

## CALL FOR GRANT APPLICATIONS (AE2021-0305)

INESC TEC is now accepting grant applications to award 1 Research Grant (BI) within the scope of the Plurianual\_LA funded by National Funds through FCT - Portuguese Foundation for Science and Technology, I.P., project (reference LA/P/0063/2020)

### 1. GRANT DESCRIPTION

**Type of grant:** Research Grant (BI)

**General scientific area:** ENGINEERING

**Scientific subarea:**

**Grant duration:** 11 months, starting on 2022-02-01, with the possibility of being renewed for a maximum term of four years, in the cases of students enrolled in a PhD.

**Scientific advisor:** Mário Cunha

**Workplace:** INESC TEC, Porto, Portugal

**Maintenance stipend:** € 1104,64, 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: "[Pagamento de propinas a Bolseiros de Investigação](#)".

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

### 2. OBJECTIVES:

Development of innovative image processing and automation solutions for phenotyping in agriculture/forestry. The solutions will allow to obtain data that can, (in)directly, be related to the phenotypic characteristics of the plants, which will be validated in the field. The solutions can be embedded in platforms for high throughput phenotyping and carry out "large scale" mapping of phenotypic characteristics to support agronomic operations such as robotic harvesting or spraying from an AP perspective.

### 3. BRIEF PRESENTATION OF THE WORK PROGRAMME AND TRAINING:

- Collecting images with different sensors in real context and its annotation with phenotypic characteristics relevant to the agronomic process.
- Create image datasets to test and validate neural networks for robots applied in forestry and agriculture.
- Establish causal relationships between phenotypic characteristics derived from images and useful attributes for the agronomic process.
- Validate robotics solutions for agriculture in a real context.

#### 4. REQUIRED PROFILE:

##### Admission requirements:

MSc in Agronomy

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

##### Preference factors:

Experience in writing scientific articles Knowledge in image processing Availability for advanced training at the PhD level

##### Minimum requirements:

Proven experience in using deep learning algorithms for precision agriculture context applications.

The jury may not award the scholarship if the quality of the candidates is inferior to that intended.

#### 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, 40%), Scientific Publications (PC, 20%), Experience (EX, 30%) 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 (60%) and EI (40%).

##### The Selection Jury is composed of the following members:

President of the Jury: Mário Cunha

Full member: Filipe Neves Santos

Full member: Héber Miguel Sobreira

Substitute member:

**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 duly 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 2021-12-27 to 2022-01-11

**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](http://www.inesctec.pt/bolsas)

