

Postdoctoral researcher position on organic batteries

The Institute of Microelectronics of Barcelona, [IMB-CNM \(CSIC\)](#) offers a full-time postdoctoral position to support the research activities in the context of the project “*Biodegradable and compostable batteries for precision agriculture and decentralized energy systems*” (BIDEKO) – reference PLEC2021- 007801 supported by MCIN/AEI /10.13039/501100011033 and the European Union, NextGenerationEU/PRTR. More information: www.bideko-project.eu

Project BIDEKO aims to change the current paradigm of primary batteries from a ‘one-size-fits-all’ to a new ‘tailor-made’ model where batteries are ecodesigned to fit the life cycle of the device to be powered. BIDEKO proposes to develop a new battery concept based on the principles of ecodesign and circular economy. Thus, batteries will be designed and fabricated to ensure an optimal use of resources while reducing their potential environmental impact throughout their whole life cycle. Specifically, BIDEKO proposes a more sustainable **alternative end-of-life** scenario for batteries used in remote sites such as agricultural fields, forest monitoring and low resource settings with a lack of nearby battery recycling facilities. In these cases, batteries could be included in currently established **composting** waste streams or left in the soils for **biodegradation**. The combination of bioderived organic species, electrolytes, biopolymers and carbon-based electrodes comprising BIDEKO batteries will have the unique feature that its waste can nurture soil or restore natural systems.

Job description:

We are looking for a postdoctoral researcher who can support the project in organic battery development. The postdoctoral researcher will be participating in specific scientific tasks, as well as diverse project management duties and collaborative work, communication and dissemination activities.

Key responsibilities:

- Preparation and characterization of organic species, hydrogels and polymers with redox activity.
- Design of strategies for organic electroactive materials stabilization and integration.
- Fabrication of battery electrodes using printing technologies.
- Half-cell and full cell electrochemical characterization.
- Sample preparation for toxicity and biodegradability evaluation.
- Support on project management, dissemination and communication.

Main requirements:

- PhD in Organic Chemistry, Electrochemistry, Materials Science or equivalent.
- Strong analytical skills, solid knowledge of battery technology, and experience in electrochemical characterization.
- The applicant must have excellent interpersonal and communication skills, as well as excellent written and oral command of English.
- Pro-active attitude and ability to work independently in an interdisciplinary team.

We offer:

- 1-year employment contract with opportunity to apply to further postdoctoral funding.
- International collaboration network with possibility to perform research stays among project partners.
- An inspiring and dynamic research environment, including state-of-the art research facilities.
- Soft skill training on scientific writing, project management and technology transfer.

Application procedure:

Interested candidates should submit their **curriculum vitae** listing education, research experience, and a **motivation letter** for joining the project to careers@bideko-project.eu

Application deadline: March 30th, 2023

CSIC is committed to creating equal opportunities for people, independently of gender, culture, and race. Anyone with relevant qualifications is therefore strongly encouraged to apply for the position.