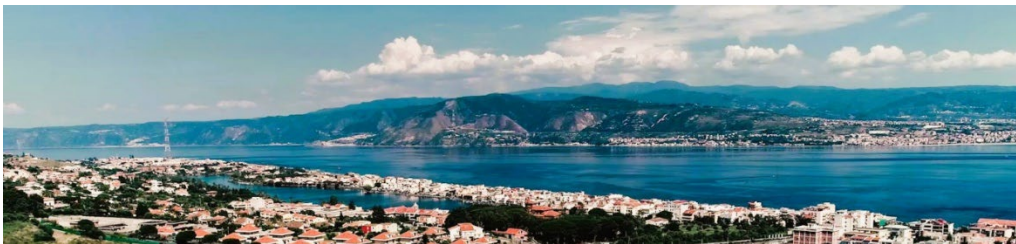




Università degli Studi di Messina



Job Information

TOPOCOM² is hiring 11 Doctorate Candidates (DCs) to be funded by the Marie Skłodowska-Curie Actions (MSCA) Doctoral Networks-Industrial Doctorates (DN-ID), 2023, within the European Union's EU Framework Programme for Research and Innovation Europe Horizon. The TOPOCOM consortium contains six leading European Universities and two major Industrial Partners working in the field of topological spin structures for unconventional computing and sensing. In particular, we are studying the use of skyrmions, magnetic whirls with enhanced stability and dynamics for novel unconventional logic and computing and integrated sensor-logic applications.

Location: University of Messina, Messina, Italy (see video presentation <https://www.youtube.com/watch?v=wh5zLWGLDsU&t=93s>)

Job ID: coming soon

Start date: As soon as possible but no later than February 28, 2024

Type of employment: Full time

Length of contract: Temporary (36 Months)

Workplace type: Hybrid

Project title

CUDA-native numerical solver for micromagnetic and microelectric calculations



Research field: Material modeling and software development

Research Objectives: Design and implement a CUDA-native solver for the study of magnetic and ferroic dynamics exploring new unconventional computing paradigms.

Research Activities: Explore the link between ferroelectric and ferromagnetic materials in presence of non-uniform textures. Design and explore new disruptive concepts of building blocks for unconventional computing including probabilistic and neuromorphic approaches.

Employment and Secondment: The selected DC will be enrolled as Ph.D. student at PhD program in Physics at the University of Messina (Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences). Furthermore, the TOPOCOM network offers ideal possibilities for scientific exchange with leading groups in the field and secondments are planned at selected partners. The DC will be also part of the PetasSpin team (www.petaspin.com).

Eligibility and mobility criteria (mandatory requirements EU rules)

Supported researchers must be doctoral candidates, i.e., not already in possession of a doctoral degree at the date of the recruitment.

Recruited researchers can be of any nationality and must comply with the following mobility rule: they must not have resided or carried out their main activity (work, studies, etc.) in the country of the recruiting beneficiary for more than 12 months in the 36 months immediately before their recruitment date. For 'International European Research Organisations' (IERO), 'international organisations', or entities created under Union law, the researchers must not have spent more than 12 months in the 36 months immediately before their recruitment in the same appointing organisation. Compulsory national service, short stays such as holidays and time spent by the researcher as part of a procedure for obtaining refugee status under the Geneva Convention (1) are not considered. (1) 1951 Refugee Convention and the 1967 Protocol.

Conditions of employment

The successful candidates will receive from the respective employer an attractive salary in accordance with the MSCA regulations for Doctoral Candidate researchers and will include a mobility allowance.

The guaranteed PhD funding is for 36 months. In addition to their individual scientific projects, all fellows will benefit from further continuing education, which includes internships and secondments, a variety of training modules as well as transferable skills courses and attractive participation in conferences.

Application Procedure

Applications must be submitted at the University of Messina website (www.unime.it).

Documents requested:

Eligibility Statement: for verifying MSCA requirements, the candidates clearly indicate exact dates of (1) degree entitling to pursue a PhD (typically a Master of Science degree or Engineering degree), (2) positions and country of residence in the last 5 years.

Complete CV (Europass format obligatory): The candidates are allowed to pursue a maximum of three positions in the E2GO programme. If more than one position is pursued, please clearly indicate all the positions that applied with priorities on the first page of the CV.

Motivation letter (maximum 1 page per position applied) should state why the applicant wishes to pursue the specific research and why she thinks s/he is an ideal candidate for the position. Scan of certificates showing BSc, MSc and other courses followed, with grades and if it is possible a ranking. Up to 3 recommendation letters and/or contact e-mail addresses with a brief professional description (title, position, relationship with applicant) of the referring person.

If possible, up to two selected publications (e.g. MSc thesis, conference paper) in English.

The applicant must provide and upload a proper project description, which describes the applicant's initial thoughts and ideas related to the specific project applied for. This includes a brief state-of-the-art (including short list of references), a time schedule and how the applicant intends to shed light on the project objectives. The project description should have a length of 4-5 pages.