

Call reference number	(2023-29)
Call name	Researcher – Biodegradable battery ecodesign and characterization
Application Deadline	2023/11/30

Introduction and main description
<p>The upcoming wave of power hungry Internet-of-Things (IoT) sensing nodes will strongly increase the primary battery demand in the near future thus aggravating the environmental impact associated to its production and the generation of waste electrical and electronic equipment (WEEE) after its operation lifetime.</p> <p>This project 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. In this way, the project aims to change the current paradigm of portable 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.</p>

Skills and Requirements
<p>Required:</p> <ul style="list-style-type: none"> - BSc in Physics, Electrochemistry, Chemistry or Engineering. - MSc in Materials Science, Electrochemistry, Chemistry, Physics or Engineering. - Knowledge and experience in battery prototyping and characterization. <p>Desired:</p> <ul style="list-style-type: none"> - Knowledge of electrical conductivity characterization and electrochemical characterization techniques. - Experience in biobased hydrogel preparation and redox polymers. - Knowledge of rapid prototyping and additive manufacturing techniques, including printed electronics. - Fluent in english.

Work Program / Duties / Responsibilities
<p>Design and fabrication of battery prototypes.</p> <p>Electrical characterization of carbon-based electrodes.</p> <p>Electrochemical characterization of electroactive species.</p> <p>Evaluation of ionic conductivity of biobased polymer electrolyte membranes.</p> <p>Battery performance characterization.</p> <p>Preparation of samples for biodegradability and compostability assessment.</p>

Application Procedure

Apply by submitting a motivation letter and a CV (in English) using the “Contact” button at the corresponding offer, at the “Join Us” area on BCMaterials’ portal (<https://www.bcmaterials.net/join-us>).
Your name and email address will be required for further contact too.

Other Relevant Information

Able to work in an international environment.
Spanish knowledge would be an advantage.