



INTERNATIONAL CALL FOR A PHD HOLDER POSITION TO PURSUE SCIENTIFIC RESEARCH ACTIVITIES PURSUANT TO ARTICLE 23 OF DECREE-LAW N.º 57/2016 OF AUGUST 29th, AMENDED BY LAW 57/2017 AND REGULATORY DECREE N.º 11- A / 2017.

Reference: REQUIMTE 2019-01

Main research field: Chemistry

Sub research field: Materials Chemistry and Electrochemistry

1. The Board of Directors of REQUIMTE – Rede de Química e Tecnologia – Associação, has decided to open an international call for positions of PhD holder Researchers, under a work contract for a non-fixed term. This announcement is intended to 1 (one) research position (**Reference REQUIMTE 2019-01**) on the project PTDC/MEC-CAR/31322/2017 UniRCell - Sistema combinado de célula de combustível / eletrolisador para fornecimento eficiente de energia renovável: dos materiais ao dispositivo (Unitised regenerative fuel cell for efficient renewable energy supply: from materials to device)”, supported by national funds by FCT / MCTES and co-supported by Fundo Europeu de Desenvolvimento Regional (FEDER) throughout COMPETE 2020 – Programa Operacional Competitividade (POCI-01-0145-FEDER-016422), to pursue scientific research activities in the area of Chemistry, scientific sub-area Materials Chemistry and Electrochemistry, under a work contract for a non-fixed term, in order to work in the design, preparation and advanced characterization of new hybrid nanomaterials based on inorganic oxides and carbon materials for application as electrocatalysts in energy-related reactions: reactions of reduction and evolution of oxygen (ORR and OER) and hydrogen evolution (HER).

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: Ana Cristina Moreira Freire (Professora Catedrática, Faculdade de Ciências, Universidade do Porto, acting as chairperson by delegation of President of REQUIMTE); Manuel Fernando Ribeiro Pereira (Professor Associado, Faculdade de Engenharia, Universidade do Porto) and Cristina Maria Delerue Alvim de Matos (Professora Coordenadora Principal, Instituto Superior de Engenharia do Porto).

4. The workplace shall be at Faculdade de Ciências 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 Chemistry 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 are: relevant experience in the preparation, characterization and study of electroactive carbon (nano)composites, containing inorganic oxides (e.g. metal oxides, polyoxometalates) and conducting metallopolymers; experience in energy-related electrocatalytic reactions (ORR, OER); relevant publications in the fields of material chemistry and electrocatalysis; additionally, previous experience in oxidative/reductive electrocatalysis of biomolecules, in salen-type metallopolymers and in the preparation of carbon materials from biomass or industrial residues will be considered as a complement to the group's research interests.

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 years, considered most relevant by the candidate;

b) of research activities, fundamental or applied science, developed in the last years, considered of higher impact by the candidate;

c) of knowledge extension and dissemination activities developed in the last 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 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 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. Development, preparation and characterization of electrocatalysts based on inorganic oxides and carbon materials for energy-related reactions (ORR, OER) – 20%

II. Electrochemical techniques - cyclic voltammetry (CV), square wave voltammetry (SWV), linear sweep voltammetry (LSV) and chronoamperometry; experience with rotating electrodes (RDE and RRDE); preparation of modified electrodes by different methodologies (electrodeposition, drop-casting) – 20%

III. Advanced structural and morphologic characterization techniques - Electron Microscopy (SEM and TEM), diffraction techniques (XRD), profilometry, nitrogen adsorption/desorption isotherms, and spectroscopic analysis (EDX, XPS, Raman, UV-Vis, FTIR and NMR), including knowledge in the data acquisition software – 5%

IV. Previous experience in oxidative/reductive electrocatalysis of biomolecules, in *salen*-type metallopolymers and in the preparation of carbon materials from biomass or industrial residues will be considered as a complement to the group's research interests – 5%

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.

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 at the electronic address <https://www.requimte.com/> with following documents in a digital form, in PDF format:

i) Curriculum vitae;

ii) Motivational Letter;

iii) Qualifications Certificate;

iv) other relevant documentation.

18.2. The application period is from **09/01/2019 to 07/02/2019**.

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 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.

24. Non-discrimination and equal access policy: REQUIMTE – Rede de Química e Tecnologia – Associação 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.

25. The panel has approved this announcement in meeting held on 08/01/2019.

26. 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.

27. 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.