

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

Applications are open for 1 Research Studentship, within the framework of project/R&D institution (1801P.00984.1.02.01) LARSYS/ISR (UIDB/50009/2020) - DSOR LAB/ISR) and 1801P.01158.1.02) LA/P/0083/2020 - ISR - DSOR LAB/ISR, financed by national funds through FCT/MCTES (PIDDAC), under the following conditions:

**Scientific Area:** Automation, Decision and Control

**Admission Requirements:**

a) to hold a bachelor or master degree and 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;

b) 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:** Mission control of multiple autonomous ocean vehicles. This topic constitutes a fundamental area of research and development, aiming to ensure the safety, efficiency and success of operations. These vehicles, equipped with advanced decision and navigation systems, are designed to perform a variety of tasks, from mapping the seabed to environmental monitoring and exploring marine resources. Mission control involves the precise coordination of several aspects, such as trajectory planning, obstacle detection, power optimization and data communication, all in a challenging and often unpredictable environment like the ocean. In this work, we intend to study how different artificial intelligence and machine learning techniques can be used to increase the autonomy of these vehicles, namely the ability to make decisions in real time and adapt to changes in the marine environment, with the aim of achieving greater autonomy, precision and reliability on these platforms.

**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 ISR – Institute for Systems and Robotics, under the scientific supervision of Professor Carlos Silvestre.

**Duration:** The research fellowship will have the duration of 12 months. It's expected to begin in June 2024, and cannot be renewed.

**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 1259,64€ if has master degree or 990,87€ if has bachelor degree, being the payment method by Wire Transfer.

**Selection methods:** The selection methods will be the following: *Curriculum evaluation, individual interview, knowledge tests, others*, with the respective weight of 100%.

**Composition of the selection Jury:** Prof. Carlos Silvestre, Prof.<sup>a</sup> Rita Cunha, Dr. David Cabecinhas

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

**Application deadline and formalization:** The call is open from May 8 until May 21, 2024.

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



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applicable; iv) proof of enrollment at a course that does not award an academic degree; v) 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: [cjs@isr.tecnico.ulisboa.pt](mailto:cjs@isr.tecnico.ulisboa.pt)



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