal classification (15 points) in sub-criterion A1.
- In any case, the establishment of scholarship contracts with candidates with certificates attributed by foreign institutions will only be concluded upon presentation of proof of recognition of academic degrees and conversion of the final classification, as indicated above.

7. EVALUATION

The committee of evaluation of the candidates is composed by the following elements:

- Professor Teresa de Jesus Lopes Ferreira, Universidade dos Açores, (**Chairman**)
- Professor Nicolau Maria Berquó de Aguiar Wallenstein, Universidade dos Açores
- Professor Maria de Fátima Batista Viveiros, Universidade dos Açores

The committee of evaluation will analyse the applications according to the criteria of evaluation described in the text of the present call, weighing properly each evaluation term.

All the members of the committee, including the chairman, assume the commitment to respect a set of responsibilities essential to the evaluation process, such as the duty of impartiality, the declaration of any potential conflict of interest and the confidentiality. In every moment of the evaluation process, the confidentiality is fully protected and assured to warrant the independence of all the recommendations produced.

All the members of the committee, including the chairman, cannot be supervisors or co-supervisors of candidates of applicants.

The committee of evaluation will produce, for each applicant, a final evaluation form where the arguments that lead to the classifications attributed in each criteria and sub-criteria are presented in a clear, coherent, and consistent way.

Minute of the responsibility of all their members will be produced from the meetings of the evaluation panel.

The minute and their annexes must include the following information:

- Name and affiliation of all members of the evaluation committee;
- Identification of all applicants excluded and the justification of that decision;
- Methodology adopted by the committee in particular cases;
- Evaluation forms for each applicant;
- Provisional list of classification and ordering of the applicants, by decreasing final classification order, of all applicants evaluated by the committee;
- Declarations of incompatibility condition (CID) for all members of the committee to whom these apply;
- Eventual delegations of vote and competences due to justified missing.

8. RESULTS DISCLOSURE

The results of the evaluation will be communicated by e-mail to the electronic address used by the candidate for the delivery of the application/indicated by the applicant.

9. DEADLINES AND PROCEDURES FOR PRIOR HEARING, CLAIM AND APPEAL

After communicating the provisional list of the evaluation results, the candidates have a period of 10 working days, if they wish, to give their opinion at the prior hearing of interested parties, under the terms of the article 121^º and followings of the Code of Administrative Procedure.

The final decision will be rendered after the analysis of the pronouncements presented at the prior hearing of interested parties. The final decision may be lodged within 15 working days, or, alternatively, an appeal may be filed within 30 working days, both counting from the respective notification. Candidates who choose to submit a complaint must address their pronouncement to the member of the FCT Board of Directors with delegated competence. Candidates who choose to submit an appeal must address it to the FCT Board of Directors.

10. REQUIREMENTS FOR THE GRANTING OF THE SCHOLARSHIP

Research scholarship contracts are signed directly with FCT.

The following documents must be sent, by who grants the scholarship, for the purposes of contracting:

- a) Copy of the civil, taxes and, where applicable, social security identification document(s);
- b) Copy of the certificates of qualifications of the held academic degrees;
- c) Presentation of the registration record for the recognition of foreign academic degrees and conversion of the respective final classifications to the Portuguese classification scale, if applicable;
- d) Document proving the registration in a Programme PhD in Chemistry;
- e) Statement by the supervisor(s) assuming responsibility for supervising the work plan, pursuant to article 5-A of the Research Fellow's Statute (draft declaration to be made available by FCT);
- f) Document proving the candidate's acceptance by the institution where the research activities will take place, guaranteeing the necessary conditions for its good development, as well as the fulfillment of the duties provided for in article 13 of the Research Fellow's Statute (draft declaration to be made available by FCT);
- g) Updated document proving compliance with the exclusive dedication regime (draft declaration to be made available by FCT).

The granting of the scholarship is still dependent on:

- the fulfilment of the requirements stated in the present call;
- the result of the scientific evaluation;
- the absence of unjustified non-compliance with the grantee's duties under a previous scholarship contract financed, directly or indirectly, by FCT;
- the availability of budget by FCT.

The lack of delivery of any of the documents necessary to complete the process of contracting of the scholarship, in the period of 6 months counting from the date of communication of the decision of conditional granting of the scholarship, implies the caducity of the granting and the closure of the process.

11. FUNDING

The payment of the scholarships will start after the devolution, by the candidate, of the scholarship contract properly signed, which should occur at most within 15 useful days counted from the day of its reception.

The scholarships awarded under this call will be financed by the FCT with funds from the State Budget and, when eligible, with funds from the European Social Fund, to be made available under PORTUGAL2020, namely through the Northern Regional Operational Program (NORTE 2020), The Regional Operational Program of the Center (Centro 2020) and the Regional Operational Program of Alentejo (Alentejo 2020), in accordance with the regulatory provisions established for this purpose.

12. SCHOLARSHIP COMPONENTS

Scholarship recipients will receive a monthly allowance in accordance with the table available in Annex I of the RBI.

The scholarship may also include other components, under the terms set out in article 18 of the RBI and considering the amounts provided for in its Annex II.

All scholarship holders benefit from personal accident insurance for research activities, supported by FCT.

All scholarship holders who are not covered by any social protection regime can ensure the exercise of the right to social security through adherence to the voluntary social insurance regime, under the terms of the Contributory Schemes of the Social Security Social Security System, ensuring the FCT charges resulting from contributions under the terms and with the limits provided for in article 10 of the EBI.

13. PAYMENTS OF THE COMPONENTS OF THE SCHOLARSHIP

Payments are made by bank transfer to the account identified by the grantee. The monthly maintenance allowance is paid on the first business day of each month.

The payments for the registration, enrollment or tuition components are made by FCT directly to the national institution where the fellow is enrolled in the PhD.

14. SCHOLARSHIP RENEWAL TERMS AND CONDITIONS

The scholarship renewal is dependent of the fellow request presented in the 60 useful days prior to the scholarship renewal start, attaching the following documents:

- a) statements emitted by the supervisor(s) and by the entity(ies) hosting the fellow related to the follow-up of the work of the fellow and the evaluation of the activities;
- b) updated document proving the fulfilment of the exclusive dedication regime;

c) document to proving the renewal of the registration in the cycle of studies conducting to the degree of Doctor.

15. INFORMATION AND PUBLICITY OF THE GRANTED FUNDING

In all the R&D activities directly or indirectly financed by the scholarship, namely, in all communications, publications and scientific creations, as well as theses, carried out with the support provided for in the scholarship, the mention of financial support from FCT and the European Social Program must be expressed, namely through the Northern Regional Operational Program (NORTH 2020), the Regional Operational Program of the Center (Centro 2020) and the Regional Operational Program of Alentejo (Alentejo 2020). For this purpose, the FCT, MCTES, ESF and EU logos must be inscribed in the documents referring to these actions, according to the graphic rules of each operational program.

The dissemination of results of research funded under the RBI must comply with the rules for open access to data, publications and other research results as defined by the FCT.

In all grants, and in particular in the case of actions supported by community financing, namely from the ESF, monitoring and control actions may be carried out by national and community bodies in accordance with the applicable legislation in this matter, with the grant recipients being obliged to collaborate and provide the requested information, which includes carrying out surveys and evaluation studies in this area, even though if the scholarship has already ceased.

16. POLITICS OF NON-DISCRIMINATION AND EQUALITY OF ACCESS

FCT promotes a policy of non-discrimination and equal access, so that no candidate can be privileged, benefited, harmed or deprived of any right or exempt from any duty due, namely, to ancestry, age, sex, sexual orientation, marital status, family situation, economic status, education, origin or social status, genetic heritage, reduced work capacity, disability, chronic illness, nationality, ethnic or race origin, territory of origin, language, religion, political or ideological beliefs and affiliation union.

17. LAW AND APPLICABLE REGULATIONS

The Call is governed by this Opening Notice, by the FCT Research Scholarship Regulation, approved by Regulation No. 950/2019, published in the II Series of the DR of December 16, 2019, by the Research Scholarship Statute approved by the Law 40/2004, of August 18, in the current wording, and by further applicable national and community legislation.