



Post-Doc Position on “*Spintronics and Magnonics phenomena in systems with antiferromagnetic coupling*”

The research group on simulation of magnetic nanostructures of the University of Salamanca (SINAMAG: <https://diarium.usal.es/sinamag/>) conducts theoretical research in the field magnetization dynamics at the nanoscale. The recent proposal of using antiferromagnetic and ferrimagnetic materials at the nanoscale has opened new routes to explore and develop faster and efficient magnetic devices. In particular, the control of the magnetic state in these systems under either spin current and/or strain are nowadays key research subjects from both fundamental and technological points of view.

SINAMAG invites applications for a 2-year Post-Doc position to explore theoretically these new scenarios.

The position is part of the project “***Spintronics and Magnonics phenomena in systems with antiferromagnetic coupling***” (Reference SA114P20), supervised by Dr. Eduardo Martínez (edumartinez@usal.es), and funded by Junta de Castilla y León and Fondo Europeo de Desarrollo Regional.

Job Profile

Successful candidates will join the SINAMAG group at Salamanca (Spain), and will have the possibility to consolidate their own independent research lines and to promote collaborative research among the following research lines:

- Development of theoretical and numerical models to study and control the magnetization dynamics under spin currents and strain.
- Perform of numerical simulations of the current-driven magnetization dynamics in ferrimagnetic-based multilayers, including magnetic switching, domain wall motion and skyrmions dynamics.
- Evaluate the mechanical response by numerical simulations of hybrid piezo-electric and magnetic systems by using COMSOL Multiphysics, and to develop the home-made micromagnetic code to analyze its influence on different magnetization processes

including magnetic switching, domain wall motion and excitation and propagation of spin waves among others.

Responsibilities

- To develop and implement theoretical and numerical models along the described research lines.
- To conduct independent research as well as in collaboration with other members of the group.
- To present the research results by scientific papers and symposium communications.
- Co-advise PhD and/or Master students and collaborate in teaching activities (optional).

Candidate Requirements

- Ph.D. in Physics, Materials Science or related Engineering degree, at the date of recruitment, with experience in theoretical Magnetism and/or Condensed matter physics.
- Demonstrable team working skills.
- Advanced level of English.
- Candidates should be able to demonstrate a promising track record of achievements appropriate to their research field and career stage. CVs will be evaluated considering the overall track record of the researcher in relation to their level of experience.

Benefits

- Dynamic and international working environment.
- Training and access to a wide range of scientific facilities and soft skill training via European networks.

Employment conditions

- Full-time employment contract for 24 months.
- Gross salary of 2.500 €/month.
- Estimated starting date: January 1st, 2021.

Application deadline: December 15th, 2020

For more information contact to Eduardo Martínez (edumartinez@usal.es)