INESCTEC

CALL FOR APPLICATIONS: RESEARCHER

Job/position/grant:

Job reference:	AE2023-0304 (ATE - CPES)
	INESC TEC - Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciï¿½ncia
Job/position/grant:	RESEARCHER
City:	Porto
Research field:	Main: ENGINEERING
	Sub: Electrical engineering, Mechanical engineering

Job summary:

INESC TEC is accepting applications for 1 RESEARCHER job in the Thermal Modelling of Buildings and Storage Systems	
Project:	Alliance for Energy Transition
Scientific Advisor:	Zenaida Mourão
Start Date:	2023-09-26
Location:	INESC TEC, Porto, Portugal

Job description:

Work Area: Thermal Modelling of Buildings and Storage Systems

Project overview: In the framework of this project, a PCM-based thermal storage solution will be implemented to enhance the energy efficiency at industrial warehouses. The project will develop a thermal storage system (passive) in the negative cold storage zone at the warehouse, giving a critical contribution for the increase of the thermal inertia and allowing for a better management of the colling systems. The project will also develop an energy management tool for the cooling systems, considering the local renewable energy production, the thermal behavior of the negative cold storage system and the PCM storage system.

Objectives: Characterization of the thermal energy profile of the building and the consumption profile of the systems associated with tertiary cold production for the quantification of the flexibility potential. Development of a planning system for the integration of thermal storage, based on PCM, in tertiary buildings, in the management of cold systems, as well as in the reduction of energy losses arising from logistics operations. Development of a predictive optimization module for cooling systems equipped with PCM systems to support demand management.

Academic Qualifications:	Master in Mechanical Engineering, Electrical and Computer Engineering or Iformatics
Minimum profile required:	Strong skills in modelling and simulation tools for building thermal analysis (e.g., Energy Plus, ESP-R). Ability to develop models for thermal storage management in buildings. Knowledge of phase change materials (PCM) and their application in cooling systems. Ability to develop predictive optimization modules for building energy use and thermal storage. Knowledge of programming (e.g., Python). Exceptional written and oral communication skills in English, and Portuguese (desirable).
Preference factors:	A minimum of 2-3 years of professional experience in thermal energy modelling of buildings. Experience in modeling thermal storage systems, specifically phase change materials (PCM), in tertiary buildings. Experience in the application and evaluation of predictive optimization modules.

Funding Entity:	ATE funded by IAPMEI with reference 56 Co-financed by Component 5 - Capitalization and Business Innovation, integrated in the Resilience Dimension of the Recovery and Resilience Plan within the scope of the Recovery and Resilience Mechanism (MRR) of the European Union (EU), framed in the Next Generation EU, for the period 2021 - 2026.
Type of contract:	Uncertain term contract
The hiring shall be governed by what is stipulated in the legislation in force regarding uncertain term employment contracts and by INESC TEC norms.	

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Selection criteria:	The selection of the candidates will be based on the following criteria, in descending order of consideration:
	a) Relevant Curriculum in the concerned field of this tender
	b) Proven experience.
Selection Jury:	President of the Jury: Prof. Zenaida Mourão;
	Member: Prof. Ricardo Jorge Bessa;
	Member: Prof. David Emanuel Rua;
Notification of results:	The results of the selection process will be sent to the interested by electronic mail.
Application period:	From 2023-07-26 to 2023-08-26
Application submission:	Electronic form filling in www.inesctec.pt in the section Work with Us