

# 2556

## Public Notice - International Selection Procedure

### PhD Scientific Researcher Recruitment

FCiências.ID/2018/DL57/LASIGE/3

**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 FaultLocker: Ferramentas para localização e reparo de falhas em software crítico** with reference PTDC/CCI-COM/29300/2017, in the form of an employment contract with an uncertain term, according to the Portuguese Labour Code and Decree-Law No. 57/2016, of August 29<sup>th</sup>, as amended by Law No. 57/2017, of July 19<sup>th</sup>, and complementary legislation.

#### I - Admission Requirements

Portuguese nationals, foreign and stateless persons may submit applications to this selection procedure, provided they hold a doctoral degree<sup>1</sup> in Computer Science and Informatics or akin areas, have specialised skills and/or expertise in the field of Artificial Intelligence (or associated fields), and fully comply with the following requirements:

- a) The PhD must have been granted at least 5 years ago.
- b) Demonstrated scientific and/or professional experience in the areas of Artificial Intelligence, Computational Logic, and Formal Verification
- c) The candidate must also have experience in Decision and Optimization Problem Solving based on Propositional Satisfiability (SAT) and/or Satisfiability Modulo Theories (SMT), as well as Model-Based Diagnosis applied to Software Fault Localization and/or Spreadsheet Debugging.

<sup>1</sup> Applicants with doctoral degrees obtained in foreign countries need, in accordance with Decree-Law No. 341/2007, of October 12<sup>th</sup>, as regulated by Government Order No. 227/2017, of July 25<sup>th</sup>, to be recognized as holders of a doctoral degree, with all inherent entitlements. Applicants to whom, under the terms of Decree-Law No. 283/83, of June 21<sup>th</sup>, equivalence or recognition of the degree of Doctor has been granted are valid. Equivalence, recognition and registration of the doctoral degree should be obtained by the application deadline.

#### II. Applicable Law

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

#### III. Work Plan

The objectives of the work plan are:

The successful candidate will actively be involved in the development of automated procedures using novel and recent advances in Propositional Satisfiability (SAT), Maximum Satisfiability (MaxSAT), Minimal Unsatisfiability (MUS) applied to the problems of Model-based Software Fault Localization and Spreadsheet Debugging.

In particular, the candidate will work on creating solutions to program fault localization and repair, namely using recent developments in quantified constraint solving. The work will be implemented in the modules of fault localization and repair of the FL toolkit (as described in the PTDC of the FaultLocker Project).

The candidate will also participate in the creation of a variety of case studies for the assessment of the developed FL toolkit using representative sets of benchmark programs.

The candidate will be responsible for adapting the solutions created for Software Fault Localization and Repair to the problem of Localization and Repair for Spreadsheet Debugging.

The work plan is included in activities 2-5 of the project **FaultLocker: Ferramentas para localização e reparo de falhas em software crítico**.

#### **IV. Composition of the Jury**

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

- President – Joao Marques-Silva
- 1st Evaluator – Vasco Manquinho
- 2nd Evaluator – Alexey Ignatiev
- 1st Alternate Evaluator – Joao Balsa
- 2nd Alternate Evaluator – Rui Maranhao

#### **V. Place of work**

Work will be developed at the facilities of Research Center LASIGE, in Campo Grande Lisbon, Portugal.

#### **VI. Contract Duration**

The full-time employment contract with an uncertain term is expected to start on 19/10/2018, and will last until the Work Plan referred to in section III is completed. It will have an expected duration of 12 months, with a maximum duration of 6 years, including an initial experimental trial period of 30 days.

#### **VII. Monthly Allowance**

The gross monthly salary entitle is stipulated in clause 1 of article 5 of the Regulatory Decree No. 11-A/2017, of December 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 RJEC, 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, taking into consideration the quality and relevance of the scientific production, and the professional activity indicated as more relevant by the candidate, for the project.
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 relevant scientific projects in the area - 10%;
  - b) Scientific publications in the area - 75 %;
  - c) Pedagogical and outreach activities, in particular in the context of promoting scientific practices, organization of courses, seminars and conferences, in the area - 5 %;
  - d) Assessment of the references provided by the candidate - 10 %;
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](mailto: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 20/09/2018 to 03/10/2018.
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 - *optional*;
  - 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. 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 14/09/2018.