

**Publish date February 4th 2021**

**Ref. 8/2022**

**Code:**

**Project: Comunitat.coop**

**Area: Energy Efficiency in Systems, Buildings and Communities Area**

**Area leader:**

**Group: Thermal Energy and Building Performance Group**

**Group leader: Dr. Jaume Salom Tormo**

## **First Stage Research / Project Engineer – Software developer engineer Thermal Energy and Building Performance Group**

The applicant will work as a research / project engineer in projects related to energy efficiency in buildings and communities, DER (Distributed Energy Resources) integration and energy management systems in buildings. He/she will report to the lead-Researcher of Building Performance research line in close collaboration with her.

### **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 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 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. We are looking for a methodical, excellent team-player and results-oriented candidate with good communication skills. Mastery of English on all levels will be essential. Knowledge of Spanish will be desirable.

The candidate will participate supporting the lead researcher in the Comunitat.coop project as main activity. The Comunitat.coop project, funded by the Generalitat de Catalunya, aims to develop a digital platform of integrated services, so-called Comunitat.coop, with the functionalities and appropriate scales of intervention, in support of the ESS Support Model in the actions of urban regeneration. From there, the project aims to introduce different services as planning, management and financial aspects linked to the building stock regeneration and decarbonization.

### **Requirements**

We are looking for a methodical, excellent team-player and results-oriented candidate with good communication skills.

Essential:

- Master Sciences Degree in Computer Science, Data science, Mechanical / Energy Engineering
- High programming skills: Python, C++ and/or R
- Experience in computational energy systems simulation tools
- Knowledge in time-series data analysis methods and tools
- Fluent English and Spanish are essential

Preferred:

- Knowledge in heat and mass transfer phenomena and energy in buildings
- Knowledge of HVAC and RERS systems
- Experience in energy modelling tools for Buildings and Systems: TRNSYS, Energy Plus, Modelica
- Experience in Data Bases (PostgreSQL, PostGIS, others)
- Knowledge of GIS-tools (e.g QGIS, ARCGIS, others)
- Initiative in Research and Innovation
- Synthesis and Scientific Reporting capabilities

**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: R1.6 – First Stage Researcher / Project Engineer (R1).

**Workplace.** Barcelona (IREC facilities)

**Application**

Applicants should send a detailed CV and a letter of motivation to [irecjobs@irec.cat](mailto:irecjobs@irec.cat).

The application deadline is March the 4<sup>th</sup> 2022.

Please indicate “**2022 –Comunitat.coop - Buildings**” in the subject



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