(BL158/2026-IST-ID)

CALL FOR FELLOWSHIPS APPLICATIONS WITHIN THE FRAMEWORK OF R&D PROJECTS AND INSTITUTIONS

Post-Doctoral Research Fellowship (1 vacancy) - Project TIES

Applications are open for 1 (one) Post-Doctoral Research Fellowship, within the framework of the project TIES - "Transforming Hydropower: Integrating Flexibility, Ecosystem Health, and Societal Needs" (Grant Agreement No. 101269457 | IST-ID Project IST-ID 1018P.01718.1.01), funded by the European Union under the Horizon Europe Framework Programme (call HORIZON-CL5-2025-02-D3-04), under the following conditions:

Scientific Area: Environment and Global Changes – Sustainable Management of Resources (AAG-REC).

Admission Requirements:

a) *hold a PhD degree obtained in the 3 years prior to the start date of the fellowship;*

b) *have carried out the research work that led to the PhD degree in an entity other than the host institution of the fellowship;*

c) *not exceed, with this fellowship contract, including possible renewals, an accumulated period of 3 years in this type of fellowship, continuously or with interruptions;*

d) *not have previously held a post-doctoral research fellowship with IST-ID;*

e) *PhD in Civil, Environmental, Electrical or Mechanical Engineering, Computer Science, Physics, Applied Mathematics, or related fields;*

f) ***Preferential requirements:*** *demonstrated experience in deep learning applied to time series, namely in hydrological and/or energy forecasting; proficiency in Python and in deep learning frameworks (e.g., PyTorch, TensorFlow); experience with electricity market data, hydropower operation or sediment transport modelling will be valued; scientific production in the areas of the workplan; good written and spoken English and ability to work in an international consortium.*

Workplan: The candidate will work mainly in Task 5.1 of the TIES project - Probabilistic forecasting of river discharge and sediment transport using deep learning - with the following objectives: (i) develop, train and validate deep learning models (e.g., LSTM, Transformers) for probabilistic forecasting of river inflows, using ground observations, reanalysis and forecast meteorological data, distributed static datasets and electricity market information; (ii) implement and test operational forecasting chains, including performance monitoring and explainability analyses based on attention mechanisms; (iii) analyse and predict electricity market variables, namely spot prices and ancillary services, and integrate them with the hydrological forecasts; (iv) develop data-driven models that analyse and reproduce the behaviour of hydropower assets; (v) contribute, with less emphasis, to sediment transport modelling and to the coupling of the forecasting models with bias-corrected CMIP6 climate projections; (vi) contribute to project deliverables, scientific publications and to the interaction with the industrial partners of the consortium. The case studies are located in the Douro and Mondego catchments, in Portugal, as well as in the French Alps.

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 CERIS - Civil Engineering Research and Innovation for Sustainability, of Instituto Superior Técnico, Universidade de Lisboa (Lisbon, Portugal), under the scientific supervision of José Pedro Matos.

Duration: The research fellowship will have the duration of 12 months, expected to begin on 1 January 2027. The start date may be adjusted by mutual agreement within the period from December 2026 to March 2027. The fellowship contract may be renewed up to a maximum of 18 months, including the duration of the initial contract.

Monthly maintenance allowance: The amount of the monthly maintenance allowance is €1,901.00, being the payment made by wire transfer. The fellowship also includes voluntary social security contributions and personal accident insurance, in the terms of the Statute of Scientific Research Fellow.

Selection methods: The selection will be based on curriculum evaluation (CE), weighted 60%, and an individual interview (IN), weighted 40%. The curriculum evaluation is scored from 0 to 100 points according to the following criteria: a) relevance of the PhD and of the research trajectory to the workplan (25%); b) experience in deep learning applied to time series, namely hydrological and/or electricity market forecasting (30%); c) scientific production, considering quality, quantity and relevance to the workplan (25%); d) programming and data engineering skills and experience in operational or industrial applications (20%). Only candidates scoring 70 or more points in the curriculum evaluation will be invited to an individual interview, to be held remotely by videoconference, addressing the candidate's experience, the workplan and motivation. The final score is given by 0.60 x CE + 0.40 x IN. The Jury reserves the right not to award the fellowship if no candidate reaches a final score of 70 points.

Composition of the selection Jury: Isabel Maria Bento de Matos Boavida (IST/CERIS), Diogo Silva Mendes (IST/CERIS), and José Pedro Gamito de Saldanha Calado Matos (IST/CERIS).

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

Deadlines and procedures of prior hearing, complaint and appeal: After the provisional list of results is communicated, applicants have 10 working days to submit their comments in a prior hearing, under Articles 121 and following of the Portuguese Code of Administrative Procedure. The final decision will be issued after the analysis of the comments submitted. A complaint against the final decision may be lodged with the Jury, or an appeal with the President of IST-ID, within 15 working days counted from the respective notification.

Application deadline and formalization: The call is open from October 26 until November 23, 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; iv) motivation letter; v) declaration on honour that the applicant does not exceed with this contract an accumulated period of three years in this type of fellowship, continuously or with interruptions, within the technological and scientific system, and that the research work that led to the PhD degree was carried out in a different entity from the host institution of the fellowship.

Applications must be submitted to the email: jose.matos@tecnico.ulisboa.pt ,with copy to gabriela.cunha@tecnico.ulisboa.pt