UNIVERSIDADE DE ÉVORA

INSTITUTE OF EARTH SCIENCES

Research Scholarship Master – 1 vacancy

13th of March of 2023

A call for tenders is open for 1 Scholarship Master (M.Sc.) within the scope of the project "H2GeoStore – Hydrogen geological storage and interactions in porous media of subsurface geology", with reference 2022.10650.PTDC, financed by national funds through Portuguese Foundation for Science and Technology (FCT), under the following conditions:

Scientific area: Earth Sciences

Admission requirements:

1. Mandatory requirements:

The candidate must hold a Master's degree (M.Sc.) in Earth Sciences or in related scientific areas, including Geological Engineering, Geological and Mining Engineering, Petroleum Engineering, Geology or Geophysics.

2. Preferential requirements:

Previous research experience in numerical modelling of porous media, and basic knowledge in reservoir engineering, geochemistry or geomechanics (computational and/or reservoir) are preferential factors for the selection of the candidate.

As set forth FCT Research Scholarship Regulation No. 950/2019 of December 16, 2019, article 3 and 6, candidates for "**BI**" (Research Grants) must comply as a rule condition for the award of the scholarship, the effective inclusion in study cycles leading to the attribution of academic degrees or in courses not leading to an academic degree. Courses that do not confer an academic degree correspond to the courses provided for in subparagraph e) of paragraph 3 of article 4 of Decree-Law No. 74/2006 of 24 March and must be developed in a higher education institution in association with at least one R&D unit, including a course plan in one or several research areas of the unit.

Work plan: The selected candidate will be part of the project team collaborating on research and development activities based on the following work plan:

1. Generation of a database of geological and engineering properties for hydrogen storage in porous media;
2. Construction of realistic conceptual geological models;
3. Definition of cyclic storage phases for hydrogen loading and unloading and different operational scenarios;

4. Numerical modelling and characterization of the reservoir dynamic behaviours, through multiphase-multicomponent flow processes, integrating the storage cyclic phases and the defined operational scenarios;
5. Evaluation of the storage efficiency through sensitivity analyses of the scenarios with respect to the recoverable amount of hydrogen throughout the operational phases;
6. Evaluation of the impacts of the lithological integrity of the reservoir sealing rocks on long-term hydrogen storage, through geochemical and geomechanical modelling and characterisation studies.

Applicable legislation and regulations: The granting of the Research Scholarship will be carried out upon the signing of a contract between the University of Évora and the scholarship holder, as set in the template, pursuant to the Research Scholarship Statute (Law No. 40/2004 of August 18 and Decree-Law No. 123/2019 of August 28) and in accordance with the legislation and Regulation of Research Grants of the Foundation for Science and Technology, IP in force, regulation nº950/2019 of December 16, 2019: https://files.dre.pt/2s/2019/12/241000000/0009100105.pdf and other applicable rules.

Place of work: The work will be developed at the Institute of Earth Sciences/ Geoscience Department, at the Science and Technology School of the University of Évora, under the scientific guidance of the Doctor Pedro Pereira and Prof. Doctor Júlio Carneiro.

Duration of the scholarship(s): The scholarship will have a duration of 16 months, starting on April of 2023, and it may be renewed until the end of the project's budget allocation.

Amount of monthly maintenance allowance: The amount of the scholarship corresponds to €1 199,64, according to the table of scholarships awarded directly by FCT, I.P. in Portugal (https://www.fct.pt/wp-content/uploads/2023/02/Tabela-de-Valores-SMM_2023.pdf), payments being made monthly, by check or bank transfer.

Selection methods: The selection methods to be used will be the following: curricular assessment (CA), based on the candidate's academic merit (AM), previous research experience (PRE) and background knowledge (BK) indicated in the admission requirements, and interview (I), obtaining the final classification (FC) as follows: FC=(0.6*CA)+(0.4*I), with CA=(0.5*AM)+(0.3*PRE)+(0.2*BK), with the different components quantified between 0 and 100%. The interview (I) will only be held if the jury so determines after the curricular assessment (CA) and only for candidates who have achieved a mark of at least 60% in this component.

The candidate to be admitted must achieve a final mark, including the interview, of at least 60%.

Composition of the Selection Jury:

The Selection Jury of the contest consists of the following members:

President: Doctor Pedro Pereira, Researcher of the Institute of Earth Sciences, University of Évora
1st Effective Member: Professor Júlio Carneiro, Assistant Professor, Department of Geosciences, University of Évora

2nd Effective Member: Professor Paulo Canhoto, Assistant Professor, Department of Mechatronic Engineering, University of Évora
1st Alternate Member: Professor Jorge Pedro, Assistant Professor of the Department of Geosciences, University of Évora
2nd Alternate Member: Doctor Maria Helena Caeiro, Researcher of the Earth Sciences Institute, University of Évora

Advertising/notification of results: The final results of the evaluation will be publicized, through an ordered list by the final grade obtained and posted in a visible and public place at the Institute of Earth Sciences/ Geoscience Department of the University of Évora, being the candidate approved notified through email.

To ensure the right of prior hearing of interested parties, the Final Classification project will be announced by any written means to all interested parties.

After communicating the provisional list of the results of the evaluation, candidates have a period of 10 working days to express their opinion in a preliminary hearing of interested parties.

Application deadline and submission of applications: The tender is open from March 15th to March 31st of 2023 and the results of the selection will be published by April 5th of 2023.

Applications must be formalized, obligatorily, by sending an application letter with the following documents: Curriculum Vitae with the description of the curricular units and grades obtained, certificate of qualifications, recommendation letters and other supporting documents considered relevant of the academic and/or professional career.

For the purposes of application, the evidence may be replaced by a declaration of honour signed by the candidate, but the failure to demonstrate that evidence, in the contracting phase, possession of the required degree on the deadline for application or the non-presentation of proof of enrolment in the study cycle or non-degree course, for scholarships with this component, imply the cancellation of the candidate's application.

Academic degrees obtained in foreign countries require registration by a Portuguese Institution in accordance with Decree-Law no. 66/2018, of August 16 and Ordinance No. 33/2019, of January 25th.

The presentation of the certificate is mandatory for the signing of the contract. More information can be obtained at: https://www.dges.gov.pt/pt/pagina/recognition?plid=374

Applications must be sent by email to:

Doctor Pedro Pereira
Institute of Earth Sciences/ Geoscience Department of the University of Évora
email: pmpereira@uevora.pt