

Research Studentships (for students of a course that does not award an academic degree)

Applications are open for one Research Studentship **for students of a course that does not award an academic degree**, within the framework of the R&D project SSHM4Dams - Seismic and Structural Health Monitoring of Large Concrete Dams, within the framework of the R&D Institution IST-ID, with reference PTDC/ECI-EGC/5332/2020, financed by national funds through FCT/MCTES (PIDDAC), under the following conditions:

Scientific Area: Structural Mechanics and Structures

Admission Requirements:

- a) to hold a master degree in Civil Engineering or Mechanical Engineering or Aerospace Engineering;*
- b) be enrolled at a course that does not award an academic degree and it is integrated in the educational project of a higher education institution, performed in association or cooperation with one or several R&D units;*
- c) not to exceed with this contract, including the possible renovations, an accumulated period of two years in this type of studentship, continuously or with interruptions.*

Workplan: The workplan consists of the development and subsequent analysis of numerical models of Dam-Reservoir-Foundation (DRF) systems, of concrete dams, using automatic calculation programs (software) of the Department of Concrete Dams of LNEC (Proposing Institution of the SSHM4Dams project), namely the programs DamDySSA (finite element program for DRF systems), DamModalId (automatic modal identification) and DamSVibID (automatic detection of seismic vibrations). The data from the DRF systems to be modelled will be supplied by the dam stakeholders. In addition to the development and calibration/validation of the BFA numerical models, parametric analysis is expected to be carried out, studying the influence of the water level, thermal variations and deterioration effects (concrete damage in tension and compression, concrete swelling, etc.) on the response in ambient vibration and seismic events (including non-linear behaviour).

Legislation and Regulations: Statute of Scientific Research Fellow, approved by Law nr. 40/2004, of August 18, as worded by Decree-Law nr. 123/2019, of August 28; FCT Regulation for Research Studentships and Fellowships, available on <https://www.fct.pt/apoios/bolsas/docs/RegulamentoBolsasFCT2019.pdf> and <https://dre.pt/application/file/a/127230968> .

Workplace: The work will be developed at CERIS (Civil Engineering Research and Innovation for Sustainability), hosted in IST, and at the Department of Concrete Dams (DBB) of LNEC, under the scientific supervision of Jorge Miguel Proença.

Duration: The research fellowship(s) will have the duration of 6 months. It's expected to begin in march of 2022, and may be eventually renewed up to the maximum of 12 months.

Monthly maintenance allowance: According to the values for Research Fellowships awarded by FCT in Portugal (<http://www.fct.pt/apoios/bolsas/valores>), the amount of the monthly maintenance allowance is €1.104,64, being the payment method an option of the Fellow by Wire Transfer/Check.

Selection methods: The selection methods will be the following: Curriculum evaluation and individual interview, with the respective weight of 70% / 30%.

Composition of the selection Jury: Jorge Miguel Proença, Luís Guerreiro and António Sousa Gago.

Announcement/ notification of the results: The final evaluation results will be communicated to all applicants by email.

Deadlines and procedures of complaint and appeal. A complaint may be lodged from the final decision within 15 working days, or an appeal to the Executive Board of IST-ID within 30 working days, both counted from the respective notification

Application deadline and formalization: The call is open from 3 until 16 February 2022.

It is mandatory to formalize applications with the submission of the following documents: i) B1 Form – Fellowship application (<https://ist-id.pt/concursos/bolsas/>); ii) *Curriculum Vitae*; iii) academic degree certificate, where applicable; iv) motivation letter; vi) declaration on honour that the applicant does not exceed with this contract an accumulated period of two years in this type of studentship, continuously or with interruptions.

Applications must be submitted to the email: jorge.m.proenca@tecnico.ulisboa.pt