

### Scientific Initiation Studentships

Applications are open for 1 Scientific Initiation Studentships, within the framework of apoio especial Verão com Ciência da UID 4349 - Centro de Ciências e Tecnologias Nucleares, entitled “Coordination polymers based on transition metal dithiolates and the study of their optical, magnetic and electrical properties”, financed by national funds through FCT/MCTES (PIDDAC), under the following conditions:

**Scientific Area:** chemical sciences

#### 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.*

**Workplan:** The synthesis of the new MOFs and CPs will be approached using a gradual construction strategy with the selective use of different structural units. Functionalization of dithiolene ligands with additional coordination groups allows their use as structural units in a stepwise approach. Coordination of a first metal center by the dithiolate ligand gives rise to a metal complex with peripheral binding units, the bisdithiolate complex. Subsequently, a second metallic center is coordinated, which gives rise to the MOFs and CPs.

Changes in the nature of the ligand allow for a broader spectrum of potential metaloligands. These changes will allow adjusting the relative orientation of the peripheral coordination units, as well as the redox properties.

The work proposal presented is based on the following objectives:

- (i) Synthesis of ligands
- (ii) Synthesis of the complexes.
- (iii) Synthesis and structural characterization of MOF and CPs.

**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 Centro de Ciências e Tecnologias Nucleares (C2TN), Estrada Nacional 10, Bobadela, da Associação do Instituto Superior Técnico para a Investigação e Desenvolvimento (IST-ID), under the scientific supervision of Doctor Sandra Rabaça.

**Duration:** The research fellowship(s) will have the duration of 1 month and the contract 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: *Curriculum evaluation, individual interview* with the respective weight of 50%:50%.

**Composition of the selection Jury:** Presidente: Doutor António Pereira Gonçalves, Investigador Coordenador do Instituto Superior Técnico;

Vogais efetivos: Doutora Sandra Marisa Batista Rabaça Rodrigues, Investigadora Doutorada da Associação do Instituto Superior Técnico para a Investigação e Desenvolvimento e Doutora Maria Dulce Pombo Belo, Investigadora Auxiliar do Instituto Superior Técnico.

Vogais suplentes: Doutor Vasco da Gama, Investigadora Principal do Instituto Superior Técnico e Doutora Isabel Cordeiro Santos, Investigadora Auxiliar do Instituto Superior Técnico.

**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 28 until August 3, 2022.

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 applicable; iv) proof of enrollment at an academic degree course or 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, 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: [sandrar@ctn.tecnico.ulisboa.pt](mailto:sandrar@ctn.tecnico.ulisboa.pt)