

Predoctoral Contract

MICROBATTERIES AS SELF-POWERED DETECTORS OF BIOLOGICAL EVENTS

MICROBATT PROJECT targets the development of **microbatteries on silicon** substrates and their integration with CMOS electronic elements to show that it is possible to develop **autonomous systems** able to perform contactless sensing of changes in the environment (pH, ion concentration, temperature, etc). The core idea is **to transform microbatteries into self-powered biosensing entities**, with potential applications in biological environments of difficult access (inside human body, inside tissue, inside cells).

Required background and skills

- A Master's degree in Engineering (Bio, Electronics or Chemical), Chemistry, Nanotechnology, Physics or similar
- Scientific ambition and enthusiasm
- Interest in highly multidisciplinary projects
- Good Level of English

Description of Research Team

The research of MICROBATT will be guided by Prof Neus Sabaté – expert in the development of self-powered sensors and batteries and IP of the Self-Powered Devices Group (www.speedresearchgroup.com) – and Prof Jaume Esteve – expert in micro and nanofabrication of sensors and actuators and member of the Micro and Nanotools Group. They will combine their expertise to generate these novel biosensing entities. The development of the silicon-based batteries will be supported by the staff of our Clean Room, which is one of the largest in Spain devoted to micro and nanofabrication.

Job conditions

4-year Full time contract to develop your PhD associated to MICROBATT Project within the PIF2024 program of the Agencia Estatal de Investigación (www.aei.gob.es)

How to apply: contact neus.sabate@imb-cnm.csic.es

