

One Research Fellowship for students of a course that does not award an academic degree

Applications are open for one Research Fellowship, within the framework of project "BLOCKCHAIN.PT" (Contract no. 51) of IST-ID, funded by national funds through IAPMEI/PRR (Mobilising Agendas for Business Innovation), under the following conditions:

Scientific Area: Environment and Energy.

Admission Requirements: candidates must:

- hold a bachelor degree and be enrolled (at the time of grant contracting) at a course that does not award an academic degree and is integrated in the educational project of a higher education institution, performed in association or cooperation with one or several R&D units;
- not exceed with this contract, including the possible renovations, an accumulated period of two years in this type of fellowship, continuously or with interruptions.

Workplan: The work will be divided into two parts. The first will involve the development and implementation of a methodology to identify Cobb-Douglas aggregate production functions using statistical methods, including energy and information variables. The second is to develop and implement a method to determine - using statistical methods - a long-term relationship between the variation in Total Factor Productivity (TFP), determined on a residual basis, and the variation in the economy's aggregate energy and information processing efficiency. The statistical methods to be employed will be econometric tests of non-stationarity (Dickey-Fuller, Philips-Perron), cointegration analysis (Johansen), and Granger causality (Toda-Yamamoto). The work will initially be tested for a single country (France), and then extended to other highly relevant countries (USA, China).

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 MARETEC - Marine, Environment and Technology Centre of Instituto Superior Técnico (IST), under the scientific supervision of Professor Tiago Domingos.

Duration: The research fellowship will have the duration of 10 months. It is expected to begin in August 2024 and it is not renewable.

Monthly maintenance allowance: According to the values for Research Fellowships awarded by FCT in Portugal (https://www.fct.pt/wp-content/uploads/2024/02/Tabela-de-Valores-SMM_atualizacao-2024.pdf), the amount of the monthly maintenance allowance is 990.98 €, being the payment method (by wire transfer or Cheque) an option of the Research Fellow. The grant holder will be reimbursed of the payment of Voluntary Social Security (up to the amount corresponding to the 1st grade).

Selection methods: The selection methods will be the following:

- 1) Curriculum evaluation, worth 60%, of which:
 - a. 10% will be attributed to the classification obtained in the master's programme (score from 1 to 20);
 - b. 20% will be attributed to familiarity with macroeconomics topics, particularly economic growth theory (score from 1 to 20);

- c. 15% will be attributed to familiarity with probability and statistics topics, particularly econometrics (score from 1 to 20);
 - d. 15% will be attributed to familiarity with statistical and econometric analysis software (Eviews, Stata, RStudio, other) (score from 1 to 20).
- 2) Motivation letter, worth 20% (score from 1 to 20).
 - 3) A possible individual interview (in the event of a tie between the first two or more candidates), worth 20% (score from 1 to 20).

If there are no candidates with a score of more than 50% in criterion 1, no candidate will be selected.

Composition of the selection Jury: President: Tiago Morais Delgado Domingos (Associate Professor); Voting members: João Alexandre Almeida dos Santos (Junior Researcher) and Tânia Alexandra dos Santos Costa e Sousa (Assistant Professor). Substitute member: Substitute member: Gonçalo José Monteiro Marques (Junior Researcher).

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

Application deadline and formalization: The call is open from July 1 until July 12, 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 applicable; iv) proof of enrollment at a course that does not award an academic degree (at the time of fellowship contracting; 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 fellowship, continuously or with interruptions.

Applications must be submitted by e-mail to nuno.sarmiento@tecnico.ulisboa.pt