



Job: INTERNATIONAL CALL FOR A PHD HOLDER POSITION TO PURSUE SCIENTIFIC RESEARCH ACTIVITIES PURSUANT TO ARTICLE 23 OF DECREE-LAW NO. 57/2016 OF AUGUST 29th, AMENDED BY LAW 57/2017 AND REGULATORY DECREE No. 11- A / 2017.

Reference: REQUIMTE/EEC2018/33

Main research field: Exact and natural sciences

Sub research field: Nanotechnology

1. In a meeting held on the 8th of February 2018, the Board of Directors of REQUIMTE – Rede de Química e Tecnologia – Associação, has decided to open an international call for thirty-eight positions of PhD holder Researchers, under a work contract for a non-fixed term. This announcement is intended to 1 (one) research position to pursue scientific research activities in the area Exact and natural sciences, sub-area Nanotechnology, under a work contract for a non-fixed term, in order to work in the development of bi-dimensional multi-point matrix sensors based on quantum dots nanotechnology for monitoring of pollutants in environmental samples. The research to be carried out will involve: i) synthesis and characterization of semiconductor (QDs) and graphene (gQDs) quantum dots; ii) assessment of the sensitivity and selectivity of QDs, gQDs and nanohybrid fluorescence probes for detection of different environmental pollutants; iii) immobilization of nanomaterials onto a solid support, development of bi-dimensional matrix sensor and application to real samples; iv) development of QDs photocatalytic reactors and optimization of ROS generation; v) evaluation of photodegradation of synthetic model samples (with selected pollutants) and application to real samples.

2. Applicable Legislation

Decree-Law no. 57/2016 of August 29th, amended by Law 57/2017 and Regulatory Decree No. 11- A / 2017 which approved the doctorate hiring regime destined to stimulate scientific and technological employment for all knowledge areas (RJEC); Portuguese Labour Code, approved by Law 7/2009 of February 12, in its actual form.

3. Pursuant to article 13 of RJEC, the tender selection panel is to be formed by: Prof.^a Doutora Maria de La Salette de Freitas Fernandes Hipólito Reis Dias Rodrigues (Faculdade de Farmácia, Universidade do Porto, acting as chairperson by delegation of President of REQUIMTE); Prof. Doutor João Luís Machado dos Santos (Faculdade de Farmácia, Universidade do Porto) and Prof. Doutora Cristina Maria Cavadas Morais Couto (CESPU - Instituto Universitário de Ciências da Saúde - Norte).

4. The workplace shall be at Faculdade de Farmácia da Universidade do Porto.

5. Monthly remuneration to be paid is the one set by article 23 (3) of RJEC, corresponding to level 33 of the Single Salary Table, approved by Order no. 1553-C/2008 of December 31st, i.e. 2.128,34 Euros.

6. Application can be submitted by any national, foreign and stateless candidate(s) holding a doctorate degree in Pharmaceutical Sciences and related area and a scientific and professional curriculum whose profile is suited for the activity described below (item 7).

In case the doctorate degree was awarded by a foreign higher education institution, it must comply with the provisions of Decree-Law no. 341/2007 of October 12th, and all formalities established therein must be complied with at the application deadline.

7. The tender admission requirements are those defined in the previous point 6, and specific requirements:

- i)** Expertise in the synthesis of CdTe semiconductor nanocrystals assisted by microwave radiation.
- ii)** Expertise in the implementation and development of continuous flow methodologies using CdTe nanocrystals as fluorescent probes.
- iii)** Expertise in the development of immobilization techniques of semiconductor quantum dots onto solid supports.
- iv)** Expertise in the generation of reactive oxygen species in continuous flow systems upon photo-activation of CdTe quantum dots.
- v)** Expertise in statistical analysis and in the utilization of chemometric methods.

8. Pursuant to article 5 of RJEC, the selection is to be made based on the evaluation of the scientific and curricular career of the candidate.

9. Scientific and curricular career evaluation focuses on relevance, quality and up-to-datedness:

- a)** of scientific, technological, cultural or artistic production in the last five years, considered most relevant by the candidate;
- b)** of research activities, fundamental or applied science, developed in the last five years, considered of higher impact by the candidate;
- c)** of knowledge extension and dissemination activities developed in the last five years, namely under the scope of the promotion of culture and scientific practices, deemed most relevant by the candidate.
- d)** of activities of science management, technology and innovation programs, or of experience in observing and monitoring the scientific and technological system or higher education, in Portugal or abroad.

10. The five-year period mentioned above can be extended by the panel, if requested by the candidate, whenever the suspension of scientific activities is reasoned by socially protected grounds like paternity leave, long-term serious illness, and other legal situations of unavailability to work.

11. Evaluation criteria are the following:

The evaluation of the CV of the candidates, in particular the scientific merit and research experience will take into consideration the elements presented for the last five years of activity falling within the scope of the specific areas of the tender (see Point 1) and will be performed according to the following criteria:

11.1 Integrated assessment of the curriculum trajectory of the candidate, based on an overview of their scientific merits, namely:

I. overall scientific coherence of the CV – 15%

II. diversity and quality of scientific indicators, including relevant published peer-reviewed articles and abstracts in the specific areas of announce (see point 1) - 25%

III. participation in research projects and students supervision - 10%

11.2 Relevant experience, proved in CV, in:

- i)** Optimization of synthetic methods for CdTe semiconductor nanocrystals by using microwave radiation – 10%.

- ii) Implementation and development of continuous flow methodologies based on multi-commutation and multi-pumping techniques by using CdTe nanocrystals as fluorescent probes, for the analysis of pharmaceutical and environmental samples – 10%.
- iii) Characterization of quantum dots by using direct fluorimetric techniques, time-based fluorescence, determination of absolute fluorescence quantum yield and FTIR techniques – 10%.
- iv) Generation of reactive oxygen species in continuous flow systems upon photo-activation of CdTe quantum dots – 10%.
- v) Utilization of chemometric methods for the optimization of analytical methodologies and results processing – 10%.

12. In the case of admitted candidates whose evaluation does not differ more than 10% from that obtained by the best positioned candidate, the jury will interview these candidates. This will be aimed at obtaining clarifications and explanations about the curricular elements and additional information as well as to evaluate the attitude profile and motivation of the candidate.

The final score of each jury member is obtained by the following assessment: 90% scientific and curricular career evaluation and 10% interview.

The final classification of each candidate is given by the arithmetic mean of the classifications attributed by the jury members. In the event of a tie, the chairman of the jury shall have the casting vote.

13. Candidate final classification system shall be given based on a scale 0 to 100.

14. The panel shall deliberate by means of roll-call vote justified under adopted and disclosed selection criteria, with no abstentions allowed.

15. Minutes of panel meetings shall be executed and include a summary of all occurrences of said meeting, as well as of all votes casted by the members and respective reasoning, and shall be provided to candidates whenever required.

16. After selection criteria application, the panel shall prepare a sorted list of approved candidates and respective classification.

17. Panel's final decision shall be validated by the leader of the institution, who is also in charge of deciding about the hiring.

18. Application formalization:

18.1 The applications are formalized by application addressed to the Director of REQUIMTE, including internal reference, full name, ID card, or Citizen Card, tax identification number, residence and contact address, including email address and telephone, at the electronic address <http://www.requimte.pt/laqv/concursos-abertos-open-calls>.

18.2 Applications shall include all supported documents encompassed by section 6 and 7 for tender admission, namely:

- a) Certificate or diploma copy of the doctoral degree;**
- b) Doctoral thesis;**
- c) Curriculum vitae, detailed and structured pursuant to sections 9 and 11;**
- d) Brief description of the most relevant scientific activities of the last 5 years (1 page maximum), according to article 5(2) of RJEC and point 9 of this announcement.**
- e) The candidate may present other documentation relevant for the evaluation of qualifications in the specific areas of work.**

18.3 Candidates shall submit their application files and supporting documentation, in a digital form, in PDF format, link <http://www.requimte.pt/laqv/concursos-abertos-open-calls>, either delivering in person in Praça Coronel Pacheco nº 15-6º andar, during office hours.

18.4. The application period is from **1st September 2018 through 30th September 2018.**

19. All candidates who formalize their applications in an improper way or fail to prove the requirements imposed by this tender are excluded from admission. In case of doubt, the panel is entitled to request any candidate to present further documentation supporting their statements.

20. False statements provided by the candidates shall be punished by law.

21. Both admitted and excluded candidate list and final classification list shall be published in the website of the Institute and the selected candidate shall be notified by email.

22. Preliminary Hearing and Final Decision Deadline: After publication, all candidates have 10 working days to respond. Panel's final decisions are pronounced within a period of 90 working days, from response period deadline.

23. This call is open fulfilling the conditions contained in nº1 of article 23 of the Decree-Law No. 57/2016 of 29 August, within a FCT fellowship with reference SFRH/BPD/104638/2014.

24. This tender is exclusively destined to fill this specify position and can be terminated at any time until approval of final candidate list, expiring with the respective occupation of said position.

25. Non-discrimination and equal access policy: ICETA actively promotes a non-discrimination and equal access policy, wherefore no candidate can be privileged, benefited, impaired or deprived of any rights whatsoever, or be exempt of any duties based on their ancestry, age, sex, sexual preference, marital status, family and economic conditions, instruction, origin or social conditions, genetic heritage, reduced work capacity, disability, chronic illness, nationality, ethnic origin or race, origin territory, language, religion, political or ideological convictions and union membership.

26. The panel has approved this announcement in meeting held on 20/07/2018.

27. According to Decree-Law no. 29/2001 of 3 February, disabled candidates shall be preferred in a situation of equal classification, and said preference supersedes any legal preferences. Candidates must declare, on their honour, their respective disability degree, type of disability and communication/expression means to be used during selection period on their application form, under the regulations above.

28. The selection of candidate to be hired is determined by orientations and regulations issued by Fundação para a Ciência e Tecnologia upon verification of all legal requirements. REQUIMTE is entitled to annihilate the present process in case the legal requirements are not fulfilled.

29. The hiring process of the selected candidate to the present position is determined by the celebration of contract between FCT and REQUIMTE, according to nº 4 do art.º 23 do DL 57/2016. The needed funding to perform the contract with the selected candidate must be provided through the contract celebrated with FCT pursuant to article 17th of Decree-law nº 57/2016 of 29th August, amended by laws 57/2017 and regulatory decree No. 11- A / 2017.