CALL FOR GRANT APPLICATIONS
(AE2022-0380)

INESC TEC is now accepting grant applications to award 1 Research Grant (BI) within the scope of the SpecRep funded by National Funds through FCT - Portuguese Foundation for Science and Technology, I.P., project (reference EXPL/CCI-COM/1637/2021

1. GRANT DESCRIPTION

Type of grant: Research Grant (BI)

General scientific area: COMPUTER SCIENCE

Scientific subarea: Informatics

Grant duration: 5 months 29 days, starting on 2023-01-02.

Scientific advisor: Nuno Moreira Macedo

Workplace: INESC TEC, Porto, Portugal

Maintenance stipend: € 875,98, 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.

INESC TEC supports costs with registration, enrolment or tuition fees, during the grant duration, under the terms established in the internal document: "Payment of Tuition fees to grant holders".

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

2. OBJECTIVES:

This grant will be developed in the context of the SpecRep project on Constraint-based Specification Repair, which aims to develop techniques for the automatic repair of formal specifications in first-order temporal logic. In particular, the grant integrates Task 4 of the aforementioned project, which plans to apply the developed techniques to contract programming platforms, having the following specific goals:
- to improve knowledge of the state of the art in the area of formal specification and analysis;
- to develop a technique for the repair of contracts for Dafny;
- to develop research skills through the application of the selected methods;
- to apply critical thinking in the evaluation of the research methods and results, namely through the implementation in Dafny plug-in for VS Code.

3. BRIEF PRESENTATION OF THE WORK PROGRAMME AND TRAINING:

The work plan fits a dissertation topic of a masters degree on informatics in the area of formal methods for software engineering. Namely, the work will involve:
- the study of existing techniques for the repair of formal contracts;
- adapting, or developing novel, techniques to repair Dafny's logic;
- the implementation of the repair technique in the Dafny plug-in for VS Code;
- the evaluation of the results using the set of relevant examples;
- the writing of the grant's activity report.

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4. REQUIRED PROFILE:

Admission requirements:

Degree in computer 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:

Minimum requirements:

-Average BSc grades of at least 15;
- Experience on formal software development methods, particularly Dafny.

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, 75%), Scientific Publications (PC, 5%), Experience (EX, 10%) and Motivation Letter (CM, 10%).
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 (90%) and EI (10%).

The Selection Jury is composed of the following members:

President of the Jury: Nuno Moreira Macedo
Full member: Alexandra Sofia Mendes
Full member: Alcino Cunha
Substitute member: Ana Cristina Paiva

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 dully 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 2022-11-30 to 2022-12-15

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