

Opening Notice for

Attribution of Research Scholarships for Doctoral Degree

The Centre for Management Studies of Instituto Superior Técnico (CEGIST) is opening a call for a research grant, hereinafter referred to as PhD Research Grants, in the scientific area of Mechanical Engineering and Engineering Systems (Industrial Management), under the FCT Research Grants Regulation (RBI) and the Research Grant Holder Statute (EBI).

The grants to be awarded will be funded by Fundação para a Ciência e Tecnologia (FCT) under the Collaboration agreement for Funding the Multiannual Plan of Research Scholarship for PhD Students, signed between the FCT and the R&D Unit - Centre for Management Studies of Instituto Superior Técnico (CEG-ST) with Ref. UID/97/2020.

1. SUBMISSION OF APPLICATION

The call is open between December 1st and 17:00 (Lisbon time) on December 31st 2021. Applications and supporting documents must be submitted to the following e-mail addresses: cegist@tecnico.ulisboa.pt and figueira@tecnico.ulisboa.pt. Only one proposal per applicant is allowed, under penalty of cancellation of all applications submitted.

Any false statement or plagiarism by the candidates may be reason for canceling the application without prejudice to the adoption of other sanctioning measures.

2. TYPE AND DURATION OF SCHOLARSHIPS

PhD Scholarships aim to finance research activities leading to a doctoral degree at Instituto Superior Técnico. The research activities leading to the academic doctoral degree will take place at the Centre for Management Studies of Instituto Superior Técnico (CEGIST), which will be the host institution for the scholarship holders, without prejudice to the work being carried out in collaboration between more than an institution.

The research activities leading to doctoral degree of the selected candidates must be framed in the activity plan and strategy of the Centre for Management Studies of Instituto Superior Técnico (CEG-IST), and should be developed within the scope of the following Program of PhD: Doctoral Program in Engineering and Management, from Instituto Superior Técnico or related programs from the University of Lisbon with CUs in the areas of Optimization and/or Machine Learning.

The work plan may occur entirely or partially in a national institution (scholarship in the country or mixed, respectively). The scholarships' duration is, as a rule, annual, renewable up to a maximum of four years (48 months), and scholarships cannot be awarded for less than three consecutive months.

In the case of a mixed scholarship, the work plan period in a foreign institution cannot exceed 24 months.

3. STUDENTSHIP RECIPIENTS

Registered candidates who fulfill the necessary conditions to enroll in a Doctoral Program according to point 2 of this Call and who intend to develop research activities leading to a doctoral degree at the Centre for Management Studies of Instituto Superior Técnico (CEGIST) or host institutions associated with it.

4. ADMISSIBILITY

4.1 Admissibility Requirements

Applicants should comply with the following:

- Be Portuguese citizens, or citizens of other European Union member states;
- Be citizens from third-party states;
- Stateless;
- Citizens benefiting from political refugee status.

Applicants to PhD Scholarships need to:

- Hold a Master's Degree in Operational Research, Industrial Engineering and Management, Electrical and Computer Engineering, Computer Engineering, Mathematics or equivalent;
- Have permanent residence in Portugal, if the work plan is partially carried out at a foreign institution (mixed scholarships), a requirement applicable to both national and foreign citizens.
- Not having benefited from a PhD scholarship or PhD scholarship in industry directly financed by FCT, regardless of its duration.
- Not hold a doctorate degree.

4.2 Application Admissibility Requirements

It is essential, under penalty of non-admission to the Call, attach the following documents to the application:

- Details of identification document/passport;
- The applicant's Curriculum Vitae;
- Certificates of the academic degrees held, specifying the final classification and, if possible, the grades obtained in all courses, or, alternatively, the candidate's declaration of honor on how he / she concluded the bachelor's or master's degree by the end of the of application deadline;
- Registration of recognition of academic degrees awarded by foreign higher education institutions and registration of the conversion of the respective final classification to the Portuguese classification scale, or, alternatively, the applicant's declaration of honor on how he/she obtained the recognition of a foreign degree equivalent to bachelor or master until the end of the application period;
- At least two Recommendation Letters;
- The application and all associated documents, including motivation and recommendation letters, must be written in Portuguese or in English.

Regarding the aforementioned admissibility requirements, the following should be noted:

- In the case of academic degrees awarded by foreign higher education institutions, and in order to ensure the application of the principle of equal treatment to candidates who hold foreign and national academic degrees, it's compulsory the recognition of these degrees and the conversion of the final classification to the Portuguese classification scale.

- The recognition of foreign academic degrees and diplomas as well as the conversion of the final classification to the Portuguese classification scale may be required in any public higher education institution, or at Direção-Geral do Ensino Superior (DGES, just for automatic recognition). For more about this subject please check <http://www.dges.gov.pt>.

- Only applicants who have completed the studies cycle leading to a bachelor or master degree until the end of the application period, will be admitted. If they do not yet have the course certificate, a declaration of honor from the candidates will be accepted. The granting of the scholarship will depend on the presentation of proof of the academic qualifications required.

5. WORK PLANS AND SCIENTIFIC ORIENTATION OF THE SCHOLARSHIPS

Professor José Rui Figueira (figueira@tecnico.ulisboa.pt) is in charge of Scientific supervision, with co-supervision by Professors Mário Figueiredo (mario.figueiredo@tecnico.ulisboa.pt) and Alexandre Francisco (apl@tecnico.ulisboa.pt). The grant is awarded under a research project entitled “Efficient Multi-Objective Algorithms for Restoring Hyper-Parameters of Machine Learning Tools” (for more information on the work plan, applicants should contact Prof. José Rui Figueira, to the email address provided).

The work plan must be framed within the specific objective of Mechanical Engineering and Engineering Systems (Industrial Management) area and must include the following sections:

1. Abstract (100 words);
2. State of the Art (300 words);
3. Detailed description, including tasks to be performed and methodologies to be used (600 words);
4. Merit of the proposal, indicating the innovative aspects (200 words);
5. References (maximum of 20);
6. Integration of the project in the activities and strategies plan of the MOSAIC area (systems modeling and Methods of Operations reSearch And analytICs) of CEGIST (200 words);
7. Documents to be attached to support the work plan.

The work plan must be written in Arial or Times New Roman font, 12 point size, single line, A4 page size.

6. EVALUATION CRITERIA AND BONUSES

6.1 Evaluation Criteria

The evaluation takes into account the applicant's merit and his suitability for the Research Unit program, namely in the candidate's curriculum vitae parameters and the letters of recommendation.

Applications considered admissible will be scored on a scale from 1 (one) to 100 (one hundred) points in each of the following evaluation criteria:

- Criteria A - Absolute merit of the candidate (score 40):
 - Sub-criteria A1 (100 points) – Final grade for bachelor's and master's degrees, with a weight of 15%.
 - A11 Candidates with a degree only: 60 points,
 - A12 Candidates with bachelor's and master's degrees: 100 points.
 - Sub-criteria A2 (100 points) – Publications in indexed journals, with a weight of 15%.
 - Subcriteria A3 (100 points) – Participation in funded projects, presentations at congresses, other

publications and other activities described in the curriculum vitae, with a weight of 10%.

- $\text{Score A} = 0.15 \times A1 + 0.15 \times A2 + 0.1 \times A3$
- Criteria B - Merit of the work program to be developed (score 40):
 - Sub-criteria B1 (100 points) – General description of the work plan, objectives, methodology and feasibility, with a weight of 20%.
 - Sub-criteria B2 (100 points) – Innovative aspects of the work plan and potential impact on science and/or society, with a weight of 15%.
 - Sub-criteria B3 – (100 points) Adequacy to the lines and research objectives of CEG-IST, with a weight of 5%.
 - $\text{Score B} = 0.2 \times B1 + 0.15 \times B2 + 0.05 \times B3$.
- Criteria C - Letters of Recommendation (score: 20):
 - Sub-criteria C1 (100 points) - The letters of recommendation must refer to the candidate's work capacity, originality, enthusiasm and potential to carry out the PhD work successfully, with a weight of 10%.
 - Sub-criteria C2 (100 points) - The letters of recommendation must refer to the candidate's level of knowledge in the research area of the Host Center (CEG-IST), with a weight of 10%.
 - $\text{Score C} = 0.1 \times C1 + 0.1 \times C2$

For the purposes of the decision on granting scholarships, candidates will be ranked according to the weighted average of the classification obtained in each of the three criteria, translated by the following formula:

$$\textbf{Final Classification} = (A + B + C)$$

For tie-breaking purposes, the ranking of candidates will be based on the classifications given to each of the evaluation criteria in the following order of precedence: criteria A, criteria B, criteria C.

Important notice for applicants with diplomas issued by foreign higher education institutions:

- Applicants with diplomas issued by foreign higher education institutions can apply and will be evaluated with the same criteria as candidates with diplomas issued by Portuguese institutions, provided they submit, in their application, proof of recognition of academic degrees and conversion of final classification for the Portuguese classification scale in terms of the applicable legislation.
- Applicants with foreign degrees who do not show proof of conversion of the final classification to the Portuguese classification scale will be evaluated with the minimum classification of 30 points in criteria A11 and 50 points in criteria A12.
- In any case, scholarship contracts with candidates holding diplomas issued 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.

Applicants whose application is evaluated with a final classification of less than 60 points are not eligible for the scholarship.

7. EVALUATION

The evaluation jury of the applicants is composed by the following members:

- João Miguel da Costa Sousa, Instituto Superior Técnico (Coordinator)
- Francisco Correia dos Santos, Instituto Superior Técnico
- Ana Isabel Cerqueira de Sousa Gouveia Carvalho, Instituto Superior Técnico

Substitutes:

- José Luís Briquete Borbinha, Instituto Superior Técnico
- Susana Margarida da Silva Vieira, Instituto Superior Técnico

The evaluation jury will assess applications in accordance with the evaluation criteria of this Call, considering the elements of evaluation. All panel members, including the coordinator, are committed to respect a set of responsibilities essential to the evaluation process, such as the duties of impartiality, the declaration of any potential conflict of interest situations and confidentiality. At all times during the evaluation process, confidentiality is fully protected and ensured in order to guarantee the independence of all opinions produced.

Jury members, including the coordinator, cannot be advisors or co-supervisors of applicants of this Call.

For each application, a final evaluation form will be produced by the panel, in which the arguments that led to the ratings attributed to each of the evaluation criteria and sub-criteria will be presented in a clear, coherent and consistent manner. Records will be produced from the meetings of the evaluation panel, under the responsibility of all its members.

The records and their attachments must include the following information:

- Name and affiliation of all evaluation panel members;
- Identification of all excluded applications and respective reasons;
- Methodology adopted by the panel for particular cases;
- Final Evaluation Sheets for each applicant;
- Provisional list of classification and ranking of applicants, in descending order of the final classification, of all applications evaluated by the panel;
- CDI statements from all panel members;
- Possible delegations of votes and competences due to justified absence;

8. RELEASE OF RESULTS

The results of the evaluation are communicated by e-mail to the e-mail address used by the applicant to send the application / indicated in the application.

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

After the communication of the provisional list of results, applicants have a period of 10 working days to, if they wish, make a statement at the prior hearing of interested parties, under the terms of articles 121 and following of the Code of Administrative Procedure. The final decision will be communicated after the analysis of the pronouncements presented at the previous 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 counted from the respective notification. Applicants who choose to submit a complaint must address their pronouncement to the member of the FCT Board of Directors with delegated competence. Applicants who choose to submit an appeal must address it to the FCT Board of Directors.

10. GRANT REQUIREMENTS

Scholarship contracts are signed directly with FCT. The following documents must be sent, when the grant is awarded, for the purposes of contracting:

- a) Copy of the identification document, tax document and, when applicable, social security identification document (s);
- b) Copy of certificates of the academic degrees held;
- c) Presentation of the recognition record of foreign academic degrees and conversion of the final classifications to the Portuguese classification scale, if applicable;
- d) Document proving registration and enrollment in one of the Doctoral Programs identified in this Call;
- e) Statement by the supervisor (s) taking responsibility for supervising the work plan, according Article 5-A of the Research Fellowship Statute (template 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 conditions necessary for its good development, as well as the fulfillment of the duties provided according 13 of the Research Fellowship Statute (template to be made available by FCT);
- g) Updated document proving compliance with the exclusive dedication regime (template to be made available by FCT). The granting of the scholarship is still dependent on:

- compliance with the requirements of this Call;
- the result of scientific evaluation;
- the absence of unjustified non-compliance with the candidate's duties under a previous scholarship contract financed, directly or indirectly, by FCT;
- FCT's budget availability;

Failure to deliver any of the documents necessary to complete the scholarship contracting process, within 6 months from the date of communication of the conditional grant decision, implies the expiration of the referred grant and the end of the process.

11. FUNDING

The payment of the scholarships will start after the return, by the candidate, of the duly signed scholarship contract, which should occur within a maximum period of 15 working days from the date of receipt.

The scholarships awarded under this call will be financed by the FCT with funds from Orçamento de Estados and, when eligible, with funds from the European Social Fund, to be made available under PORTUGAL2020, namely, Programa Operacional Regional do Norte (NORTE 2020), Programa Operacional Regional do Centro (Centro 2020) e do Programa Operacional Regional do Alentejo (Alentejo 2020), in accordance with the regulatory provisions established for that purpose.

12. COMPONENTS OF THE SCHOLARSHIP

The scholarship holders receive a monthly stipend in accordance with the table of Annex I of the RBI. The stipend may include other components, under the terms of article 18 of the RBI and at the amounts provided in 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 access to the voluntary social insurance regime, under the terms of the Contributory Schemes of the Social Security System, as FCT assures the charges resulting from contributions under the terms and with the limits provided for article 10 of the EBI.

13. PAYMENT OF SCHOLARSHIP COMPONENTS

Payments due to the scholarship holder are made by bank transfer, to the account identified in the scholarship holder's file. The monthly allowance is paid on the first business day of each month. Payments of registration, enrollment or tuition fee components are made by FCT directly to the national institution where the holder is enrolled for the PhD.

14. RENEWAL TERMS AND CONDITIONS

The renewal of the scholarship depends on an application submitted by the holder, within 60 working days prior to the renewal starting date, with the following documents:

- a) statements issued by the supervisor/s and the host entity/s reporting the monitoring of the holder's work and the evaluation of his activities;
- b) updated document proving compliance with the exclusive dedication regime;
- c) document proving the renewal of enrollment in the cycle of studies leading to the doctoral degree;

15. INFORMATION AND PUBLICITY OF THE FINANCING GRANTED

In all 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 Fundo Social Europeu must be expressed, namely through the Programa Operacional Regional do Norte (NORTE 2020), Programa Operacional Regional do Centro (Centro2020) e do Programa Operacional Regional do Alentejo (Alentejo 2020). For this purpose, FCT, MCTES, ESF and EU insignia 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 in force at the FCT. In all scholarships, and in particular in the case of actions supported by community funding, 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, having the scholarship holders the obligation of collaboration and provision of the requested information, which includes carrying out surveys and evaluation studies in this area, even though the scholarship has already ceased.

16. NON-DISCRIMINATION AND EQUAL ACCESS POLICY

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 status, 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. APPLICABLE LEGISLATION AND REGULATIONS

The Call is ruled by this 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 other applicable national and community legislation.

Lisbon, November 25th 2021