



*Call for Expression of Interest:*

### Marie Curie Individual Fellowship for post-docs

The **MicroEnergy Sources and Sensor Integration Group (MESSI)** invites PhD researchers to indicate their interest in applying for a Marie Curie Postdoctoral Fellowship in the **research line of Memristive devices**. We encourage qualified researchers to consider this opportunity and join our team.

**The deadline for the expression of interest is 30<sup>th</sup> June 2023.** The actual deadline for submission of the proposal is 13<sup>th</sup> September. Please visit the MSCA Postdoctoral Fellowship webpage for more details on what the funding covers and who can apply:

<https://marie-sklodowska-curie-actions.ec.europa.eu/actions/postdoctoral-fellowships>

**Research topic that we are supporting for new applications:**

#### **Fabrication, Characterization, Modelling, and Applications of Memristive Devices**

Memristors are typically built using Metal-Insulator-Metal (MIM) structures that exhibit the resistive switching (RS) phenomenon, resulting in a non-volatile change in electrical resistance upon application of an electrical stimulus. These devices are being extensively investigated as promising candidates for non-volatile resistive random access memories (RRAM), digital logic circuits, and hardware security systems. Furthermore, intensive research is currently ongoing to evaluate their potential as synaptic devices in brain-inspired neuromorphic circuits that aim to replicate brain functions such as reasoning, learning from experience, and decision-making. We provide support for project proposals in the field of fabrication, characterization, modelling, and applications of memristors based on silicon and/or printed technologies. The research work may involve several tasks such as device design, structural characterization, advanced electrical characterization, reliability assessment, modelling, and exploration of applications for the fabricated devices.

Successful candidate will have access to the 1500 m<sup>2</sup> clean room facility of the IMB-CNM for micro and nanofabrication (find a list of currently available equipment at <https://www.imb-cnm.csic.es/en/micro-and-nanofabrication-clean-room/technology-offer>) and associated labs (packaging, rapid prototyping, electronic circuits assembly, electronic characterization). She/he will be trained in the use of these laboratories and equipment as needed for the development of the proposed research.

#### **Candidate Profile:**

We are looking for a motivated researcher with PhD in Physics, Electronic Engineering, Micro and Nano technology, or Materials Science. Previous experience in micro-nanofabrication, and electrical characterization of electronic devices will be positively valued. Interested candidates, please send your expressions of interest to [mireia.bargallo.gonzalez@csic.es](mailto:mireia.bargallo.gonzalez@csic.es)

This offer can be found on: <https://www.imb-cnm.csic.es/en/research/research-career/marie-sklodowska-curie-fellowship-opportunities>