

INESC TEC | Research Grant (AE2024-0480)
INESC TEC

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Posted Nov. 14, 2024, set to expire Mar. 16, 2025

Job Title	INESC TEC Research Grant (AE2024-0480)
Department	CPES
Institution	INESC TEC PORTO, , Portugal
Date Posted	Nov. 14, 2024
Application Deadline	Dec. 14, 2024
Position Start Date	Nov. 14, 2024
Job Categories	Graduate Student
Academic Field(s)	Engineering - Other
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Job Description	

Research Opportunities

Power systems – Control and management of innovative pumped storage systems and hydropower units in energy transition era

Work description

Hydropower units and PSPs will have an important role in maintaining the dispatchability of future power systems in the presence of renewable energy sources. However, the power fluctuations of renewable energy sources can expedite the degradation of these units and decrease their lifetime. In this regard, an effective control and management strategy for innovative PSP and hydropower units

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integrated with PV-BESS not only extends component lifetimes but also enhances the system's economic benefits by improving its capability to participate in ancillary service markets. The expected works in this area regarding the given description is as follows:

1. Assessment of the wear and tear of different components in the hybridized PSP and hydropower systems.
2. Development of frameworks/tools for the optimal energy management and control of the hybridized PSP and hydropower systems considering the wear and tear of the components.
3. Evaluation of the effect of participating in ancillary service market on the system.
4. Expanding the control and energy management strategies considering the participation in the ancillary service markets.
5. Preparation of the reports and presenting the results of the project in the conferences and as journal publications.

Minimum profile required

- Master degree in Electrical Engineering or similar.
- Experience in the energy management studies in the area of the electrical energy systems.
- Basic knowledge in the area of PSP, hydropower systems, and hybrid energy systems.

Preference factors

- Experience in the development of the optimization tools for energy management of storage-aided systems.
- Experience in ancillary service market studies.

Maintenance stipend: € 1259,64, according to the table of monthly maintenance stipend for FCT grants , paid via bank transfer. Grant holders may be awarded potential supplements, according to a quarterly evaluation process (Articles 19, 21 and 22 of the Regulations for Grants of INESC TEC and Annex II), up to a maximum limit of 50% of the monthly maintenance stipend.

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INESC TEC supports costs with registration, enrolment or tuition fees, during the grant duration, under the terms established in the internal document: "Payment of Tuition fees to grant holders".

The grant holder will benefit from health insurance, supported by INESC TEC.

Application Period

Since 14 Nov 2024 to 14 Dec 2024

Centre

Power and Energy Systems

Scientific Advisor

[Bernardo Silva](#)

What we offer

- **Multicultural and collaborative environment**
- A multicultural, international and collaborative environment that makes it easier to exchange ideas, work in networks and create synergies.
- **International projects**
- The possibility of working in international projects with some of the most important companies in the field.
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- Mentoring with the best researchers in the fields of electrical and industrial engineering, bioengineering, information technology and physics.
- **Self Improvement**

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- The possibility of participating in international conferences, workshops, seminars and vocational training.
- **Other Benefits and Perks**
- Flexible working time, health insurance, discounts in hotels, transportation, etc.
- **Informal Events**
- Annual informal events, such as the multicultural party.

For more information: [Click here](#)

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact

Portugal

Contact E-mail rh@inesctec.pt