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Ref. 6/2021

Code:

Project:

Area: Energy Efficiency in Systems, Buildings and Communities Area

Area leader:

Group: Thermal Energy and Building Performance Group

Group leader: Dr.Jaume Salom Tormo

R2 - Recognised / Postdoc Researcher on HVAC Control

The applicant will work as a recognised researcher / engineer in projects related to Net Zero Energy Buildings and Communities, DER (Distributed Energy Resources) integration and energy management systems in buildings. He/she will report to the Head of the Thermal Energy and Building Performance Group.

The Research Group

The research will be embedded in the Thermal Energy and Building Performance Group which main research subject is the Integrated and Systemic approach for Zero Energy Communities, Buildings and Industries. The group's special focus is on the Mediterranean and other warm weather regions. The vision is to build an applied research group that contributes to accelerate the reduction of greenhouse gas emissions (GHG) through energy efficiency measures, production of clean energy, and integration of distributed renewable energy sources (RES).

The research group is also managing the Semi-Virtual Energy Integration Laboratory (SEILAB) which provides advanced expertise to assess the development and integration of renewable energy solutions and innovative thermal and electrical equipment that are designed to improve energy efficiency in buildings and energy systems. The laboratory is provided with cutting-edge technology comprising systems for energy generation, heat and cool storage and state-of-the-art facilities for testing HVAC equipment and the interaction of energy systems with the grid. The laboratory operation is based on a semi-virtual testing approach, which allows for real equipment to be operated as a function of the behaviour of a dynamic virtual model. The laboratory is pioneer in addressing the smart integration of electrical and thermal components and aims to become a leading experimental facility for improving the development of Net Zero Energy Buildings.

Description

He /she will be involved in tasks such as energy simulation of buildings and HVAC systems, integration of renewable energies in buildings and/or systems, and experimental work related to HVAC systems in buildings (data analysis, leading and running experimental tests)

with the SEILAB team. Integrated in a multi-disciplinary team, the candidate is expected to run and lead research activities as part of international projects or projects with industrial partners. He / she will be, specially, in charge of working in control and management of HVAC systems in buildings. The candidate has to be used to plan resources and ensure deadlines as well of reporting and communication of technical / research results.

Requirements

We are looking for excellent and highly motivated candidates with a PhD degree in Mechanical Engineering, Automatic Control and/or Building Physics Science, with experience in HVAC, thermal renewable systems and generally speaking energy systems in buildings and/or cities. Experience of at least four years in the industry and/or research centres is required. Knowledge in heat and mass transfer phenomena, renewable energy technologies, management and control of systems and experience in computational energy systems and simulation tools is essential. Advanced knowledge of TRNSYS and Python is mandatory.

We are looking for a methodical and rigorous person with a scientific spirit and results oriented. Teamwork and communication and management skills will also be a requirement. The candidate should also have experience in EU and/or international research projects. Mastery of English on all levels will be essential. Knowledge of other languages will be desirable.

We offer

We offer the chance to become part of an exciting and consolidated team, with international recognition, for developing cross-cutting projects in science and technology, oriented towards excellence. We also offer a research environment comprised of highly qualified and motivated professionals. Salaries will be paid in accordance with the IREC's salary policy, depending on the candidate's qualification and professional experience. Expected category: R2.1.4 – Recognised Researcher / Project Engineer (R2) – Pre-consolidated 4

Workplace. Barcelona (IREC facilities). Depending of the projects, working in IREC premises in Tarragona may be required.

Application

Applicants should send a detailed CV and a letter of motivation to irecjobs@irec.cat.

The application deadline is 22th February 2021

Please indicate “**Ref 06/2021**” in the subject