NOTICE OF OPENING OF AN INTERNATIONAL SELECTION PROCEDURE FOR THE RECRUITMENT OF 21 DOCTORAL RESEARCHER POSITIONS UNDER ARTICLE 23rd OF DECREE-LAW No. 57/2016, OF AUGUST 29th, AMENDED BY LAW No. 57/2017 OF JULY, 19th.

1. By order of 06/04/2018, the Dean of FEUP, Professor João Bernardo de Sena Esteves Falcão e Cunha, deliberated to open an international selection procedure for the recruitment of 21 Doctoral Researchers to perform activities in the Research Units **CEFT** - Centro de Estudos de Fenómenos de Transporte; **CITTA** - Centro de Investigação do Território, Transportes e Ambiente; **CONSTRUCT** - Instituto de I&D em Estruturas e Construção; **LEPABE** – Laboratório de Engenharia de Processos, Ambiente, Biotecnologia e Energia; **LSRE-LCM** - Laboratório de Processos de Separação e Reação - Laboratório de Catálise e Materiais and **SYSTEC** - Centro de Investigação em Sistemas e Tecnologias, under an Uncertain Term Work Contract, as defined by the Portuguese Labor Code. The recruitment of these research positions aims at the development of R&D activities in the scope of the scientific areas that are listed below, according to the designations of the Portuguese Foundation for Science and Technology (FCT):

Position 1 - Two vacancies within the scope of the Research Unit CEFT - Centro de Estudos de Fenómenos de Transporte – UID/EMS/00532/2013 financed by FCT / MCTES through national funds (PIDDAC).

Position 2 - One vacancy within the Research Unit CITTA - Centro de Investigação do Território, Transportes e Ambiente - POCI-01-0145-FEDER-006775 financed by the European Regional Development Fund (ERDF), through COMPETE 2020 - Operational Program for Competitiveness and Internationalization (OPCI) and with financial support from FCT / MCTES through national funds (PIDDAC).

Position 3 - Three vacancies within the Research Unit CONSTRUCT - Instituto de I&D em Estruturas e Construção - POCI-01-0145-FEDER-007457 financed by the European Regional Development Fund (ERDF), through COMPETE 2020 - Operational Program for Competitiveness and Internationalization (OPCI) and with financial support from FCT / MCTES through national funds (PIDDAC).

Position 4 - Eight vacancies within the Research Unit LEPABE – Laboratório de Engenharia de Processos, Ambiente, Biotecnologia e Energia - POCI-01-0145-FEDER-006939 - financed by the European Regional Development Fund (ERDF) through COMPETE2020 - Operational Program for Competitiveness and Internationalization (OPCI) and national funds through FCT / MCTES (PIDDAC).

Position 5 – Five vacancies within the Research Unit LSRE-LCM - Laboratório de Processos de Separação e Reação - Laboratório de Catálise e Materiais - POCI-01-0145-FEDER-006984 – financed by the European Regional Development Fund (ERDF) through COMPETE2020 - Operational Program for Competitiveness and Internationalization (OPCI) and national funds through FCT / MCTES (PIDDAC).

Position 6 – Two vacancies within the Research Unit SYSTEC - Centro de Investigação em Sistemas e Tecnologias - POCI-01-0145-FEDER-006933 – financed by the European Regional Development Fund (ERDF) through COMPETE2020 - Operational Program for Competitiveness and Internationalization (OPCI) and national funds through FCT / MCTES (PIDDAC).

2. Applicable legislation: Decree-Law no. 57/2016, of 29 August, approving a regime for contracting doctorates to stimulate scientific and technological employment in all areas of knowledge (RJEC), in the wording introduced by the first amendment provided for in Law no. 57/2017 of July 19, Regulatory Decree

No. 11-A / 2017, of December 29, and Labor Code, approved by Law no. 7/2009 of 12 of February, in its current version.

3. In the wording of article 16 of Decree-Law no. 57/2016 of 29 August, this procedure is exempted from the authorization of the members of the Government responsible for the areas of Finance and Public Administration, namely in paragraph no.3 of article 7 of the LTFP; from the prior favorable opinion of the members of the Government responsible for the areas of Finance and Public Administration as mentioned in no.5 of article 30 of the LTFP and from the procedure for the recruitment of workers in the requalification situation referred to in Article 265 of the LTFP.

4. The monthly remuneration to be attributed is the one provided for in paragraph a) of no.1 of article 15 of RJEC, corresponding to level 33 of the single remuneration table, approved by the Administrative Rule no. 1553-C / 2008, December 31, in the amount of 2,128.34 Euros.

5. The applicants may be national, foreign and stateless candidates holding a doctor degree in an area identified in the positions for each R & D Unit listed below. If the doctorate has been awarded by a foreign higher education institution, it must comply with the provisions of Decree-Law no. 341/2007, of October 12, and any formalities established there must be fulfilled until the expiration date for the application.

6. In terms of the article 5 of the RJEC, the selection is made through the evaluation of the scientific and curricular careers of the candidates.

7. The evaluation of the scientific and curricular path, taking into account the profile appropriate to the activity to be developed, focuses on relevance, quality and current impact of:

a) the scientific, technological, cultural or artistic production of the last five years considered to be more relevant by the applicant;

b) the applied or practice-based research activities developed over the last five years and considered as having the greatest impact by the candidate;

c) the activities of extension and dissemination of knowledge developed during the last five years, in particular in the context of culture and scientific practices promotion that are considered by the candidate to be of greater relevance;

d) the activities of management of science, technology and innovation programs, or the experience in observing and monitoring the scientific and technological system or higher education, in Portugal or abroad.

8. The period of five years referred to in the preceding paragraph may be increased by the jury, at the request of the candidate, when justified on grounds of suspension of scientific activity for socially protected reasons, namely on grounds of parental leave, prolonged serious illness, and other situations of unavailability for work legally protected.

9. The jury shall deliberate by means of a nominal vote based on the selection criteria adopted and published, and abstentions are not allowed.

10. Minutes of the meetings of the jury are drawn up, containing a summary of what has taken place in the meetings, as well as the votes cast by each of the members and their reasons; these minutes should be available to candidates whenever requested.

11. After completing the application of the selection criteria, the jury will draw up an ordered list of successful candidates with their classification.

12. The final decision of the jury is approved by the maximum leader of the institution that also has to decide on the hiring.

13. Formalization of applications:

13.1 Applications must be formalized, via email to recursoshumanos@fe.up.pt and to the address indicated in each position and reference, and must identify the position and reference of the vacancy to which they apply, full name, number and date of identity card, or Citizen's Card, or civil identification number, tax identification number, date and place of birth, residence and contact address, including e-mail address and telephone contact.

13.2 The application shall be accompanied by documents proving the conditions laid down in the requirements for each position, namely:

a) Copy of a doctoral certificate or diploma;
b) PhD thesis;
c) Detailed curriculum vitae;
d) Other documents relevant to the evaluation of the qualification in related scientific area;
e) R & D project summary (maximum 2 A4 pages);
f) Copy of the 5 most relevant publications;
g) Letter of motivation;
h) Letters of recommendation (optional);
i) Documents proving professional experience;
j) Information regarding scientific and technological production, applied research activities, activities of extension and dissemination of knowledge and activities of management of science, technology and innovation programs.

13.3 The application period starts on the day following the publication of this notice and takes place for a period of 10 (ten) working days.

14. Candidates who formalize their application incorrectly or do not prove the general requirements specified in this notice are excluded from admission to the competition. The jury has the power to require any candidate, in case of doubt, to present documents proving their statements.

15. False statements by candidates shall be punished in accordance with the law.

16. The list of admitted and excluded candidates and the final classification list are published on the FEUP website at https://sigarra.up.pt/feup/en/noticias_geral.lista_noticias#gruponot12, and the candidates will be notified by email with receipt of delivery of the notification. These lists are also posted on FEUP's premises, located at Rua Roberto Frias, s / n, 4200-465 Porto.

17. Preliminary Hearing and deadline for the Final Decision: in accordance with article 121 of the Code of Administrative Procedure, after being notified, the candidates have 10 working days to pronounce. Within a maximum period of 90 days from the deadline for submitting applications, the final decisions of the jury are given.

18. The present competition is exclusively intended to fill the vacancies indicated, and may be terminated until the final list of candidates is approved and will be expired with their respective occupation of the job on offer.

19. Non-discrimination and equal access policy: FEUP actively promotes a policy of non-discrimination and equal access, so that no candidate can be privileged, beneficiary, disadvantaged or private of any right or exemption from any duty owing, in particular, to 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.

20. The selection boards approved this notice at the meeting held on 19/04/2018.

21. Under the terms of D.L. No. 29/2001, of February 3rd, the disabled candidate has preference in equal classification, which prevails over any other legal preference. Candidates must declare their respective degree of incapacity, the type of disability and the means of communication / expression to be used in the selection process, under the terms of the aforementioned diploma.

DESCRIPTION OF THE POSITIONS

Position 1 – Research Unit CEFT - Centro de Estudos de Fenómenos de Transporte – 2 vacancies

1. Each candidate may apply for only one of the two open vacancies and must specifically identify the reference of the vacancy to which he / she is applying to. The opponents may be national, foreign and stateless candidates who hold a doctoral degree in Chemical and Biological Engineering, or related scientific area and holders of a scientific and professional curriculum showing a profile appropriate to the activity to be developed.
General requirements for admission to competition are those defined in the previous paragraph. In order to determine the profiles appropriate to the activity to be developed, the following criteria are defined for each of the vacancies.

Reference – PortableDAFCs (1 vacancy)
Scientific domain / subdomain – Sciences of Engineering and Technology / Chemical Engineering

This position is aimed at developing R&D activities within the area of "Alcohol-fueled fuel cells for portable power generation", aiming the development of devices and mini-devices for electric energy production when fueled with an alcohol or mixtures of alcohols and that can be used as substitute to traditional batteries (lithium batteries) or as chargers for them. The optimization/development of this devices shall be done by experimental studies and modelling. The activities may also include supervision of PhD students, master students, and project researchers, and other activities within the framework of the Strategic Plan of Centro de Estudos de Fenómenos de Transporte (CEFT), at the Faculty of Engineering of Porto (FEUP).

Candidates must have prior competence and experience in fundamental and advanced mathematical modelling (CFD modelization); experimental diagnosis techniques such as Impedance (EIS) and polarization curves applied to fuel cells in particular to fuel cells with active or passive alimentation by alcohols (ethanol, methanol or both), a sound knowledge of mass, heat and charge transport phenomena. In topics related to this position, applicants must demonstrate strong organizational proficiency and experience in supervising students and research fellows.

Reference – PEM_Electrólise (1 vacancy)
Scientific domain / subdomain – Sciences of Engineering and Technology / Chemical Engineering

This position is aimed at developing R&D activities within the area of "PEM fuel cells coupled to PEM electrolyzers as a saveguard system to renewable energy sources", aiming to build and optimize both prototypes. The optimization of the prototypes shall be done not only experimentally but also through numerical simulation. The activities may also include supervision of PhD students, master students, and project researchers, and other activities within the framework of the Strategic Plan of Centro de Estudos de Fenómenos de Transporte (CEFT), at the Faculty of Engineering of Porto (FEUP).

Candidates must have prior competence and experience in: i) development of PEM fuel cells: building and optimization (including characterization by polarization and impedance curves (EIS)); ii) numerical simulation of PEM fuel cells (including CFD modelling). Additionally, participation in projects related to PEM fuel cells/PEM electrolyzers will be valued. In topics related with the current position, the candidates should demonstrate strong organizational proficiency and experience in the supervision of students and research fellows.

2. In accordance with article 13 of the RJEC and according to the appointment, the jury is composed as follows:

President: Doctor João Bernardo Lares Moreira de Campos
Member: Doctor Alexandra Maria Pinheiro da Silva Rodrigues Pinto
Member: Doctor Carlos Manuel Coutinho Tavares de Pinho
Substitute member: Doctor Fernando Manuel Coutinho Tavares de Pinho
Substitute member: Doctor Manuel António Moreira Alves

3. The work will be developed at the Department of Chemical Engineering of the Faculty of Engineering of the University of Porto (FEUP).

4. This position is open for carrying out activities in the area of Chemical Engineering, below designated as area of preference.

The evaluation criteria are the following:

The Evaluation of the Scientific Career and Curriculum Vitae (ESCC) focuses on three parts described below and the final classification is obtained by: ESCC = 0.2 AQ + 0.4 SCC + 0.4 MCI.

1. Academic Qualifications (AQ)

Assessment of the area of study of the candidate: PhD in the identified area in point 1, for each reference, AQ = 5 points; PhD in related areas, AQ = up to 3 points.

2. Scientific Career and Curriculum (SCC)

Assessment of the relevance, quality and current impact of scientific career and curriculum. This evaluation focuses on the parameters described below and the classification is obtained by: SCC = 0.6 SC + 0.4 RA.

2.1 Scientific Production (SC)

Assessment of the scientific production (SCV), over the last five years. The classification is obtained by: SC = 0.6 SCV + 0.4 SCQ.

Quantitative Evaluation (SCV): publications in ISI journals, in the area of preference, SCV = up to 5 points; publications in related areas, SCV = up to 3 points; publications in other areas, SCV = 0 points.

Qualitative Evaluation (SCQ): the candidate must provide copies of up to 5 articles considered to be most relevant, SCQ = up to 5 points.

2.2 Research, Extension, and Management Activities (RA)

Evaluation of applied, or based on practice, research activities, as well as activities of extension and management developed in the last five years. This parameter includes: (i) supervision/co-supervision of Master students, PhD students and Post-Doctoral researchers, (ii) participation in R&D projects, services, and technology transfer and (iii) participation in science management and knowledge dissemination activities, including the organization of conferences, symposia and scientific cooperation activities. Activities in the area of preference, RA = up to 5 points; activities in related areas, RA = up to 3 points; activities in other areas, RA = 0 points.

3. Motivation and Capacity for Innovation (MCI)

Evaluation of the candidate's motivation and capacity for innovation. For this evaluation, the applicant must submit the documents described below and the classification is obtained by the following formula: MCI = 0.5 LM + 0.5 PR.

3.1 Letter of Motivation (LM)

Letter of motivation describing the relevance of the candidate's scientific career to this position and career personal goals: LM = up to 5 points.

3.2 R&D Project (PR)

Summary of R&D Project (maximum 2 pages A4) in the scientific area of preference: PR = up to 5 points.

5. The selection process includes a professional interview, which is exclusively intended for the clarification of aspects related to the results of their research, for candidates with an Evaluation of the Scientific and Curriculum Vitae (ESCC) exceeding 4 points. The PI will be classified on a scale of 0 to 5 values.

6. The final grade is the sum of the classifications obtained in the Evaluation of the Scientific and Curriculum Vitae (ESCC) and Professional Interview (PI) (0.9 ESCC + 0.1 PI). The position can only be filled by candidates whose final classification is equal or greater than 4 points.

7. Applications must be mandatorily formalized by e-mail to recursoshumanos@fe.up.pt and jmc@fe.up.pt and should clearly state the reference the candidate applies to: **FEUP- Position 1 – Research Unit CEFT-Reference-PortableDAFCs** or **FEUP-Positon 1 – Research Unit CEFT- Reference-PEM_Electrólise.**
The application must include: full name, number and date of identity card, or Citizen's Card, or civil identification number, tax identification number, date and place of birth, residence and contact address, including e-mail address and telephone contact.

Position 2 – Research Unit CITTA - Centro de Investigação do Território, Transportes e Ambiente – 1 vacancy

1. The opponents may be national, foreign and stateless candidates who hold a doctoral degree in Civil Engineering – Spacial Planning, or related scientific area and holders of a scientific and professional curriculum showing a profile appropriate to the activity to be developed.
General requirements for admission to competition are those defined in the previous paragraph. In order to determine the profile appropriate to the activity to be developed, the following criteria are defined: the candidates should have competences and previous experience about the problematic of shrinking cities planning.

This position is aimed at developing R&D activities within the area of Spatial Planning, and in particular about the problematic of shrinking cities planning and other activities within the framework of the Strategic Plan of the CITTA Research Centre, at the Faculty of Engineering of Porto University (FEUP).

2. In accordance with article 13 of the RJEC and according to the appointment, the jury is composed as follows:

President: Doctor Paulo Manuel Neto da Costa Pinho
Member: Doctor Paulo Santos Conceição
Member: Doctor Sara Maria dos Santos Rodrigues da Cruz
Substitute member: Doctor Fernando Brandão Alves
Substitute member: Doctor Cecília do Carmo Ferreira da Silva

3. The work will be developed at the Department of Civil Engineering of the Faculty of Engineering of the University of Porto (FEUP).

4. This position is open for carrying out activities in the area of Urban planning, below designated as area of preference.
The evaluation criteria are the following:

The Evaluation of the Scientific Career and Curriculum Vitae (ESCC) focuses on three parts described below and the final classification is obtained by: ESCC = 0.2 AQ + 0.4 SCC + 0.4 MCI.

1. Academic Qualifications (AQ)

Assessment of the area of study of the candidate: PhD in the identified area in point 1, for each reference, AQ = 5 points; PhD in related areas, AQ = up to 3 points.

2. Scientific Career and Curriculum (SCC)

Assessment of the relevance, quality and current impact of scientific career and curriculum. This evaluation focuses on the parameters described below and the classification is obtained by: SCC = 0.6 SC + 0.4 RA.

2.1 Scientific Production (SC)

Assessment of the scientific production (SCV), over the last five years. The classification is obtained by: SC = 0.6 SCV + 0.4 SCQ.

Quantitative Evaluation (SCV): publications in ISI journals, in the area of preference, SCV = up to 5 points; publications in related areas, SCV = up to 3 points; publications in other areas, SCV = 0 points.

Qualitative Evaluation (SCQ): the candidate must provide copies of up to 5 articles considered to be most relevant, SCQ = up to 5 points.

2.2 Research, Extension, and Management Activities (RA)

Evaluation of applied, or based on practice, research activities, as well as activities of extension and management developed in the last five years. This parameter includes: (i) supervision/co-supervision of Master students, PhD students and Post-Doctoral researchers, (ii) participation in R&D projects, services, and technology transfer and (iii) participation in science management and knowledge dissemination activities, including the organization of conferences, symposia and scientific cooperation activities. Activities in the area of preference, RA = up to 5 points; activities in related areas, RA = up to 3 points; activities in other areas, RA = 0 points.

3. Motivation and Capacity for Innovation (MCI)

Evaluation of the candidate's motivation and capacity for innovation. For this evaluation, the applicant must submit the documents described below and the classification is obtained by the following formula: MCI = 0.5 LM + 0.5 PR.

3.1 Letter of Motivation (LM)

Letter of motivation describing the relevance of the candidate's scientific career to this position and career personal goals: LM = up to 5 points.

3.2 R&D Project (PR)

Summary of R&D Project (maximum 2 pages A4) in the scientific area of preference: PR = up to 5 points.

5. The selection process includes a professional interview, which is exclusively intended for the clarification of aspects related to the results of their research, for candidates with an Evaluation of the Scientific and Curriculum Vitae (ESCC) exceeding 4 points. The PI will be classified on a scale of 0 to 5 values.

6. The final grade is the sum of the classifications obtained in the Evaluation of the Scientific and Curriculum Vitae (ESCC) and Professional Interview (PI) (0.9 ESCC + 0.1 PI). The position can only be filled by candidates whose final classification is equal or greater than 4 points.

7. Applications must be mandatorily formalized by e-mail to recursoshumanos@fe.up.pt and pcpinho@fe.up.pt and should clearly state the reference **FEUP- Position 2 – Research Unit CITTA.**
The application must include: full name, number and date of identity card, or Citizen's Card, or civil identification number, tax identification number, date and place of birth, residence and contact address, including e-mail address and telephone contact.

Position 3 – Research Unit CONSTRUCT - Instituto de I&D em Estruturas e Construção – 3 vacancies

Each candidate may apply for only one of the three open vacancies and must specifically identify the reference of the vacancy to which he / she is applying to.

Reference – CONSTRUCT-Inv-Higrotérmica (1 vacancy)
Scientific domain / subdomain – Sciences of Engineering and Technology / Civil Engineering

1. The opponents may be national, foreign and stateless candidates who hold a doctoral degree in Chemical Engineering, or related scientific area and holders of a scientific and professional curriculum showing a profile appropriate to the activity to be developed.
General requirements for admission to competition are those defined in the previous paragraph. In order to determine the profile appropriate to the activity to be developed, the following criteria are defined: candidates must have competences and previous experience in "Higrothermal: Energy Efficiency, Comfort and Moisture in Buildings", namely in: i) rising damp and interface phenomena in multilayer building elements; ii) knowledge of advanced hygrothermal simulation; iii) moisture and salts solutions transport in multilayer porous building materials and elements; iv) infrared-thermography and moisture in buildings; as well as advanced knowledge in recent trends in the mentioned area. In topics related to this position, applicants must demonstrate strong organizational proficiency and experience in supervising students and research fellows.

This position is aimed at developing R&D activities within the area of "Higrothermal: Energy Efficiency, Comfort and Moisture in buildings", aiming the study of rising damp phenomenon and the interfaces influence in moisture and soluble salts flow in multilayer building elements; infrared-thermography and moisture in buildings; as well as the development, implementation and validation of new advanced hygrothermal numerical models. The activities may also include supervision of PhD students, master students, and project researchers, and other activities within the framework of the Strategic Plan of CONSTRUCT - Instituto de I&D em Estruturas e Construção, at the Faculty of Engineering of Porto (FEUP).

2. In accordance with article 13 of the RJEC and according to the appointment, the jury is composed as follows:

President: Doctor Vasco Manuel Araújo Peixoto de Freitas
Member: Doctor Ana Sofia Moreira dos Santos Guimarães Teixeira
Member: Doctor Eva Sofia Botelho Machado Barreira
Substitute member: Doctor Nuno Manuel Monteiro Ramos
Substitute member: Doctor Maria Helena Póvoas Corvacho

3. The work will be developed at the Department of Civil Engineering of the Faculty of Engineering of the University of Porto (FEUP).

4. This position is open for carrying out activities in the area of "Higrothermal: Energy Efficiency, Comfort and Moisture in buildings", namely the study of rising damp and interface phenomena in multilayer building elements; infrared-thermography and moisture in buildings; development, implementation and validation of new advanced hygrothermal numerical models; and moisture and salts solutions transport in multilayer porous building materials and elements, below designated as area of preference.

The evaluation criteria are the following:

The Evaluation of the Scientific Career and Curriculum Vitae (ESCC) focuses on three parts described below and the final classification is obtained by: ESCC = 0.2 AQ + 0.4 SCC + 0.4 MCI.

1. Academic Qualifications (AQ)

Assessment of the area of study of the candidate: PhD in Chemical Engineering, AQ = 5 points; PhD in related areas, AQ = up to 3 points.

2. Scientific Career and Curriculum (SCC)

Assessment of the relevance, quality and current impact of scientific career and curriculum. This evaluation focuses on the parameters described below and the classification is obtained by: SCC = 0.6 SC + 0.4 RA.

2.1 Scientific Production (SC)

Assessment of the scientific production (SCV), over the last five years. The classification is obtained by: SC = 0.6 SCV + 0.4 SCQ.

Quantitative Evaluation (SCV): publications in ISI journals, in the area of preference, SCV = up to 5 points; publications in related areas, SCV = up to 3 points; publications in other areas, SCV = 0 points.

Qualitative Evaluation (SCQ): the candidate must provide copies of up to 5 articles considered to be most relevant, SCQ = up to 5 points.

2.2 Research, Extension, and Management Activities (RA)

Evaluation of applied, or based on practice, research activities, as well as activities of extension and management developed in the last five years. This parameter includes: (i) supervision/co-supervision of Master students, PhD students and Post-Doctoral researchers, (ii) participation in R&D projects, services, and technology transfer and (iii) participation in science management and knowledge dissemination activities, including the organization of conferences, symposia and scientific cooperation activities. Activities in the area of preference, RA = up to 5 points; activities in related areas, RA = up to 3 points; activities in other areas, RA = 0 points.

3. Motivation and Capacity for Innovation (MCI)

Evaluation of the candidate's motivation and capacity for innovation. For this evaluation, the applicant must submit the documents described below and the classification is obtained by the following formula: MCI = 0.5 LM + 0.5 PR.

3.1 Letter of Motivation (LM)

Letter of motivation describing the relevance of the candidate's scientific career to this position and career personal goals: LM = up to 5 points.

3.2 R&D Project (PR)

Summary of R&D Project (maximum 2 pages A4) in the scientific area of preference: PR = up to 5 points.

5. The selection process includes a professional interview, which is exclusively intended for the clarification of aspects related to the results of their research, for candidates with an Evaluation of the Scientific and Curriculum Vitae (ESCC) exceeding 4 points. The PI will be classified on a scale of 0 to 5 values.

6. The final grade is the sum of the classifications obtained in the Evaluation of the Scientific and Curriculum Vitae (ESCC) and Professional Interview (PI) (0.9 ESCC + 0.1 PI). The position can only be filled by candidates whose final classification is equal or greater than 3.9 points.

7. Applications must be mandatorily formalized by email to recursoshumanos@fe.up.pt and vpfreita@fe.up.pt and should clearly state the reference **FEUP- Position 3 – Research Unit CONSTRUCT-Inv-Higrotérmica.**

The application must include: full name, number and date of identity card, or Citizen's Card, or civil identification number, tax identification number, date and place of birth, residence and contact address, including e-mail address and telephone contact.

Reference – CONSTRUCT-Inv-Geosynthetics (1 vacancy)
Scientific domain / subdomain – Sciences of Engineering and Technology / Civil Engineering

1. The opponents may be national, foreign and stateless candidates who hold a doctoral degree in Environment Engineering or Civil Engineering, or related scientific area and holders of a scientific and professional curriculum showing a profile appropriate to the activity to be developed.
General requirements for admission to competition are those defined in the previous paragraph. In order to determine the profile appropriate to the activity to be developed, the following criteria are defined: candidates should have: a) previous experience in the research of geosynthetics; b) experience in the evaluation of the resistance of geosynthetics against physical, chemical and mechanical degradation agents; c) experience in chemical degradation mechanisms of geosynthetics; d) knowledge of methods to evaluate the resistence of geosynthetics against degradation; e) experience in the short and long-term behaviour of geosynthetics; f) experience in evaluation of interactions between the degradation agents of geosynthetics; g) advanced knowledge in Chemistry.

This position is aimed at developing R&D activities within the area of "Durability of Geosynthetics", with the aim of developing research about the resistance of geosynthetics against physical, chemical and mechanical degradation, and other activities within the framework of the Strategic Plan of CONSTRUCT - Instituto de I&D em Estruturas e Construção, at the Faculty of Engineering of Porto (FEUP).

2. In accordance with article 13 of the RJEC and according to the appointment, the jury is composed as follows:

President: Doctor Maria de Lurdes da Costa Lopes
Member: Doctor Álvaro Alberto de Matos Ferreira da Cunha
Member: Doctor Castorina Fernanda da Silva Vieira
Substitute member: Doctor Carlos Filipe Ferreira de Sousa
Substitute member: Doctor Maria Joana Alvares Ribeiro de Sousa Coutinho

3. The work will be developed at the Department of Civil Engineering of the Faculty of Engineering of the University of Porto (FEUP).

4. This position is open for carrying out activities in the area of of "Durability of Geosynthetics" (resistance against physical, chemical and mechanical degradation), designated as area of preference.

The evaluation criteria are the following:

The Evaluation of the Scientific Career and Curriculum Vitae (ESCC) focuses on three parts described below and the final classification is obtained by: ESCC = 0.2 AQ + 0.4 SCC + 0.4 MCI.

1. **Academic Qualifications (AQ)**

   Assessment of the area of study of the candidate: PhD in Environment Engineering or Civil Engineering, AQ = 5 points; PhD in related areas, AQ = up to 3 points.

2. **Scientific Career and Curriculum (SCC)**

   Assessment of the relevance, quality and current impact of scientific career and curriculum. This evaluation focuses on the parameters described below and the classification is obtained by: SCC = 0.6 SC + 0.4 RA.

2.1 Scientific Production (SC)

Assessment of the scientific production (SCV), over the last five years. The classification is obtained by: SC = 0.6 SCV + 0.4 SCQ.

Quantitative Evaluation (SCV): publications in ISI journals, in the area of preference, SCV = up to 5 points; publications in related areas, SCV = up to 3 points; publications in other, SCV = 0 points.

Qualitative Evaluation (SCQ): the candidate must provide copies of up to 5 articles considered to be most relevant, SCQ = up to 5 points.

2.2 Research, Extension, and Management Activities (RA)

Evaluation of applied, or based on practice, research activities, as well as activities of extension and management developed in the last five years. This parameter includes: (i) supervision/co-supervision of Master students, PhD students and Post-Doctoral researchers, (ii) participation in R&D projects, services, and technology transfer and (iii) participation in science management and knowledge dissemination activities, including the organization of conferences, symposia and scientific cooperation activities. Activities in the area of preference, RA = up to 5 points; activities in related areas, RA = up to 3 points; activities in other areas, RA = 0 points.

3. Motivation and Capacity for Innovation (MCI)

Evaluation of the candidate's motivation and capacity for innovation. For this evaluation, the applicant must submit the documents described below and the classification is obtained by the following formula: MCI = 0.5 LM + 0.5 PR.

3.1 Letter of Motivation (LM)

Letter of motivation describing the relevance of the candidate's scientific career to this position and career personal goals: LM = up to 5 points.

3.2 R&D Project (PR)

Summary of R&D Project (maximum 2 pages A4) in the scientific area of preference: PR = up to 5 points.

5. The selection process includes a professional interview, which is exclusively intended for the clarification of aspects related to the results of their research, for candidates with an Evaluation of the Scientific and Curriculum Vitae (ESCC) exceeding 4 points. The PI will be classified on a scale of 0 to 5 values.

6. The final grade is the sum of the classifications obtained in the Evaluation of the Scientific and Curriculum Vitae (ESCC) and Professional Interview (PI) (0.9 ESCC + 0.1 PI). The position can only be filled by candidates whose final classification is equal or greater than 3.9 points.

7. Applications must be mandatorily formalized by email to recursoshumanos@fe.up.pt and lcosta@fe.up.pt and should clearly state the reference **FEUP- Position 3 – Research Unit CONSTRUCT-Inv-Geosynthetics.**
The application must include: full name, number and date of identity card, or Citizen's Card, or civil identification number, tax identification number, date and place of birth, residence and contact address, including e-mail address and telephone contact.

Reference – CONSTRUCT-INV-GEO (1 vacancy)
Scientific domain / subdomain – Sciences of Engineering and Technology / Civil Engineering

1. The opponents may be national, foreign and stateless candidates who hold a doctoral degree in Civil Engineering, or related scientific area and holders of a scientific and professional curriculum showing a profile appropriate to the activity to be developed.

General requirements for admission to competition are those defined in the previous paragraph. In order to determine the profile appropriate to the activity to be developed, the following criteria are defined: the candidates must have competences and previous experience in: i) characterization of natural and treated soils with traditional binders (cement and lime) and alternative binders (alkali activated cement, and rubber from tire recycling) using for this purpose equipment for advanced tests such as cyclic triaxials, and physical models on representative scale; ii) calibration of constitutive models and their use in numerical analysis. In addition, the members integrated in high-ranking R&D units will be valued, as well the experience in preparing applications for national and international R&D projects, and the participation in meetings of European consortia in the area of raw materials. In topics related to this position, applicants must demonstrate strong organizational proficiency and experience in supervising students and research fellows.

This position is aimed at developing R&D activities within the area of "Soil Improvement for geotechnical structures under cyclic actions" - to develop sustainable solutions for transport infrastructures (namely bases and sub-bases), foundations with treated soil columns, vibration mitigation, or reduction of soil liquefaction effects under seismic actions, and other activities within the framework of the Strategic Plan of CONSTRUCT - Instituto de I&D em Estruturas e Construção, namely the supervision of PhD students, master students and research fellows, at the Faculty of Engineering of Porto (FEUP).

2. In accordance with article 13 of the RJEC and according to the appointment, the jury is composed as follows:

President: Doctor António Joaquim Pereira Viana da Fonseca
Member: Doctor Álvaro Alberto de Matos Ferreira da Cunha
Member: Doctor António José de Magalhães Silva Cardoso
Substitute member: Doctor Manuel António de Matos Fernandes
Substitute member: Doctor José Manuel Mota Couto Marques

3. The work will be developed at the Department of Civil Engineering of the Faculty of Engineering of the University of Porto (FEUP).

4. This position is open for carrying out activities in the area of Civil Engineering – Geotechnics, designated as area of preference.
The evaluation criteria are the following:

The Evaluation of the Scientific Career and Curriculum Vitae (ESCC) focuses on three parts described below and the final classification is obtained by: ESCC = 0.2 AQ + 0.4 SCC + 0.4 MCI.

1. Academic Qualifications (AQ)

Assessment of the area of study of the candidate: PhD in Civil Engineering, , AQ = 5 points; PhD in related areas, AQ = up to 3 points.

2. Scientific Career and Curriculum (SCC)

Assessment of the relevance, quality and current impact of scientific career and curriculum. This evaluation focuses on the parameters described below and the classification is obtained by: SCC = 0.6 SC + 0.4 RA.

2.1 Scientific Production (SC)

Assessment of the scientific production (SCV), over the last five years. The classification is obtained by: SC = 0.6 SCV + 0.4 SCQ.

Quantitative Evaluation (SCV): publications in ISI journals, in the area of preference, SCV = up to 5 points; publications in related areas, SCV = up to 3 points; publications in other areas, SCV = 0 points.

Qualitative Evaluation (SCQ): the candidate must provide copies of up to 5 articles considered to be most relevant, SCQ = up to 5 points.

2.2 Research, Extension, and Management Activities (RA)

Evaluation of applied, or based on practice, research activities, as well as activities of extension and management developed in the last five years. This parameter includes: (i) supervision/co-supervision of Master students, PhD students and Post-Doctoral researchers, (ii) participation in R&D projects, services, and technology transfer and (iii) participation in science management and knowledge dissemination activities, including the organization of conferences, symposia and scientific cooperation activities. Activities in the area of preference, RA = up to 5 points; activities in related areas, RA = up to 3 points; activities in other areas, RA = 0 points.

3. Motivation and Capacity for Innovation (MCI)

Evaluation of the candidate's motivation and capacity for innovation. For this evaluation, the applicant must submit the documents described below and the classification is obtained by the following formula: MCI = 0.5 LM + 0.5 PR.

3.1 Letter of Motivation (LM)

Letter of motivation describing the relevance of the candidate's scientific career to this position and career personal goals: LM = up to 5 points.

3.2 R&D Project (PR)

Summary of R&D Project (maximum 2 pages A4) in the scientific area of preference: PR = up to 5 points.

5. The selection process includes a professional interview, which is exclusively intended for the clarification of aspects related to the results of their research, for candidates with an Evaluation of the Scientific and Curriculum Vitae (ESCC) exceeding 4 points. The PI will be classified on a scale of 0 to 5 values.

6. The final grade is the sum of the classifications obtained in the Evaluation of the Scientific and Curriculum Vitae (ESCC) and Professional Interview (PI) (0.9 ESCC + 0.1 PI). The position can only be filled by candidates whose final classification is equal or greater than 3.9 points.

7. Applications must be mandatorily formalized by email to recursoshumanos@fe.up.pt and viana@fe.up.pt and should clearly state the reference **FEUP- Position 3 – Research Unit CONSTRUCT-INV-GEO.**
The application must include: full name, number and date of identity card, or Citizen's Card, or civil identification number, tax identification number, date and place of birth, residence and contact address, including e-mail address and telephone contact.

Position 4 – Research Unit LEPABE - Laboratório de Engenharia de Processos, Ambiente, Biotecnologia e Energia – 8 vacancies

1. Each candidate may apply for only one of the eight open vacancies and must specifically identify the reference of the vacancy to which he / she is applying to. The opponents may be national, foreign and stateless candidates who hold a doctoral degree in Chemical Engineering, Environment Engineering, Biological Engineering, Biotechnology or Chemestry, or related scientific areas and holders of a scientific and professional curriculum showing a profile appropriate to the activity to be developed.
General requirements for admission to competition are those defined in the previous paragraph. In order to determine the profiles appropriate to the activity to be developed, the following criteria are defined for each of the vacancies.

Reference – ArIntAmb (1 vacancy)
Scientific domains / subdomains – Sciences of Engineering and Technology / Environmental Engineering

This position is aimed at developing R&D activities in air quality and atmospheric emissions, to study indoor and outdoor air contamination and their impact. It is a fundamental objective to study the effect of pollutants on human health, in particular through medical evaluation. Special attention will be paid to the effect of pollution on the respiratory health of children. The activities may also include supervision of PhD students, Masters students, and project researchers, and other activities within the framework of the Strategic Plan of Laboratório de Engenharia de Processos, Ambiente, Biotecnologia e Energia (LEPABE), at Faculty of Engineering of Porto (FEUP).

Candidates must have prior competence and experience in: i) health impact associated with ambient air and indoor air quality, preferably indoor air quality impact of school environments on the development of childhood asthma; ii) mitigation of indoor air quality in school environments; and (iii) atmospheric emissions from ships. In addition, experience in the development of low cost sensors for the detection of atmospheric pollutants will be valued. In topics related to this position, applicants must demonstrate strong organizational proficiency, experience in project management and/or coordination and experience in supervising students and research fellows.

Reference – Biotecnologia (1 vacancy)
Scientific domains / subdomains - Agricultural Sciences / Agricultural and Food Biotechnology

This position is aimed at developing R&D activities to study biological activities in several matrices and obtaining active principles with medical, pharmaceutical and food interest. The activities may also include supervision of PhD students, Masters students, and project researchers, and other activities within the framework of the Strategic Plan of Laboratório de Engenharia de Processos, Ambiente, Biotecnologia e Energia (LEPABE), at Faculty of Engineering of Porto (FEUP).

Candidates must have previous skills and experience in: validation of *in vitro* and *in vivo* biological activities, such as antihypertensive, anti-inflammatory, antiulcerogenic, antioxidant and analgesic activities of functional ingredients, preferably proteins and peptides; study of the application and development of new functional ingredients; improvement of by-products through protein hydrolysis and extraction processes in order to obtain products with high added value; experience in analytical characterization, using chromatographic techniques (FPLC, HPLC and mass spectrometry). In topics related to this position, applicants must demonstrate experience in supervising students and work experience in foreign institutions.

Reference – Emergentes (1 vacancy)
Scientific domains / subdomains – Natural and Exact Sciences / Earth and Environmental Sciences

This position is aimed at developing R&D activities for the development and validation of analytical methodologies for the determination of target compounds (such as personal care products - synthetic fragrances and siloxanes) in several environmental compartments, human and environmental exposure assessment and development of risk prioritization methodologies. The activities may also include supervision of PhD students, Masters students, and project researchers, and other activities within the framework of the Strategic Plan of Laboratório de Engenharia de Processos, Ambiente, Biotecnologia e Energia (LEPABE), at Faculty of Engineering of Porto (FEUP).

Candidates must have previous skills and experience in: development and validation of analytical methodologies for the determination of emerging pollutants in environmental matrices, particularly through LC-MS and GC-MS; environmental exposure assessment to these pollutants; development of risk prioritization methodologies; knowledge of environmental risk assessment methodologies and recent trends in this area. In topics related to this position, candidates must demonstrate strong organizational proficiency and experience in supervising students and trainees.

Reference – FISH (1 vacancy)
Scientific domains / subdomains – Sciences of Engineering and Technology / Nano-technology

Functions to be performed – R&D activities within the area of

This position is aimed at developing R&D activities within the area of "Application of fluorescent *in situ* hybridization (FISH) in microorganisms using nucleic acid mimics", aiming at the development and use of different nucleic acid mimics such as LNA, 2'Ome or PNA, for the detection and/or inhibition of growth of microorganisms by adapting the FISH technique to conditions similar to those of the human body. The activities may also include supervision of PhD students, Masters students, and project researchers, and other activities within the framework of the Strategic Plan of Laboratório de Engenharia de Processos, Ambiente, Biotecnologia e Energia (LEPABE), at Faculty of Engineering of Porto (FEUP).

Candidates must have previous skills and experience in: design and application of nucleic acid mimics oligonucleotides, namely LNA, 2'Ome and PNA; application and optimization of FISH technique in microorganisms; handling and maintenance of microorganisms; knowledge of recent advances and trends in the area in question. In topics related to this position, candidates must demonstrate strong organizational proficiency and experience in supervising students and trainees.

Reference – Hidrogénio (1 vacancy)
Scientific domains / subdomains – Sciences of Engineering and Technology / Chemical Engineering

This position is aimed at developing R&D activities in chemical reaction engineering / separation processes within the area of high purity hydrogen production in hybrid membrane reactors and CO_2 capture through catalytic reforming reactions (in particular with the waste recovery perspective) and/or water-gas shift. The activities may also include supervision of PhD students, Masters students, and project researchers, and other activities within the framework of the Strategic Plan of Laboratório de Engenharia de Processos, Ambiente, Biotecnologia e Energia (LEPABE), at Faculty of Engineering of Porto (FEUP).

Candidates must have prior competence and experience in: hydrogen production through catalytic reactions (e.g. reforming, partial oxidation and/or water-gas shift), in particular hybrid membrane and/or CO_2 capture reactors; preparation and characterization of CO_2 catalysts and adsorbents, in particular hydrotalcites; thermodynamic studies for the applications and configurations of reactors mentioned above. In topics

related to this position, applicants must demonstrate strong organizational proficiency and experience in supervising students and trainees/research fellows, as well as experience working in foreign institutions.

Reference – Mesoreatores (1 vacancy)
Scientific domains / subdomains – Sciences of Engineering and Technology / Industrial Biotechnology

This position is aimed at developing R&D activities for the development and application of micro and meso reactors for the crystallization of proteins, aiming at the characterization of the hydrodynamics and the mixing of the developed reactors, optimization of the crystallization conditions to obtain high quality protein crystals, and purification at technical scale of a given protein from a protein mixture. The activities may also include supervision of PhD students, Masters students, and project researchers, and other activities within the framework of the Strategic Plan of Laboratório de Engenharia de Processos, Ambiente, Biotecnologia e Energia (LEPABE), at Faculty of Engineering of Porto (FEUP).

Candidates must have previous skills and experience in: protein crystallization following a rational approach to the prediction of protein phase behaviour, implementation of conventional protein crystallization techniques in small scale reactors, micro and meso reactors, structural characterization techniques and morphology of crystals - X-ray diffraction, FTIR, laser granulometry, SEM - and development and characterization of multiphase reactors and small scale reactors, for crystallization and precipitation processes. In topics related to this position, candidates must demonstrate strong organizational proficiency and experience in supervising students and trainees.

Reference – PoluAtm (1 vacancy)
Scientific domains / subdomains – Medical and Health Sciences / Health Sciences

This position is aimed at developing R&D activities for evaluating the exposure assessment of the Portuguese population to the atmospheric pollutants such as ultrafine particles and polycyclic aromatic compounds, as well as the assessment of associated risks. The activities may also include supervision of PhD students, Masters students, and project researchers, and other activities within the framework of the Strategic Plan of Laboratório de Engenharia de Processos, Ambiente, Biotecnologia e Energia (LEPABE), at Faculty of Engineering of Porto (FEUP).

Candidates must have prior experience and skills in: monitoring of pollutants such as polycyclic aromatic compounds, ultrafine particles and particulate matter (PM10 and PM2.5) in ambient and indoor air; risk assessment methodologies; human exposure to these pollutants. They shall also demonstrate knowledge of the latest scientific and technical progress in this area. In topics related to this position, candidates must demonstrate strong organizational proficiency and experience in supervising students and trainees.

Referência – Micro Ambiental (1 vacancy)
Scientific domains / subdomains – Sciences of Engineering and Technology / Environmental Biotechnology

This position is aimed at developing R&D activities in the area of Environmental Microbiology, aiming at the development of methodologies for bioremediation of contaminated sites, and the sustainability of the application of these methods by assessing their impact on indigenous communities. The activities may also include supervision of PhD students, Masters students, and project researchers, and other activities within the framework of the Strategic Plan of Laboratório de Engenharia de Processos, Ambiente, Biotecnologia e Energia (LEPABE), at Faculty of Engineering of Porto (FEUP).

Candidates must have prior knowledge and experience in: i) bioremediation studies of xenobiotics. Within this topic, experience in analytical techniques (e.g. HPLC) and culture-dependent microbiological techniques

(e.g. isolation, identification and enumeration of bacterial strains, including description of new species) and culture-independent (e.g. genomic, transcriptomic, (RT-)qPCR) and analysis of results using bioinformatic tools. In addition, expertise in bioremediation techniques, namely bio-inoculation (including microencapsulation), bio-stimulation and intrinsic remediation will be enhanced; ii) Analysis of the impact of anthropogenic activities on bacterial communities. Within this topic, experience in dependent techniques (e.g. CLPP, NMP metabolic groups) and independent (e.g. metagenomic) culture techniques as well as multivariate analysis tools for meta-data integration will be valued.

2. In accordance with article 13 of the RJEC and according with the appointment, the jury is composed as follows:

President: Doctor Maria Arminda Costa Alves
Member: Doctor Adélio Miguel Magalhães Mendes
Member: Doctor Fernando Gomes Martins
Substitute member: Doctor Maria do Carmo da Silva Pereira
Substitute member: Doctor Filipe José Menezes Mergulhão

3. The work will be developed at the Department of Chemical Engineering of the Faculty of Engineering of the University of Porto (FEUP).

4.This position is open for carrying out activities in the general scientific area of Chemical Engineering, designated as area of preference.
The evaluation criteria are the following:

The Evaluation of the Scientific Career and Curriculum Vitae (ESCC) focuses on three parts described below and the final classification is obtained by: ESCC = 0.2 AQ + 0.4 SCC + 0.4 MCI.

1. Academic Qualifications (AQ)

Assessment of the area of study of the candidate: PhD in the areas identified in 1, AQ = 5 points; PhD in related areas, AQ = up to 3 points.

2. Scientific Career and Curriculum (SCC)

Assessment of the relevance, quality and current impact of scientific career and curriculum. This evaluation focuses on the parameters described below and the classification is obtained by: SCC = 0.6 SC + 0.4 RA.

2.1 Scientific Production (SC)

Assessment of the scientific production (SCV), over the last five years. The classification is obtained by: SC = 0.6 SCV + 0.4 SCQ.

Quantitative Evaluation (SCV): publications in ISI journals, in the area of preference, SCV = up to 5 points; publications in related areas, SCV = up to 3 points; publications in other areas, SCV = 0 points.

Qualitative Evaluation (SCQ): the candidate must provide copies of up to 5 articles considered to be most relevant, SCQ = up to 5 points.

2.2 Research, Extension, and Management Activities (RA)

Evaluation of applied, or based on practice, research activities, as well as activities of extension and management developed in the last five years. This parameter includes: (i) supervision/co-supervision of Master students, PhD students and Post-Doctoral researchers, (ii) participation in R&D projects, services, and technology transfer and (iii) participation in science management and knowledge dissemination activities, including the organization of conferences, symposia

and scientific cooperation activities. Activities in the area of preference, RA = up to 5 points; activities in related areas, RA = up to 3 points; activities in other areas, RA = 0 points.

3. Motivation and Capacity for Innovation (MCI)

Evaluation of the candidate's motivation and capacity for innovation. For this evaluation, the applicant must submit the documents described below and the classification is obtained by the following formula: MCI = 0.5 LM + 0.5 PR.

3.1 Letter of Motivation (LM)

Letter of motivation describing the relevance of the candidate's scientific career to this position and career personal goals: LM = up to 5 points.

3.2 R&D Project (PR)

Summary of R&D Project (maximum 2 pages A4) in the scientific area of preference: PR = up to 5 points.

5. The selection process includes a professional interview, which is exclusively intended for the clarification of aspects related to the results of their research, for candidates with an Evaluation of the Scientific and Curriculum Vitae (ESCC) exceeding 4 points. The PI will be classified on a scale of 0 to 5 values.

6. The final grade is the sum of the classifications obtained in the Evaluation of the Scientific and Curriculum Vitae (ESCC) and Professional Interview (PI) (0.9 ESCC + 0.1 PI). The position can only be filled by candidates whose final classification is equal or greater than 4 points.

7. Applications must be mandatorily formalized by email to recursoshumanos@fe.up.pt and aalves@fe.up.pt and should clearly state the reference the candidate is applying to **FEUP- Position 4 – Research Unit LEPABE- Reference-ArIntAmb** or **FEUP-Position 4 – Research Unit LEPABE – Reference-Biotecnologia** or **FEUP-Position 4 – Research Unit LEPABE – Reference-Emergentes** or **FEUP-Position 4 – Research Unit LEPABE – Reference-FISH** or **FEUP-Position 4 – Research Unit LEPABE – Reference-Hidrogénio** or **FEUP-Position 4 – Research Unit LEPABE – Reference-Mesoreatores** or **FEUP-Position 4 – Research Unit LEPABE – Reference-PoluAtm** or **FEUP-Position 4 – Research Unit LEPABE – Referenc-Micro Ambiental.**
The application must include: full name, number and date of identity card, or Citizen's Card, or civil identification number,tax identification number, date and place of birth, residence and contact address, including e-mail address and telephone contact.

Position 5 – Research Unit LSRE-LCM - Laboratório de Processos de Separação e Reação - Laboratório de Catálise e Materiais – 5 vacancies

1. Each candidate may apply for only one of the five open vacancies and must specifically identify the reference of the vacancy to which he / she is applying to. The opponents may be national, foreign and stateless candidates who hold a doctoral degree in Chemical Engineering, Chemical and Biological Engineering, Environment Engineering, Biotechnology or Chemestry, or related scientific areas and holders of a scientific and professional curriculum showing a profile appropriate to the activity to be developed.
General requirements for admission to competition are those defined in the previous paragraph. In order to determine the profiles appropriate to the activity to be developed, the following criteria are defined for each of the vacancies.

Reference - AdvAOPs (1 vacancy)
Scientific domains / subdomains – Sciences of Engineering and Technology / Environment Engineering

This position is aimed at developing R&D activities within the area of Sciences of Engineering and Technology / Environment Engineering and has as specific objectives the Intensification of Advanced Oxidation Processes (AOPs) using innovative photoreactors for the removal of inorganic ions, as well as for the elimination of contaminants of emerging concern. The activities may also include supervision of PhD students, master student, and project researchers, and other activities within the framework of the Strategic Plan of do Laboratório Associado LSRE-LCM, at Faculty of Engineering of Porto (FEUP).

Candidates must show competences and previous experience in: Advanced Oxidation Processes for the removal of inorganic ions (chromium and arsenic) and contaminants of emerging concern (antibiotics), namely photochemical or heterogeneous photocatalytic processes using TiO_2-P25; AOPs intensification using new types of photoreactors, such as micro-meso-structured reactors and helical-flow reactors.

Reference - OzonoPhoto (1 vacancy)
Scientific domains / subdomains – Sciences of Engineering and Technology / Environment Engineering

This position is aimed at developing R&D activities within the area of Sciences of Engineering and Technology / Environment Engineering and has as specific objectives the Photocatalytic ozonation for the abatement of micropollutants in water and wastewater. The activities may also include supervision of PhD students, master students, and project researchers, and other activities within the framework of the Strategic Plan of do Laboratório Associado LSRE-LCM, at Faculty of Engineering of Porto (FEUP).

Candidates must show competences and previous experience in: Design, synthesis and characterization of mixed phase catalysts, based on carbon with metal oxides; kinetic studies of catalytic, photocatalytic and ozonation reactions (independently or in tandem) involving organic micropollutants in wastewater.

Reference - ValorBiomass (1 vacancy)
Scientific domains / subdomains – Sciences of Engineering and Technology / Chemistry

This position is aimed at developing R&D activities within the area of Sciences of Engineering and Technology / Chemistry and has as specific objectives the Development of heterogeneous catalysts, in particular carbon supported catalysts, and their application to the conversion of biomass-derived raw-materials into high added-value products and biofuels. The activities may also include supervision of PhD students, master students, and project researchers, and other activities within the framework of the Strategic Plan of do Laboratório Associado LSRE-LCM, at Faculty of Engineering of Porto (FEUP).

Candidates must show competences and previous experience in: Synthesis and functionalization of carbon materials; synthesis of metallic nanoparticles and multi-functional catalysts for cascade reactions; characterization techniques for catalysts (namely XPS) and for carbon materials (namely TPD); catalyst testing procedures; analysis of reaction kinetic data; experience in hydrogenation and oxidation reactions.

Reference - NaturAroma (1 vacancy)
Scientific domains / subdomains – Sciences of Engineering and Technology / Chemical Engineering

This position is aimed at developing R&D activities within the area of Sciences of Engineering and Technology / Chemical Engineering and has as specific objectives the Valorization of bio-residues from portuguese aromatic plants: development of functional flavorings with preserved bioactivity and long-lasting flavor.The activities may also include supervision of PhD students, master students, and project researchers, and other activities within the framework of the Strategic Plan of do Laboratório Associado LSRE-LCM, at Faculty of Engineering of Porto (FEUP).

Candidates must show competences and previous experience in: Extraction and chemical analysis of flavorings and bioactive components; evaluation of toxicity and antioxidant activity of natural flavorings; Scientific sensory design; effect of matrix on the sensory properties of the final product (e.g. yogurts); microencapsulation of functional flavorings in order preserve bioactivity of flavorings and increase its long-lasting character on the final product.

Reference – ElectrocoagElectroxid (1 vacancy)
Scientific domains / subdomains – Sciences of Engineering and Technology / Chemical Engineering

This position is aimed at developing R&D activities within the area of Sciences of Engineering and Technology / Chemical Engineering and has as specific objectives the Application of electrocoagulation/electrooxidation, microfiltration, adsorption and membranes hybrid processes for the treatment of both drinking water and wastewater.The activities may also include supervision of PhD students, master students, and project researchers, and other activities within the framework of the Strategic Plan of do Laboratório Associado LSRE-LCM, at Faculty of Engineering of Porto (FEUP).

Candidates must show competences and previous experience in: the Process intensification applied to adsorption, reaction and permeation processes; electrochemical processes for the treatment of water; mathematical modeling of chemical processes.

2. In accordance with article 13 of the RJEC and according with the appointment, the jury is composed as follows:

President: Doctor Madalena Maria Gomes de Queiroz Dias,
Member: Doctor Alírio Egídio Rodrigues
Member: Doctor José Luís Cabral da Conceição Figueiredo
Substitute member: Doctor Manuel Fernando Ribeiro Pereira
Substitute member: Doctor José Miguel Loureiro

3. The work will be developed at the Department of Chemical Engineering of the Faculty of Engineering of the University of Porto (FEUP).

4. This position is open for carrying out activities in the general scientific area of Chemical Engineering, designated as area of preference.
The evaluation criteria are the following:

The Evaluation of the Scientific Career and Curriculum Vitae (ESCC) focuses on three parts described below and the final classification is obtained by: ESCC = 0.2 AQ + 0.4 SCC + 0.4 MCI.

1. Academic Qualifications (AQ)

Assessment of the area of study of the candidate: PhD in Chemical Engineering, Chemical and Biological Engineering ou Biotechnology, AQ = 5 points; PhD in related areas, AQ = up to 3 points.

2. Scientific Career and Curriculum (SCC)

Assessment of the relevance, quality and current impact of scientific career and curriculum. This evaluation focuses on the parameters described below and the classification is obtained by: SCC = 0.6 SC + 0.4 RA.

2.1 Scientific Production (SC)

Assessment of the scientific production (SCV), over the last five years. The classification is obtained by: SC = 0.6 SCV + 0.4 SCQ.

Quantitative Evaluation (SCV): publications in ISI journals, in the area of preference, SCV = up to 5 points; publications in related areas, SCV = up to 3 points; publications in other areas, SCV = 0 points.

Qualitative Evaluation (SCQ): the candidate must provide copies of up to 5 articles considered to be most relevant, SCQ = up to 5 points.

2.2 Research, Extension, and Management Activities (RA)

Evaluation of applied, or based on practice, research activities, as well as activities of extension and management developed in the last five years. This parameter includes: (i) supervision/co-supervision of Master students, PhD students and Post-Doctoral researchers, (ii) participation in R&D projects, services, and technology transfer and (iii) participation in science management and knowledge dissemination activities, including the organization of conferences, symposia and scientific cooperation activities. Activities in the area of preference, RA = up to 5 points; activities in related areas, RA = up to 3 points; activities in other areas, RA = 0 points.

3. Motivation and Capacity for Innovation (MCI)

Evaluation of the candidate's motivation and capacity for innovation. For this evaluation, the applicant must submit the documents described below and the classification is obtained by the following formula: MCI = 0.5 LM + 0.5 PR.

3.1 Letter of Motivation (LM)

Letter of motivation describing the relevance of the candidate's scientific career to this position and career personal goals: LM = up to 5 points.

3.2 R&D Project (PR)

Summary of R&D Project (maximum 2 pages A4) in the scientific area of preference: PR = up to 5 points.

5. The selection process includes a professional interview, which is exclusively intended for the clarification of aspects related to the results of their research, for candidates with an Evaluation of the Scientific and Curriculum Vitae (ESCC) exceeding 4 points. The PI will be classified on a scale of 0 to 5 values.

6. The final grade is the sum of the classifications obtained in the Evaluation of the Scientific and Curriculum Vitae (ESCC) and Professional Interview (PI) (0.9 ESCC + 0.1 PI). The position can only be filled by candidates whose final classification is equal or greater than 4 points.

7. Applications must be mandatorily formalized by email to recursoshumanos@fe.up.pt and dias@fe.up.pt and should mention the position/reference the candidate applies to: **FEUP- Position 5 - Research Unit LSRE-LCM – Reference- AdvAOPs** or **FEUP-Position 5 - Research Unit LSRE-LCM – Reference-OzonoPhoto** or **FEUP-Position 5 - Reseach Unit LSRE-LCM – Reference-ValorBiomass** or **FEUP-Position 5 - Research Unit LSRE-LCM – Reference-NaturAroma** or **FEUP-Position 5 - Research Unit LSRE-LCM – Reference-ElectrocoagElectroxid.**

The application must include: full name, number and date of identity card, or Citizen's Card, or civil identification number, tax identification number, date and place of birth, residence and contact address, including e-mail address and telephone contact.

Position 6 - Research Unit SYSTEC – RESEARCH CENTER FOR SYSTEMS AND TECHNOLOGIES – 2 vacancies

1. The opponents of the contest may be national, foreign and stateless candidates who hold a doctoral degree in Control, Optimization, Estimation, and Computation, either as areas of Applied Mathematics or Electrical and Computers Engineering, or related scientific areas and holders of a scientific and professional curriculum showing a profile appropriate to the activity to be developed.
General requirements for admission to competition are those defined in the previous paragraph. In order to determine the profiles appropriate to the activity to be developed, the following criteria are defined for each of the vacancies.

Reference – FEUP-SYSTEC 1 (1 vacancy)
Scientific domains / subdomains – Exact and Natural Sciences / Other Engineering and Technology Sciences.

This position essentially encompasses R&D activities within the area of Systems, Control, Optimization, and Estimation, as well as their Applications, targeting either Theoretical Developments or Applications in the fields of Cyber-physical Systems Engineering for Robotic Vehicle, and Production Systems, and other applications in the scope of the strategic plan of the research unit SYSTEC of the Faculty of Engineering of the University of Porto (FEUP).

Candidates must have competences and previous experience in relevant Mathematical and/or Computational methods pertinent to Optimization, and Control, as well as sensitivity to applications of these bodies of knowledge in Engineering.

Reference – FEUP-SYSTEC 2 (1 vacancy)
Scientific domains / subdomains – Exact and Natural Sciences / Other Engineering and Technology Sciences.

This position essentially encompasses R&D activities within the area of Control, Optimization, and Computation, as well as their Applications, targeting either Theoretical Developments or Applications in the fields of Cyber-physical Systems Engineering for Robotic Vehicle, Production, either involving or not large amounts of data, in the scope of the strategic plan of the research unit SYSTEC of the Faculty of Engineering of the University of Porto (FEUP).

Candidates must have competences and previous experience in relevant Mathematical and/or Computational methods pertinent to Optimization, Control, and, possibly, associated relevant processing methods for large amounts of data, as well as sensitivity to applications of these bodies of knowledge in Engineering.

2. In accordance with article 13 of the RJEC and the associated appointment order, the contest committee is composed as follows:

President: Prof. Fernando Manuel Ferreira Lobo Pereira
Member: Prof. Gil Manuel Magalhães de Andrade Gonçalves
Member: Prof. João Tasso de Figueiredo Borges de Sousa
Substitute member: Prof. António Pedro Rodrigues Aguiar
Substitute member: Prof. Adriano da Silva Carvalho

3. The work will be developed at the Department of Electrical and Computers Engineering of the Faculty of Engineering of the University of Porto (FEUP).

4. This position is open for carrying out activities in the general scientific areas of Optimization, Control, Estimation and Computation, designated below as area of preference.
The grading method is defined as follows:
The Evaaluation of the Scientific Career and Curriculum Vitae (ESCC) focuses on three parts described below and the final grading is obtained by: ESCC = 0.2 AQ + 0.5 SCC + 0.3 MCI.

1. Academic Qualifications (AQ)

Assessment of the area of study of the candidate: PhD in Chemical Engineering, Chemical and Biological Engineering ou Biotechnology, AQ = 5 points; PhD in related areas, AQ = up to 3 points.

2. Scientific and Curricular Path (SCC)

Assessment of the relevance, quality and current impact of the scientific and curricular path. This evaluation focuses on the parameters described below and the grading is obtained by: SCC = 0.8 SC + 0.2 RA.

2.1 Scientific Production (SC)

Assessment of the scientific production (SCV), over the last five years. The grading is obtained by: SC = 0.6 SCV + 0.4 SCQ.
Quantitative Evaluation (SCV): publications in ISI and scopus journals, in the area of of interest, SCV = up to 5 points; publications in related areas, SCV = up to 3 points; publications in other areas, SCV = 0 points.
Qualitative Evaluation (SCQ): the candidate must provide copies of up to 5 articles considered to be most relevant, SCQ = up to 5 points.
2.2 Research, Extension, and Management Activities (RA)
Evaluation of applied, or based on practice, research activities, as well as activities of extension and management developed in the last five years. This parameter includes: (i) supervision/co-supervision of Master students, PhD students and Post-Doctoral researchers, (ii) participation in R&D projects, services, and technology transfer and (iii) participation in science management and knowledge dissemination activities, including the organization of conferences, symposia and scientific cooperation activities. Activities in the area of preference, RA = up to 5 points; activities in related areas, RA = up to 3 points; activities in other areas, RA = 0 points.

3. Motivation and Capacity for Innovation (MCI)

Evaluation of the candidate's motivation and capacity for innovation. For this evaluation, the applicant must submit the documents described below and the grading is obtained by the following formula: MCI = 0.3 LM + 0.7 PR.

3.1 Letter of Motivation (LM)
Letter of motivation describing the relevance of the candidate's scientific career to this position and career personal goals: LM = up to 5 points.

3.2 R&D Project (PR)
Summary of R&D Project (maximum 2 pages A4) in the scientific area of preference: PR = up to 5 points.

5. The selection process includes a professional interview, which is exclusively intended for the clarification of aspects related to the results of their research, for candidates with an Evaluation of the Scientific and Curriculum Vitae (ESCC) exceeding 4 points. The PI will be classified on a scale of 0 to 5 values.

6. The final grade is the sum of the classifications obtained in the Evaluation of the Scientific and Curriculum Vitae (ESCC) and Professional Interview (PI) (0.9 ESCC + 0.1 PI). The position can only be filled by candidates whose final classification is equal or greater than 4 points.

7. Applications must be mandatorily formalized by email to recursoshumanos@fe.up.pt and flp@fe.up.pt and should clearly state the position/reference: **FEUP-Position 6 – Research Unit SYSTEC – Reference-FEUP-SYSTEC 1** or **FEUP-Position 6 – Research Unit SYSTEC – Reference-FEUP-SYSTEC 2.**
The application must include: full name, number and date of identity card, or Citizen's Card, or civil identification number, tax identification number, date and place of birth, residence and contact address, including e-mail address and telephone contact.