

**Research Studentships (PhD students)**

Applications are open for 1 Research Studentship, within the framework of 1801P.01534.1.01 SUPPORT-HH: Decision support tools for Home Hospitalization management, LISBOA2030-FEDER-00853500, financed by national funds through FCT/MCTES (PIDDAC) and co-financed by the European Regional Development Fund (FEDER) through COMPETE – “Programa Operacional Fatores de Competitividade (POFC)” with the financial support of FCT/MCTES through national funds and, when applicable, co-financed by the FEDER, under the Partnership Agreement PT2020, under the following conditions:

**Scientific Area:** Systems Engineering (EMS-SIS)

**Admission Requirements:**

- a) hold a master's degree in Industrial Engineering and Management or related area;*
- b) be enrolled at the date of signing the scholarship contract in a non-degree-granting course integrated into the educational project of a higher education institution, developed in association or cooperation with one or more R&D units, or be enrolled at the date of signing the scholarship contract in a doctoral program;*
- c) proficiency in Python and/or C++.*

**Workplan:** The tasks to be carried out focus on the daily operational activities of home hospitalization units, with the goal of developing optimization models and algorithms to support the planning of routes, schedules, and team assignments. In the first phase, a generic multi-objective deterministic model will be designed to integrate patient needs and staff shifts, balancing objectives such as travel time, workload distribution, and the continuity and quality of care. Subsequently, the model will be expanded to account for uncertainty, including traffic conditions, emergency visits, and staff absences. Given the computational complexity of routing problems, new exact and heuristic algorithms will also be developed, based on decomposition methods and metaheuristics, ensuring high-quality approximate solutions within a useful timeframe.

**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 Centre for Management Studies of Instituto Superior Técnico, under the scientific supervision of Professor Daniel Rebelo dos Santos.

**Duration:** The research fellowship will have the duration of 12 months. It is expected to begin in January 2026, and may be eventually renewed until the end of the project. When the academic degree or diploma is awarded during the term of the scholarship contract, it may be concluded under the established contractual terms.

**Monthly maintenance allowance:** According to the values for Research Fellowships awarded by FCT in Portugal (<https://www.fct.pt/fct-atualizou-o-valor-das-bolsas-para-2025/>), the amount of the monthly maintenance allowance is € 1 309.64, being the payment method an option of the Fellow by Wire Transfer/Check.

**Selection methods:** The selection methods will be the following: 1) Curriculum evaluation, considering experience in the area of Industrial Engineering and Management, accompanied by individual interview in case the jury considers it necessary, and 2) motivation letter, with the respective weight of 90% and 10%.

**Composition of the selection Jury:** Tânia Rodrigues Pereira Ramos, Ana Paula Ferreira Dias Barbosa Póvoa, Daniel Rebelo dos Santos.



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**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 October 28 until November 10, 2025.

It is mandatory to formalize applications with the submission of the following documents: i) B1 Form – Fellowship application (<https://ist-id.pt/recursos-humanos/bolseiros/#documentos-relacionados>); ii) *Curriculum Vitae*; iii) academic degree certificate, where applicable; iv) proof of enrollment at an academic degree course of PhD; v) motivation letter;

Applications must be submitted to the email: [cegist@tecnico.ulisboa.pt](mailto:cegist@tecnico.ulisboa.pt)



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