



**Earth Science Institute, University of Évora**

**Call for the attribution of 1 Research Scholarship for a Master**

**April 20, 2022**

A call for tenders is open for 1 Research Scholarship for a Master within the scope of the project “GeoMatRe - Remediation of water bodies affected by mine drainage” (PV20-00006) financed by “Fundação La Caixa” through the Programme “Promove Call 2020-2021”, under the following conditions:

**Scientific Area:** Environmental Geochemistry

**Admission requirements:**

Degree in Earth Sciences, Master's degree in Geology/Geochemistry, with extensive knowledge in Analytical Geochemistry. Analytical experience in the area of sedimentary geochemistry, in particular in the geochemical study of major and potentially toxic elements in various geological materials. It will be considered preferential factors, the knowledge of processes of analytical treatment of sediment samples, colloidal materials and acid drainage waters, particle size analysis of sediments by X-ray sedimentography, analysis by inductively coupled plasma with optical emission spectrometry (ICP-OES), elemental analysis, digestion processes of sediments and waters in high pressure microwave units and sediment fusion processes.

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:**

(1) acid digestion techniques of acid drainage water samples, freshwater sediments and precipitates in high pressure microwave digestion unit; (2) analysis of sulphates, phosphates and nitrates in molecular absorption spectrometer; (3) preparation of various types of samples for geochemical analysis; (4) chemical analysis of major, minor and trace elements by inductively coupled plasma with optical emission spectrometry (ICP-OES); (5) geochemical analysis of potentially toxic elements in extractable forms by ICP-OES; (6) classification of materials with

respect to their degree of contamination (7) granulometric analysis of sediments by sequential sieving and X-ray sedimentography; (8) chemical analysis of different types of geomaterials to be used in laboratory experiments in order to evaluate their use in acid drainage water remediation techniques; (9) Evaluation of different reactive materials in the adsorption process of heavy metals through kinetic, equilibrium and fixed-bed column tests; (10) evaluation of the most appropriate methodology for the desorption of elements with economic value, from the geomaterials analysed, aiming at their economic profitability;

**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 [https://www.fct.pt/apoios/Minuta\\_Contrato\\_Bolsa.docx](https://www.fct.pt/apoios/Minuta_Contrato_Bolsa.docx), 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://www.fct.pt/apoios/bolsas/regulamento.phtml.pt> and other applicable rules.

**Place of work:** The work will be developed at the AmbiTerra Laboratory of the University of Évora, under the scientific guidance of the Professor Rita Maria Ferreira da Fonseca

**Duration of the scholarship:** The scholarship will have a duration of 12 months, starting on May 2022. The scholarship contract may be renewed up to a maximum of 24 months.

**Amount of monthly maintenance allowance:** The amount of the scholarship corresponds to €1144,64, according to the table of scholarships awarded directly by FCT, I.P. in Portugal (<http://fct.pt/apoios/bolsas/valores>), payments being made monthly, by check or bank transfer.

**Selection methods:** The selection methods to be used will be the following:

**WF1:** Curriculum evaluation (0 to 4 points), corresponding to 20% of the final classification,

**WF2:** Knowledge and analytical experience in the sedimentary geochemistry scientific area, namely in techniques of preparation of several types of geological samples contaminated by metals (0 to 8 points), corresponding to 40% of the final classification,

**WF3:** Knowledge and experience with several analytical equipments, namely, plasma induction spectrometer (ICP-OES), molecular absorption spectrometer, elemental analyser, X-ray sedimentograph, and microwave digestion unit (0 to 8 points), corresponding to 40% of the final classification.

The candidate who, classified according to the weighting factors from 1 to 3, obtains the highest numerical value for the sum of all the factors, will be chosen.

**Classification =  $\sum WFi$  (1...3)**

### **Composition of the Selection Jury:**

Presidente: Prof. Rita Maria Ferreira da Fonseca

1º Effective member – Prof. Maria Teresa Durães Albuquerque

2º Effective member – Prof. Doutor António Alexandre Ventura Araújo

1º Alternate Member – Prof. Pedro Miguel Madureira Pimenta Nogueira

2º Alternate Member – Prof. Rui Manuel Soares Dias

**Advertising/notification of results:** The final results of the evaluation will be publicized, through an ordered list by final grade obtained posted in a visible and public place next to the Secretariat of the Institute of Earth Sciences of the University of Évora, located in the Luís António Verney College, Romão Ramalho Street, 59, 7002-554 Évora, being the approved candidate 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 April 20 to May 6, 2022, and the results of the selection will be published by May 13, 2022.

Applications must be formalized, obligatorily, by sending an application letter with the following documents: Curriculum Vitae, certificate of qualifications, reference or recommendation letters and other supporting documents considered relevant.

For the purposes of application, the evidence may be replaced by a declaration of honor 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 enrollment 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:

Prof. Rita Maria Ferreira da Fonseca

Earth Science Institute, University of Évora

e-mail: [rfonseca@uevora.pt](mailto:rfonseca@uevora.pt)

