



Reference: REQUIMTE 2021-15

Main research field: Exact and natural sciences

Sub research field: Chemistry – Heterogeneous Catalysis

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 2021-15**) on the project PTDC/BII-BIO/30884/2017- A biorefinery approach to valorize vineyard pruning waste using sustainable extraction and catalytic processes, supported by national funds by FCT / MCTES and co-supported by Fundo Europeu de Desenvolvimento Regional (FEDER) throughout COMPETE 2020 – Programa Operacional Competitividade e Internacionalização (POCI-01-0145-FEDER-030884), to pursue scientific research activities in the area of Chemistry and sub-area of Material Chemistry and Heterogeneous Catalysis, under a work contract for a non-fixed term in order to work in the development of new efficient and sustainable processes of extraction and chemical catalysis in order to valorize vineyard pruning waste into bioproducts and biopolymers alternatives to petroleum derivatives in a biorefinery context, including: a) design, preparation and characterization of new eco-sustainable heterogeneous metal/metal oxides based biochar catalysts; b) application in catalytic reactions of hydrolysis, depolymerization, oxidation and hydrogenation (catalytic transfer hydrogenation).

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 be formed by: Professor Ana Cristina Moreira Freire (Faculdade de Ciências, Universidade do Porto, acting as chairperson by delegation of President of REQUIMTE); Professor Doutora Cristina Maria Delerue Alvim de Matos (Instituto Superior de Engenharia do Porto) and Doctor Andreia Filipa Ribeiro de Oliveira Peixoto (Assistant Researcher at REQUIMTE).

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

5. 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 2.134,73 Euros.

6. Application can be submitted by any national, foreign and stateless candidate(s) holding a doctorate degree in Chemistry and Chemical Engineering 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 Decreto-Lei n.º 66/2018, de 16 de Agosto, and all formalities established therein must be complied with at the signature of work contract.

7. The tender admission requirements are those defined in the previous point 6, and specific requirements are: Relevant publications record in the field of heterogeneous catalysis; experience in the preparation and characterization of heterogeneous catalysts, metal/metal oxide based silicas, aluminosilicates (zeolites and clays) and carbon materials for application in sustainable catalytic processes for biomass valorization into biofuels, bioproducts and biomaterials.

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. preparation and characterization of heterogeneous catalysts, metal/metal oxide based silicas, aluminosilicates (zeolites and clays) and carbon materials for application in sustainable catalytic processes for biomass valorization into biofuels, bioproducts and biomaterials. – 25%

II. Analysis and characterization techniques namely electronic microscopy, energy-dispersive X-ray spectroscopy (EDX), surface analysis (XPS), powder X-ray diffraction (XRD) and spectroscopic analysis (FTIR and solid NMR) including knowledge in acquisition data software. Expertise in GC-FID / GC-MS and in ^1H , ^{13}C and 2D NMR - 15%

III. Written of scientific papers, patents, European projects and technology transfer projects. Experience in life cycle assessment (LCA) evaluation and in biorefinery processes - 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 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 **15/04/2021 to 28/04/2021**.

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 at the address of REQUIMTE (Praça Coronel Pacheco nº 15-6º andar, Porto), 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 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 a meeting held on 13/04/2021.

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.