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## Postdoc opening in first-principles electron-phonon-magnon interactions

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The Nanomat theory group at the Department of Physics at the University of Liège (<http://nanomat.ulg.ac.be>) is opening a postdoc position in the field of first-principles theory of electron-phonon-magnon interactions in interfaces and nanostructures, to explore their coupling in multifunctional materials. The magnetoelectric coupling has been a subject to intense research in the past 20 years, as it allows the manipulation of the magnetization via an electric field, and vice versa, with minimum energy use.

The project is funded by the m-era.net collaboration SWIPE, with UniLU in Luxembourg and CNRS/THALES in Paris, for experimental growth and characterization of samples. Candidates are expected to take an active and leading role in these collaborations.

The candidate will carry out first-principles calculations based on density functional theory, as implemented in the ABINIT package, followed by Monte Carlo and time dependent simulations with the multiscale codes developed in the group (Multibinit and Matjes). All codes are written in Fortran (and some C++), with python workflow management. The group has access to extensive resources for HPC (university, national, and PRACE computing clusters) and support from the CESAM research unit (administrative staff and a recently appointed computer scientist).

The interested candidates should have a PhD in physics, condensed matter, materials science, or related fields. A very good knowledge of solid state physics is expected, and experience in electronic structure theory is preferred. Programming skills are expected (Fortran and eventually C++), as are very good communication skills (written and oral) and proficiency in English.

The postdoc position is for up 3 years. Women and under-represented minorities are especially encouraged to apply.

Applications containing a CV, a list of publications, copy of diploma should be sent as a single .zip file to both [bertrand.dupe@uliege.be](mailto:bertrand.dupe@uliege.be) and [matthieu.verstraete@uliege.be](mailto:matthieu.verstraete@uliege.be). The candidate is responsible for requesting 2 letters of recommendation be sent, separately, to the same addresses.