

CALL FOR GRANT APPLICATIONS (AE2021-0266)

INESC TEC is now accepting grant applications to award 1 Research Grant (BI) within the scope of the FLEXCOMM funded by National Funds through FCT - Portuguese Foundation for Science and Technology, I.P., project (reference EXPL/CCI-INF/1543/2021

1. GRANT DESCRIPTION

Type of grant: Research Grant (BI)

General scientific area: COMPUTER SCIENCE

Scientific subarea:

Grant duration: 8 months, starting on 2022-02-01, with the possibility of being renewed until the end of the project.

Scientific advisor: João Marco

Workplace: INESC TEC, Braga, Portugal

Maintenance stipend: € 835,98, according to the table of monthly maintenance stipend for FCT grants (<http://www.fct.pt/apoios/bolsas/valores>), paid via bank transfer. Grant holders may be awarded potential supplements, according to a quarterly evaluation process (Articles 19, 21 and 22 of the Regulations for Grants of INESC TEC and Annex II), up to a maximum limit of 50% of the monthly maintenance stipend.

Costs attributable to INESC TEC may include registration, enrolment or tuition fee stipend, either directly or through reimbursement, during the grant duration.

The grant holder will benefit from health insurance, supported by INESC TEC.

2. OBJECTIVES:

The work to be carried out during this research grant is part of Flexcomm research project that aims to study and explore mechanisms that allow the planning and development of more efficient communication networks from the point of view of their energy consumption.

Thus, this grant aims to develop simulation environments for communication infrastructures with support for generic models of consumption and power source.

3. BRIEF PRESENTATION OF THE WORK PROGRAMME AND TRAINING:

The work plan is aligned with a master's dissertation topic in Informatics Engineering at the intersection of the areas of computer networks and application engineering. In this context, the work will involve:

- Study and evaluation of the state-of-the-art in metropolitan and core network simulation environments
- Study and experimentation of energy consumption models for core network devices
- Design and implementation of a generic energy consumption component for simulated environments
- Design and implementation of mechanisms to support model extensibility
- Comparative evaluation of consumption profiles from different network devices
- Dissemination of results in the form of scientific publication

4. REQUIRED PROFILE:

Admission requirements:

Be enrolled in the Master in Informatics Engineering

The awarding of the fellowship is dependent on the applicants' enrolment in study cycle or non-award courses of Higher Education Institutions.

Preference factors:

- Knowledge and experience in computer network simulation environments - Knowledge about TCP/IP network protocols - Knowledge about Software-Defined Networks

Minimum requirements:

- Knowledge about Linux/UNIX systems
- Knowledge in computer networks demonstrated through the classification received in curricular units within the area
- Experience of development in C and Python languages
- Experience in developing SDN controllers
- Proficiency in Portuguese and English

5. EVALUATION OF APPLICATIONS AND SELECTION PROCESS:

Selection criteria and corresponding valuation: the first phase comprises the Academic Evaluation (AC), based on the criteria referred to in Article 12 of the Regulations for Grants of INESC TEC, while the second phase comprehends the Individual Interview (EI). All factors are evaluated on a scale of 0 to 100, taking into account the applicants' merit, suitability and conformity with the preference factors.

The weight of the AC factors are as follows: Academic Qualifications (FA, 70%), Scientific Publications (PC, 5%), Experience (EX, 10%) and Motivation Letter (CM, 15%).

Candidates who score less than 50 points in the AC average will be considered excluded on absolute merit. The top five candidates approved on absolute merit will be qualified for the individual interview. The Final Grade (CF) is obtained by the weighted average of AC (80%) and EI (20%).

The Selection Jury is composed of the following members:

- President of the Jury: João Marco
- Full member: Fábio André Coelho
- Full member: António Luís Sousa
- Substitute member: Vítor Francisco Fonte

Release of results and prior hearing: the results of the selection process, as well as the terms and procedures for prior hearing, will be released to the applicants by email, under the terms referred to in Article 13 of the Regulations for Studentships and Fellowships of INESC TEC.

6. FORMALISATION OF APPLICATIONS:

Application Documents:

1. Motivation letter;
2. Curriculum Vitae (must include the list of previous fellowships, their type, beginning and end dates, funding entities and host institutions);
3. Certificate or diploma degree fully recognised in Portugal;
 - Documents proving the awarding of academic degrees and diplomas, or the according recognition - in cases of academic degrees or diplomas granted by a foreign higher education institution - can be dismissed in the application process, and replaced by the applicant's declaration of honour, with the verification of said condition taking place during the grant's hiring stage. The submission of the certificate is mandatory when signing the contract.
 - Academic degrees or diplomas awarded by a foreign higher education institution require an authentication by a Portuguese higher education institution, and the corresponding registration on the DGES platform, in conformity with Decree-Law no. 66/2018, of August 16, and Ordinance no. 33/2019, of January 25. More information available on the website <https://www.dges.gov.pt/pt/pagina/reconhecimento?plid=374>
4. Proof of enrollment in a degree awarding study cycle or in a non degree awarding Higher Education program.
 - The proof of enrollment may be presented just during the grant hiring stage.
5. Signed declaration stating the infringement of the grant holder's duties (article 14, no. 4)

6. Documental evidence to support the country of residence, residence permit or other legally equivalent document, in cases where the applicant is a foreigner or non-resident in Portugal - valid until the beginning of the grant.
7. Other supporting documents relevant to the final assessment.

Failure to deliver the required documents within the 90-day period after the date of the notice of the conditional awarding of the grant implies its cancellation.

Application period: From 2021-12-13 to 2021-12-27

Submission of applications: the application will be formalised by submitting the form available in the *Work With Us* section of INESC TEC website.

7. BINDING LEGISLATION AND REGULATION

The hiring process shall comply with the current legislation regarding the Research Grant Holder Statute, approved by Law no. 40/2004 of August 18, in its current wording, as well as by the Regulations for Grants of INESC TEC and for [FCT Grants Regulation in force](#).

For more information, please check the Regulations for Grants of INESC TEC and relevant annexes at www.inesctec.pt/bolsas



Governo da República Portuguesa

FCT

Fundação para a Ciência e a Tecnologia
MINISTÉRIO DA EDUCAÇÃO E CIÊNCIA