

(BL59/2023-IST-ID)

Research Studentships (for PhD student)

Applications are open for one (1) Research Studentship for a PhD student, within the framework of the project HELIPOINT (2022.08947.PTDC), financed by national funds through FCT/MCTES (PIDDAC):

Scientific Area: Geotechnics / Structures

Admission Requirements: *To be enrolled at a PhD (at the date when the contract is celebrated).*

Workplan: HELIPOINT is a joint academic-industry research project between CERIS and the company, Hélica which has the aim of contributing to the wider fundamental understanding of this type of helical steel piles (HSP) and the development of a rational basis for the design of HSP based on Limit State and Sustainability principles, while also promoting the technique through the development of design guidance and demonstrating this through case studies supported by Life Cycle Analysis comparisons with other techniques.

Although the focus will be on the first two activities below, the PhD candidate will be involved in all the associated activities including:

- 1) Field testing focusing on identifying the operational resistance from soil characteristics measured both in situ and in the laboratory, and considering the effect of the installation process;
- 2) Analysis using advanced numerical methods and the development of simple models of HSP load resistance and load-transfer response which can be integrated into an online design tool complying with Eurocodes and validated using the results of the field testing;
- 3) Life Cycle Analysis (LCA) of selected case studies to demonstrate the impact of HSP applications in comparison with alternative foundation solutions, integration of simple LCA into an online design tool;
- 4) Dissemination through an international symposium on HSP and other activities that will be hosted by CERIS at Instituto Superior Técnico, publishing, and the creation of a website to host the design software.

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 of Instituto Superior Técnico, under the scientific supervision of Professors Peter Bourne-Webb and Teresa Maria Bodas Freitas.

Duration: The research fellowship(s) will have an initial duration of twelve (12) months and is expected to begin in April 2023. The fellowship may be eventually renewed up to the maximum of thirty-three (33) 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 €1144,64, 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 (this will be face-to-face where possible or online)*, with the respective weightings of 60% and 40%.

Composition of the selection Jury: Prof. Luís Manuel Calado de Oliveira Martins, Prof. Peter John Bourne-Webb, Prof^a Teresa Maria Bodas Freitas

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 March 13 until March 24, 2023.

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) proof of enrolment at an academic degree course (PhD); v) motivation letter;

Applications must be submitted to the email: bolsas@drh.tecnico.ulisboa.pt; peter.bourne-webb@tecnico.ulisboa.pt