

Institute of Microelectronics of Barcelona IMB-CNM CSIC

Junior Researcher / Research Engineer Energy Harvesting for Smart Grids (Horizon Europe Project)

The **IMB-CNM** is the largest institute in Spain dedicated to the research and development of Micro and Nano Technologies and Microsystems and with unique capabilities in silicon technology. It belongs to CSIC since its foundation in 1985 and is distinguished as a María de Maeztu Unit of Excellence.

IMB-CNM aims to contribute to the advancement of knowledge and to the economic and social development of society, as well as to the training of researchers and engineers and to the advice to public and private entities.

Research activities of IMB-CNM are dedicated to Micro/Nano Integrated Systems: miniaturized electronic systems which include sensing and/or actuating capabilities in addition to electronic information processing, power management and external interfaces.

The IMB-CNM is located on the Autonomous University of Barcelona (UAB) Campus and contains the largest clean room facilities in Spain with full capability to process its own CMOS technologies and laboratories.

Project:

The NEMESYS Group at the Institute of Microelectronics of Barcelona (IMB-CNM, CSIC), in close collaboration with Energiot (Parc de Recerca UAB), is looking for a highly motivated researcher/engineer to join the European project HEROGRID.

HEROGRID aims to develop next-generation self-powered IoT systems for smart electrical grids, focused on Dynamic Line Rating (DLR) technologies for High-Temperature Low-Sag (HTLS) power lines through advanced energy harvesting solutions and intelligent sensing.

Key Responsibilities:

The position will involve research and development activities at both IMB-CNM and Energiot facilities within the UAB campus environment.

Main activities:

- ❖ Development of energy harvesting systems for self-powered IoT devices
- ❖ Research on piezoelectric, vibration-based and/or magneto-mechanical harvesting technologies
- ❖ Design, simulation and characterization of MEMS and low-power devices
- ❖ Integration of wireless sensing systems for smart grid applications
- ❖ Experimental validation under harsh environmental conditions
- ❖ Collaboration with European partners from academia and industry

Education and Experience

- ✓ MSc or PhD in Electrical Engineering, Physics, Microelectronics, Telecommunications, Materials Science or related fields
- ✓ Experience in energy harvesting technologies, MEMS, low-power electronics or self-powered systems
- ✓ Knowledge of smart grids, electrical transmission/distribution systems or powerline monitoring is highly valued
- ✓ Experience with simulation tools (COMSOL, ANSYS, MATLAB, etc.) is desirable

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- ✓ Hands-on experience in electronics, embedded systems or experimental characterization is a plus
- ✓ Key Skills: Teamwork, Critical thinking, Problem solving, Scientific writing, Good communication, Managing deadlines
- ✓ Full working competence in Spanish and English

What We Offer

- ❖ The opportunity to join one of Spain's leading research centres in micro- and nanotechnologies, internationally recognised for the excellence of its scientific and technological activities.
- ❖ Possibility to develop a PhD thesis within the project - Industrial PhD or Torres Quevedo fellowships may be requested depending on the candidate profile.
- ❖ Participation in an ambitious Horizon Europe project
- ❖ Collaboration between a leading research institute (CSIC) and a deep-tech startup (Energiot)
- ❖ Access to advanced micro/nanofabrication and testing facilities
- ❖ A dynamic, collaborative and multidisciplinary environment with highly qualified researchers, engineers and technical specialists.
- ❖ Permanent full-time contract, flexible hybrid work model with partial remote work possibilities.
- ❖ Salary in accordance with qualifications, proven experience, and applicable CSIC employment conditions.
- ❖ Expected start date: October-November 2026

Interested in joining us?

Complete this [form](#) and send your CV and Motivation Letter to Talent@imb-cnm.csic.es, with the subject: **"Research Position - Energy Harvesting & Smart Grid Technologies"**. Incomplete or non-eligible applications will be automatically rejected.

*Applicants are kindly advised to ensure that their CVs clearly demonstrate compliance with the requirements of the position. CVs should include precise dates, relevant skills, and notable achievements that evidence the candidate's suitability and distinction in the selection process.

Deadline: August 16th, 2026

Shortlisted candidates will be contacted by September 29th, 2026 to be informed of next steps.

Check our [website](#) for more information about the IMB-CNM and our research activities

Take the next step in your research career with us!

By applying, you accept our [data protection policy](#).

IMB-CNM (CSIC) adheres to the [European Charter and Code of Conduct for Researchers](#), ensuring full alignment with their principles and requirements, including equal opportunity, transparency, merit and ability, caring for an open, fair, and excellence-based hiring processes.

IMB-CNM holds the [HR Excellence in Research award](#), which acknowledges CSIC's commitment to continuous improvement in HR strategies for researchers.