Shaping Energy for a Sustainable Future

Publish date November 16th 2021
Ref. 68/2021

Code:
Project: ARV
Area: Energy Efficiency in Systems, Buildings and Communities Area
Area leader:
Group: Thermal Energy and Building Performance Group
Group leader: Dr. Jaume Salom Tormo

Recognised / Post-doc Researcher – ARV – Urban Energy Modelling
Thermal Energy and Building Performance Research Group

The applicant will work as a researcher in projects related to energy efficiency in buildings and communities, Positive Energy Districts and DER (Distributed Energy Resources) integration and energy management systems in buildings. He/she will report to Head of the Thermal Energy and Building Performance Group co-leading tasks related with Energy Efficiency in Buildings, Building Performance and Retrofitting in Buildings, with a focus in Urban Energy Modelling.

Description

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 Buildings and Communities. 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 candidate will participate as software developer engineer in technical work of research projects in fields related with different levels of energy models for the built Environment and integration in computational tools. Activities where he/she will be involved are programming of codes applied to dynamic simulation of buildings integrated in smart infrastructures. Focus will be in residential building stock and USEM (Urban Scale Energy Models). Properly elaboration of reporting reports and collaboration in articles for scientific publication will be also carried out.

The candidate will work in an EU international projects within the subject of Retrofitting of Buildings, Positive Energy Districts and Local Energy Communities. The project is ARV project to start January 2022. The vision of the ARV project is to contribute to speedy wide scale implementation of Climate Positive Circular Communities (CPCC) where people can thrive and prosper for generations to come. The overall aim is to demonstrate and validate attractive, resilient, and affordable solutions for CPCC that will significantly speed up the deep energy renovations and the deployment of energy and climate measures in the

Requirements

We are looking for excellent and highly motivated candidates with a PhD degree in Mechanical/Energy Engineering, Building Physics, Computer Science and Geoinformation. MSc candidates with proven experience of at least 4 years can also apply to this position. Very Good programming skills with experience is essential: C++, Python, Data Bases (PostgresSQL). Knowledge of GIS-tools (e.g QGIS, ARCGIS, others). Knowledge of Energy Building Simulation tools is essential, especially TRNSYS. Interest in urban planning and energy in buildings is also valuable.

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. Experience in EU and international research projects is highly valuable. Mastery of English on all levels is essential. Knowledge of other languages would 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

Application

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

The application deadline is 6th December 2021

Please indicate "**2021 – R2 – Post-doc Urban Energy Modelling**" in the subject