

2813

Public Notice - International Selection Procedure

PhD Scientific Researcher Recruitment

FCiências.ID/2018/DL57/CQE/1

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** ILGerants ref: PTDC/EQU-EQU/32066/2017, 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 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 Technological Chemistry, Natural Resources Engineering or akin areas, that fully comply with the following requirements:

- a) The PhD must have been granted less than 5 years ago.
- b) Availability for short stays in national and foreign laboratories
- c) Training in the area of Technology Transfer
- d) Publications/Communications in the area of Ionic Liquids/ thermophysical properties/ Heat Transfer Fluids

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

The objectives of the work plan are:

A1 – Screening of IL candidates - This task will be based on evaluating published data on relevant properties such as solubility, solvation Gibbs energies, Henry's law constants, vapor pressures and phase diagrams for binary and ternary mixtures (VLE/LLE) of Ionic Liquids and the use of the predictive software COSMO-RS/COSMO-SAC for understanding the better candidates for absorption refrigeration.

As purity is the cause of the recognized high dispersion of published data in the available literature, the selected IL candidates will be characterized according to two situations: first, as received from manufacturer, and finally, after being used either in measurements of any of the properties studied or after essays in test apparatus to check for undesirable effects on the working devices. The need for purification prior to use will be evaluated on a need to basis depending on the requirements of the application being considered.

A2 - Absorption refrigeration pairs formulation - This task will include:

- Measurement of thermophysical properties of IL's and mixtures. Density, vapour-pressure, viscosity and solubility of gases and water will be systematically measured as a function of temperature, pressure (when applicable), composition of the selected IL and working mixtures.
- Performance analysis of absorption refrigeration cycles with the selected working fluids and optimization of operating conditions. Comparison with the currently used absorption refrigeration pairs. Sensitivity study of the cycle operation varying some of the internal operating conditions of absorption cycles and the external circuits thermal conditions;
- Study of heat and mass transfer characteristics of absorption and desorption processes using the selected working pairs in laboratory experimental setups.

IV. Composition of the Jury

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

- President – Professor Fernando José Vieira dos Santos
- 1st Evaluator – Professor Carlos Alberto Nieto de Castro
- 2nd Evaluator – Researcher Ana Filipa Russo de Albuquerque Cristino
- 1st Alternate Evaluator – Professor Manuel Matos Lopes
- 2nd Alternate Evaluator – Professor Ângela Filomena Simões dos Santos

V. Place of work

Work will be developed at the facilities of Research Center CQE, in the Faculty of Sciences in the University of Lisbon, Lisbon, Portugal.

VI. Contract Duration

The full-time employment contract with an uncertain term is expected to start on April of 2019, and will last until the Work Plan referred to in section III is completed. It will have an expected duration of 24 months, with a maximum duration of 34 months, 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, 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 ILGerants.
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) Scientific publications and/or communications in the area of Ionic Liquids - 20 %;
 - b) Scientific publications and/or communications in the area of Thermophysical Properties - 30 %;



- c) Pedagogical and outreach activities, in the context of promoting scientific practices, organization of courses, seminars and conferences, in the area of Ionic Liquids and Thermophysical Properties - 30 %;
 - d) Assessment of the references provided by the candidate - 20 %;
 - e) Interview, if deemed necessary by the jury – valorisation of 1 to 3 points.
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 21/03/2019 to 03/04/2019.
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.fcencias-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. 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 19/03/2019.