

Scientific Initiation Studentships

Applications are open for 1 Scientific Initiation Studentships, within the framework of project nexIK: Exploring the Human-Water-Energy Nexus in Industrial Kitchens, EXPL/CCI-COM/1234/2021, financed by national funds through FCT/MCTES (PIDDAC), under the following conditions:

Scientific Area: Social Sciences and Humanities, Exact Sciences and Engineering

Admission Requirements:

- a) *To be enrolled at a professional higher technical course, at a bachelor degree, at an integrated master or master degree, or to have a bachelor 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 one year in this type of studentship, continuously or with interruptions;*
- c) *not to have held any other fellowship directly or indirectly funded by FCT.*

The candidate should also:

- a) Be fluent in Portuguese
- b) Have good English written and oral skills

Workplan: Industrial kitchens (IKs) use between 5 and 7 times more energy per square meter than other commercial building spaces like office buildings and retail stores. Nevertheless, despite the size and ubiquity of this industry, its role in the global quest for sustainable energy systems is still widely under-explored.

The nexIK project (<https://nexik.tecnico.ulisboa.pt/>) will address this important topic, proposing a new methodology to quantify the interactions between Water, Energy, and Food in IKs. Commonly known as the Water-Energy-Food Nexus (WEFN), the developed methodology will provide a holistic approach to assess the impact of IK activity on the consumption of electricity and water.

To achieve this vision, the project will start by *understanding the perceptions of the stakeholders (IK managers and users) about the WEFN, through questionnaires and interviews with IK stakeholders in the city of Lisbon*. During this process, two IK will be recruited to collaborate in this project. These two IKs will then be equipped with a set of sensors and metering systems to measure the consumption both of energy and water for 12 consecutive months.

The selected candidate will contribute with several tasks that need to be developed in this phase of the project. More precisely:

- a) Actively participate in the characterization of the IKs towards understanding their infrastructures (e.g., types of appliances, and the number of staff), and processes (e.g., type of food served and staff routines).
- b) Actively participate in the user-centred research tasks aimed at understanding users' behaviours, needs, challenges, knowledge of what concerns the functioning of IKs, WEFN, and different energy efficiency/flexibility opportunities.
- c) Develop and validate a taxonomy of IKs by leveraging the results from the previous tasks and the data collected during the deployment.
- d) As part of the research team, the selected candidate is also expected to participate in the production of reports and scientific presentations/publications.

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 the Interactive Technologies Institute (ITI) of the Laboratory of Robotics and Engineering Systems (LARSyS), under the scientific supervision of Dr. Lucas Pereira and Dr. Catarina Rolim.

Duration: The research fellowship(s) will have a duration of 6 months. It's expected to begin during September of 2022. The research fellowship is not renewable.

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 € 486.12, being the payment method an option of the Fellow by Wire Transfer/Check.

Selection methods: The selection methods will be the following:

- a) Curriculum Vitae evaluation (70%)
- b) Motivation Letter (30%)
- c) Individual Interview (in case of ties, to be conducted online)

Composition of the selection Jury: Dr. Catarina Rolim (President), Dr. Lucas Pereira, Professor Hugo Morais

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 July 18 until August 12, 2022.

It is mandatory to formalize applications with the submission of the following documents:

B1 Form – Fellowship application (<https://ist-id.pt/concursos/bolsas/>);

- 1) Curriculum Vitae;
- 2) Motivation letter;
- 3) Academic degree certificate, where applicable;
- 4) Proof of enrollment at an academic degree course or at a course that does not award an academic degree;
- 5) Declaration on honour that the applicant does not exceed with this contract, including the possible renovations, an accumulated period of one year in this type of studentship, continuously or with interruptions, and has not held any other fellowship directly or indirectly funded by FCT.

Applications must be submitted to the email: nexik@tecnico.ulisboa.pt with subject [*nexIK: BIC1*]