

## POST-DOCTORAL POSITION

### Novel devices based on complex oxides for neuromorphic computing

**Starting date (tentative):** October 2023

**Duration:** 22 months (with the possibility of extension)

**Location:** Physics of Complex Materials Group ([GFMC](#)), Universidad Complutense de Madrid, Madrid, Spain.

#### Job description

The selected candidate will conduct scientific and research work in the field of neuromorphic computing with novel devices based on complex oxides. She/he will work in the development and high-frequency electrical characterization (at low temperature) of new devices intended to reproduce neuron and synaptic functionality leveraging the metal-insulator transition exhibited by certain oxide materials.

The work will include high-frequency electrical characterization at low temperature, device fabrication (lithography, design of lithography masks, materials etching, etc), implementation of the experimental set-up and development of the required programs to perform the electrical measurements.

#### Job profile and experimental skills

We are looking for applicants with experience in:

- High-frequency electrical characterization techniques.
- Low temperature measurements.
- Micro/nano-fabrication techniques (optical and e-beam lithography, ion milling, etc).
- Labview programming.

Applicants with experience in oxide electronics and/or neuromorphic computing are particularly suitable for the position. The ability to conduct successful research and development activity on targeted topics is essential.

#### Other valuable experimental skills

- Design of lithography masks.
- Materials deposition and sample preparation.
- Experience with Matlab and/or Python.
- Knowledge of artificial neural networks and machine learning methods. Development of algorithms.

#### How to apply

Applicants should apply by sending a CV to Dr. Miguel Romera: [miromera@ucm.es](mailto:miromera@ucm.es)

In an application, the candidate should describe her/his experience.

Applicants are encouraged to apply as soon as possible.

Please note that only shortlisted candidates will be contacted.

Do not hesitate to contact us for further inquiries.