



Institute of Earth Sciences - ICT

Master scholarship, 1 vacancy

February 7, 2022

A call for tenders is open for one master Scholarship within the scope of the project “Mobilizar a indústria aeronáutica nacional para a disrupção no transporte aéreo urbano do futuro (FLY.PT)”, com referência POCI-01-0247-FEDER-046079 e LISBOA-01-0247-FEDER-046079 cofinanciado pelo “FEDER” e pelo Portugal 2020 através do Programa Operacional Competitividade e Internacionalização e do Programa Operacional Regional de Lisboa, under the following conditions:

Scientific area: Physical engineering or similar

A call for tender is open for the award of a Doctoral Scholarship, to deal with work on the development of machines with superconductors operating in a cryogenic environment. Applications of these technologies in aircraft and satellites will be studied. The works will focus more specifically on the development of superconducting electrical machines, with a strong numerical simulation component expected in ANSYS. Other space topics will also be explored, such as the topic of Space debris.

Admission requirements:

1) Master's in Astrophysics and Instrumentation for Space; 2) advanced knowledge in aerospace; 3) system simulation experience in ANSYS; 4) Experience in thermal simulation for machines; 5) knowledge of instrumentation for space; 6) Knowledge of superconductivity; 7) Knowledge of electrical machines and magnetic levitation devices.

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) Review of the state of the art.
- 2) Monitoring of works already carried out or in progress in the project.

- 3) Survey of the system requirements, referring to the superconducting electrical machine.
- 4) Mechanical and thermal simulation of the machine.
- 5) Build the system and design the test plan.
- 6) Carrying out tests and respective reports and scientific communications.

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, 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 ICT, Institute of Earth Sciences of the University of Évora, under the scientific guidance of Dr. Rui Melício, Dr. Paulo Gordo and Dr. Nuno Peixinho. The candidate will have to travel frequently to the CENTRA Laboratories, Faculty of Sciences, University of Lisbon; CITEUC, Center for Earth and Space Research, Universidade de Coimbra.

Duration of the scholarship: The scholarship will have a duration of six months, starting on March of 2022. The grant contract can be renewed until the end of the budget allocation of the funding project (Mobilising the national aeronautical industry for disruption in urban air transport of the future (FLY.PT)", with reference POCI-01-0247-FEDER-046079 and LISBOA-01-0247-FEDER-046079 co-funded by "FEDER" and Portugal 2020 through the Competitiveness and Internationalisation Operational Programme and the Lisbon Regional Operational Programme).

Amount of monthly maintenance allowance: The amount of the scholarship corresponds to €1 144,64, 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 as follows: The selection methods to be used will be made on the basis of the following parameters: Curriculum evaluation (100%)
The selection interview will be held in case of a tie between the first 2 candidates, with the respective value of Curriculum evaluation (85%) and the selection interview (15%).

Composition of the Selection Jury:

President: Prof. Doctor Rui Melício (ICT, University of Évora)

1st Member – Prof. Doctor Paulo Branco (IDMEC, Instituto Superior Técnico, University of Lisbon)

2nd Member – Prof. Doctor Carlos Cardeira (IDMEC, Instituto Superior Técnico, University of Lisbon)

1st Alternate – Prof. Doctor Paulo Gordo (CENTRA, Center for Astrophysics and Gravitation, University of Lisbon)

2nd Alternate – Prof. Doctor Paulo Oliveira (IDMEC, Instituto Superior Técnico, University of Lisbon)

Advertising/notification of results: The final results of the evaluation will be published, through a list sorted by final mark obtained posted in a visible and public place (ICT, Colégio Luis António Verney, Rua Romão Ramalho, nº59, Évora 7000-671), and the approved candidate will be notified by 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 08 to 22 February of 2022 and the results of the selection will be published by 25 February of 2022.

Applications must be formalised by sending a letter of application accompanied by the following documents: Curriculum Vitae, qualifications certificate and other supporting documents considered relevant, via email to ruimelicio@uevora.pt with the subject "candidatura à bolsa de doutoramento projeto Fly.pt".

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: Doutor Rui Melício

Instituto de Ciência da Terra da Universidade de Évora
e-mail: ruimelicio@uevora.pt