

(BL147/2026-IST-ID)

Scientific Initiation Studentships

Applications are open for one Scientific Initiation Studentships, within the framework of project *SPECTRUM* - 101172891 - IST-ID (1801P.01438.1.01), financed by European Commission through the programme Horizon Europe, under the following conditions:

Scientific Area: Chemical Engineering, Process Systems Engineering (CE-PSE)

Admission Requirements: 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;

Workplan: The work plan for this Studentship is part of Task 4.1 set out in the General Agreement of the European SPECTRUM project:

- 1) Analysis of the state of the art regarding models of the components of a photocatalytic system for the treatment of aqueous effluent;
- 2) Analysis of the results already obtained by the various partners in the SPECTRUM project to define the models of the components that make up the photocatalytic system;
- 3) Implementation of the models of the photocatalytic system components in a process simulator, such as Aspen Plus;
- 4) Validation of the models based on a comparison of simulation results with available experimental data;
- 5) Creation of a surrogate model based on the simulation results of the models implemented in the process simulator.

The aim is to develop process simulator models (e.g. Aspen Plus), based on information available in the literature and data obtained by other partners in the SPECTRUM project, for a multi-component system for the photocatalysis of an aqueous effluent.

It is expected that process simulation results for the system under study will be obtained, enabling the creation of surrogate models for multi-period optimisation studies.

These studies enable the scholarship holder to develop and deepen the knowledge and practical skills acquired during the Master's degree programme in chemical engineering which the candidate is undertaking.

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; IST-ID Regulation of Scientific Research Fellowships, available on <https://ist-id.pt/recursos/documentos/recursos-humanos/bolseiros/#1690453819726-6707f7f2-ce04>

Workplace: The work will be developed at Centro de Química Estrutural e no CERENA in the facilities of the Chemical Engineering Dept. of IST, campus Alameda, under the scientific supervision of professor Carla Isabel Costa Pinheiro.

Duration: The research fellowship will have the duration of 6 months. It's expected to begin in November 2026, and may be eventually renewed up to the maximum of 3 months, including the duration of the initial contract.

Monthly maintenance allowance: the amount of the monthly maintenance allowance is € 701.12 (seven hundred and one euros and twelve cents), being the payment method an option of the Fellow by Wire Transfer/Check.

Selection methods: The selection methods to be used are as follows: 70 % based on the assessment of the application and 30 % based on an individual interview (to be conducted by the members of the selection panel

within five working days of the deadline for the submission of applications), with the respective marks awarded on a scale of 0 to 100 points.

Composition of the selection Jury: Carla Isabel Costa Pinheiro (ist12547); Henrique Aníbal Santos de Matos (ist12553); Luís Filipe Moreira Mendes (ist12891).

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

Deadlines and procedures of complaint and appeal. After notification of the provisional list of evaluation results, candidates have a period of 10 working days to, if they wish, make a statement at a preliminary hearing of interested parties, in accordance with Articles 121 et seq. of the Code of Administrative Procedure. The final decision will be made after analyzing the statements presented at the preliminary hearing of interested parties. The final decision may be appealed to the competition jury or to the President of IST-ID within 15 working days of notification

Application deadline and formalization: The call is open from October 8 until October 14, 2026.

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 or at a course that does not award an academic degree; v) motivation letter;

Applications must be submitted to the email: carla.pinheiro@tecnico.ulisboa.pt