

3251

Public Notice - International Selection Procedure

PhD Scientific Researcher Recruitment

FCiências.ID/2018/DL57/BiolSI/31

FCiências.ID - Associação para a Investigação e Desenvolvimento de Ciências, through its Chairman of the Board of Directors, hereby announces the opening of an international call for the recruitment of a scientific researcher with a PhD degree, within the scope of Project INTERPHENO, PTDC/ASP-PLA/28726/2017, financed by Fundação para a Ciência e a Tecnologia in the form of an employment contract for an uncertain term on an exclusive regime, according to the Portuguese Labour Code and Decree-Law No. 57/2016, of August 29th, as amended by Law No. 57/2017, of July 19th, and complementary legislation.

I. Admission Requirements

Portuguese nationals, foreign and stateless persons may submit applications to this selection procedure, provided they hold a doctoral degree¹ in Electrotechnical Engineering, Applied Physics or any related Engineering or Scientific area, are fluent in English (both spoken and written), and have competences in the following domains:

- a) Imaging and image processing;
- b) Optical and electronical instrumentation design and development;
- c) Programming languages such as “C”, Python or similar;
- d) Scientific reporting and writing;

¹ Please note that Degrees obtained in foreign countries need a Portuguese Recognition issued by a Portuguese high degree Institution, according to the [Decree-Law nr. 66/2018](#), of august 16th and the [Ministerial Order nr. 33/2019](#), of January 25th. The presentation of such Recognition is mandatory for contract signature. More information can be obtained in: <https://www.dges.gov.pt/en/pagina/degree-and-diploma-recognition>.

II. Applicable Law

1. Decree-Law No. 57/2016, of August 29th (RCD), in the wording conferred on it by Law No. 57/2017, of July 19th (RCD), taking also into account the provisions of Regulatory Decree No. 11-A/2017, of December 29th;
2. Portuguese Labour Code, as approved by Law No. 7/2009, of February 12th, in its current version (CT);
3. Administrative Procedure Code, as published in Decree-Law No. 4/2015, of January 7th, in its current version (CPA).

III. Work Plan

Plant stress significantly reduces plant productivity. Automated mapping of plant stress provides for a timely intervention and mitigation of the problem before critical thresholds are exceeded, thereby maximizing productivity. Most of methods and instruments for plant stress monitoring show significant disadvantages such as high cost, poor accuracy or complex operation that limit their use. Some authors propose low cost solutions providing valuable information. In this context, integrated in a multidisciplinary project at FCUL, and profiting from the phenotyping station under development supported by an experimental breadboard with controlled environmental conditions (namely, lighting), the candidate shall investigate and develop a prototype of a multispectral device, that could provide valuable information in terms of plant stress by the analysis of the optical signature of the plant in the visible and near infrared region, and investigate and deploy algorithms for estimating the leaf area, leaf count and leaf mass from plant images taken at two orthogonal planes (pseudo tri-dimensional model).

The main guidelines of the work to be developed would be the following:

- Investigate the spectral windows with more significance in terms of plant stress and leaf count analysis
- Investigate and suggest relevant metrics and biometric indexes providing information on the plant health status (supported by other project members)

- Model and evaluate the performance of illumination/sensor system to obtain the best efficacy for the relevant metrics
 - Develop, design and implement in the prototype a low cost multispectral imaging device based in low cost/off-the-shelf solutions (supported by other project members)
 - Assemble, test and evaluate the performance of the developed device and of the implemented image processing techniques and algorithms
- The work plan is mostly included in Task 4 (Design and Construction of a prototype of a semi-automated plant phenotyping platform) of the INTERPHENO project.

IV. Composition of the Jury

In accordance to article 13 of the RCD, the members of the jury are:

- President – Jorge Marques da Silva, FCUL
- 1st Evaluator – Manuel Abreu, FCUL
- 2nd Evaluator – Guiomar Evans, FCUL
- 1st Alternate Evaluator – Margarida Calejo Pires, FCUL
- 2nd Alternate Evaluator – José Soares Augusto, FCUL

V. Place of work

Work will be developed at the facilities of the Research Centers BioISI, LOLS and LASIGE, in FCUL (Faculty of Sciences of the University of Lisbon), Campo Grande, Lisbon, Portugal.

VI. Contract Duration

The full-time employment contract with an uncertain term is expected to start on September 1, 2020, and will last until the Work Plan referred to in section III is completed. It will have an expected duration of 8.95 months, will not exceed the limits set in the RCD, including an initial experimental trial period of 30 days.

VII. Monthly Allowance

The gross monthly salary entitle is stipulated in clause 1 a) of article 15 of the Regulatory Decree No. 57/2016, of August 29th, amended by the law nº 57/2017 of July 29th, corresponding to level 33 of the Consolidated Table of Allowances, as approved by Government Order No. 1553-C/2008, of December 31st, being 2,128.34 Euros, plus holiday and Christmas allowances, as well as food allowance, in value and conditions for workers with a legal relationship of employment under the Labour Code.

VIII. Evaluation of applications

1. Failure to comply with the Admission Requirements implies the non-admission of candidates in absolute merit.
2. According to article 5 of the RCD, the selection of the candidates approved in absolute merit will rely on the evaluation of their scientific and curricular achievements in the last five years, or since the granting of the PhD, taking into consideration the quality and relevance of the scientific production, and the professional activity indicated as more relevant by the candidate.
3. The final classification of candidates is given on a scale of 0 to 100%.
4. Evaluation of the relative merit of candidates, will rely on the following criteria:
 - a) Participation in scientific projects and relevant work experience in the area - 40%;
 - b) Scientific publications in the area - 25%;
 - c) Pedagogical and outreach activities, in particular in the context of promoting scientific practices, organization of courses, seminars and conferences, in the area - 15%;
 - d) Assessment of the references provided by the candidate - 10%;

- e) Interview, if deemed necessary by the jury - 10%. (If there is no interview, the percentage that would be affected will be distributed equally between (a) and (d))
5. The jury may decide to interview the three best ranked [in criteria a) to d) of paragraph 4)] candidates, for clarifications and improved explanations of curricular elements.
 6. The jury shall deliberate by means of a roll-call vote based on the evaluation criteria.
 7. Minutes of the jury meetings are drawn up, summarizing all relevant elements considered by jury members, as well as their individual votes and justifications.
 8. After completion of the evaluation process, the jury will draw up a ranking of successful candidates with their classifications.
 9. Hiring will be decided by the Chairman of the Board of Directors of FCIências.ID, based on the final jury recommendation.
 10. The evaluation results will be published on the website of the FCIências.ID ("Concursos" tab). The candidates will be individually notified of the evaluation results by e-mail sent to the address indicated in the "Personal Data" section of the submitted form.
 11. With the notification referred to in paragraph 10, the hearing phase of interested parties referred to in Article 121 *et seq.* of the CPA will begin, and last for ten working days.
 12. The possible pronouncement of the candidate in a prior hearing must be addressed to the President of the jury and submitted in writing to fciencias.id@fciencias-id.pt. The President of the jury will convene a jury's meeting to produce the final decision, within thirty working days.
 13. Within five working days of the final jury decision, the Board of Directors Chairman of FCIências.ID will approve it and the candidates will be notified.
 14. The communication between FCIências.ID and the candidates will be electronic and will comply with the following rules:
 - a) At the time of electronic submission of any document - namely in the case of paragraph no 11 - the candidates must generate proof of "sent message".
 - b) FCIências.ID will send an email message acknowledging documents received to the email address used by the candidates, within two working days.
 - c) In case of absence of a confirmation receipt by FCIências.ID – showing the possibility of technical problems that should neither be the responsibility of the candidate nor FCIências.ID - the candidates should contact FCIências.ID, with the proof referred to in point (a), to ensure delivery and proper receipt of the documents concerned.

IX. Compliance with public policies

1. FCIências.ID actively promotes a policy of non-discrimination and equal access, so that no candidate can be privileged, benefited, disadvantaged or deprived of any right or exempt from any duty due to, inter alia, ancestry, age, sex, sexual orientation, marital status, family status, economic situation, education, social origin or condition, genetic heritage, reduced working capacity, disability, chronic illness, nationality, ethnic origin or race, territory of origin, language, religion, political or ideological beliefs and trade union membership.
2. Under the terms of D.L. No. 29/2001, of February 3, a disabled candidate has a preference in equal classification, which prevails over any other legal preference. Candidates must declare their respective degree of disability, the type of disability and the means of communication / expression to be used in the selection process, under the terms of the above-mentioned diploma.

X. Submission of Applications

1. The present call will be open from 15th May to 30th May 2020
2. The application and all the required documents may be submitted in Portuguese or English.
3. Applications will be submitted online, through the electronic platform of FCIências.ID (<http://concursos.fciencias-id.pt>).
4. On the electronic platform, applicants will complete a *mandatory* section on Personal Data [name, address, date of birth, contact email, nationality and scientific identifiers] and upload files with the documents listed below:
 - i. Detailed curriculum vitae - *mandatory*;
 - ii. A motivation letter clearly demonstrating that the candidate has an adequate profile for the position and fully complies with the Admission Requirements - *mandatory*;
 - iii. Up to five publications relevant for the objectives of the Work Plan - *mandatory*;
 - iv. Digital copies of documents proving formal academic degrees (PhD) and/or other scientific and professional qualifications - original documents must be provided in case of actual recruitment- *mandatory*;
 - v. Two reference letters - *mandatory*
 - vi. Other documents that candidates consider relevant for the assessment of their scientific merit, or to declare the personal situation in the cases covered in section IX-2 of this Notice - *optional*.
5. By decision of the Chairman of the Board of Directors of FCIências.ID, candidates who do not submit the documents identified in paragraph 4 will not be admitted to the call. In case of doubts, the Chairman may also invite candidates to substantiate specific data or statements with official supporting documents, before accepting the candidates' submission.

This Public Note was approved by the jury on 11th may 2020