Interdisciplinary Research Center for Renewable Energy and Power Systems

Post-Doctoral Fellowship - 2024

We seek highly qualified researchers whose interests align with the center's goals.

About IRC-REPS

Interdisciplinary Research Center for Renewable Energy and Power Systems (IRC-REPS) has been launched as a pioneering coordinated structure to advance applied research focusing on renewable energy and power systems technologies. The IRC-REPS is a unique, fully integrated industrial and academic research entity that brings experts from different scientific and engineering disciplines under one u mbrella to conduct impactful research to address energy-related challenges. The objectives of IRC-REPS are in line with the Kingdom's Vision 2030 to facilitate the researchers in developing cutting-edge research on renewable materials and applications, smart grid, and intelligent energy systems. The center invests in developing innovative solutions to through internal and external funding sources. Besides, it attracts external projects from private and public collaborators.

Grand Challenge

The center assists the Kingdom's Research, Development, and Innovation Authority (RDIA) in achieving the following targets:

- Increase the share of renewable energy in electricity generation.
- Electric Vehicle (Motors Drives, Control and Battery)
- Net zero carbon emissions
- Raw Materials and Products in Industry Management

Focused Research Areas

The main focus of the center includes:

- Sustainabile Energy Conversion and Storage
- Smart Grid and Energy Management
- Sustainable Energy Utilization
- Energy Policy, Environmental and Social Impact

Candidate Job Description

The center has open post-doctoral fellowship vacancies for potential candidates having good experience in the following:

- Efficient solar cell development considering harsh weather conditions.
- Power system resiliency considering bulk penetration of renewable energy.
- Effective monitoring, cooling, and cleaning technologies for renewable energy power plants.
- Develop grid control and protection strategies under high renewable energy penetrations.
- Smart grid operation and control.
- Intelligent management of energy systems.
- Renewable energy conversion and utilization for cooling & heating applications.
- Solar energy for desalination applications.
- Renewable energy integrated buildings, offices, and other facilities.
- Electric vehicles
- Develop controllers for cost effective and efficient bidirectional charging units for electric vehicles (V2G and G2V).
- Power electronics improvements of EV motor drives.
- Electrolytes, electrodes, and system improvement for redox flow batteries
- Battery management systems
- Thermal management of batteries.
- Materials development and fabrication of solid-state batteries.
- Renewable energy and energy storage waste recycling and management.
- Renewable energy policies, standards, energy auditing.
- Electricity market.
- Net zero and self-sustaining buildings

Job Profile and Responsibilities

- Should be capable of preparing research proposals (both fundamental and industrial client proposals)
- Should be able to contribute to the ongoing research at the center.
- Should produce high-impact research outcomes.
- Should participate in teaching and developing academic courses.
- Should participate in center professional committees and activities.

Qualifications and Skills Required

- Ph.D. in Electrical/ Mechanical/ Chemical/ Energy/ Control/ Architectural and Building Engineering, Materials Engineering/Science, Physics, Chemistry, and Computer/Systems Engineering.
- Experience related to research proposal development.
- Excellent English communication skills.
- Experience in designing and modeling software relevant to renewable energy.
- Experimental and hardware experience.

How to Apply: To apply, the candidates may fill out and submit the following google form:
https://docs.google.com/forms/d/e/1FAIpQLSesX-ZTGqGvXCWVIDpd7_XcItGr_XLgKO0_efusr0ounyXYaA/viewform?usp=sf_link
(if the link doesn't work by direct click, you may copy & paste the link in Google Chrome and proceed with filling out the form or login with your google account)

Contact us: For further information, please contact:

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