



European Research Council
Established by the European Commission



Two PhD positions available within an ERC project on Magnetic Insulators and Spintronics

Two PhD positions will be available on **February 1, 2021**, at the **Institute of Materials Science of Barcelona** (ICMAB-CSIC) through the ERC Starting Grant project (Horizon 2020) entitled "Magnetic Insulators: An Enabling Platform for Innovative Spintronic Concepts" (MAGNEPIC) led by **Dr. Can Onur Avci**.

Description of the project and PhD position

The sustainability of computer technologies relies on finding new approaches to write, read, and process data. Spintronics offer attractive solutions to these endeavors. Today, however, the mainstream spintronic research efforts rely on a limited set of materials, mostly magnetic conductors. **MAGNEPIC** aims to challenge this conventional approach and place magnetic insulators at the core of spintronics by exploiting their numerous advantages over conducting magnets.

The projects will be at the intersection between material science and physics, and explore emerging physical phenomena such as current-induced magnetization control, chiral magnetism, spin transport, and magnetic coupling in magnetic insulator thin films. The **main objective** will be developing innovative device concepts and prototypes based on magnetic insulators for future spintronic applications.

The successful candidates are expected to:

- Grow and characterize magnetic insulator thin films by pulsed laser and magnetron sputtering deposition methods.
- Fabricate nano/micro-scale devices in a cleanroom facility.
- Perform magneto-transport and magneto-optical measurements to investigate various physical phenomena and test device prototypes.
- Analyze data, write papers, and present results at conferences, etc.

Salary range: 20-22k€ (yearly, gross)

Project duration: 3 years

Requirements of the candidates

Motivated candidates with a background in **Physics, Materials Science, Electrical Engineering, Nanotechnology**, or a closely related area are welcome to apply for the positions. Prior experience with thin film deposition, electrical/magneto-optic characterization, programming, and a strong solid-state physics and magnetism background will be valued. A Master's degree (or equivalent) is required at the time of joining ICMAB-CSIC.



European Research Council
Established by the European Commission



EXCELENCIA
SEVERO
OCHOA



How to apply

Interested applicants should send a short research statement, motivation letter, cv, transcript of academic records, and names of two referees to canonuravci@gmail.com.

The deadline for application is **November 15, 2020**. They will be evaluated as received. A later start is possible upon agreement. For more information please contact Dr. Can Onur Avci.

About ICMAB

The Institute of Materials Science of Barcelona (ICMAB-CSIC) is a multidisciplinary center focusing on cutting-edge research in functional materials in the fields of electronics, energy, and nanomedicine. With over 250 members from 30+ nationalities, ICMAB-CSIC offers a highly international and dynamic environment for enthusiastic young researchers. ICMAB-CSIC is located at the Autonomous University of Barcelona campus (~30 min from downtown Barcelona by public transportation) and is surrounded by numerous research and technological centers and state-of-the-art facilities.

More information at: icmab.es/jobs