

Open postdoc position in condensed matter simulations at Faculty of information studies in Novo Mesto, Slovenia

The position is in FLAG-ERA project *Preparation and characterization of single/few layer antimonene and germanium (2D-Sb&Ge)*, which is already [underway](#). The project revolves around development of new 2D materials (from one to several atomic layers of thickness) based on antimony and germanium, which have a huge applicative potential. The project's goal is to understand how to create and use these new materials.

Candidate's research work. While the materials will be physically produced in the labs of partner institutions in Spain and Germany, the work of the postdoc candidate will be focused on computer simulations/modeling aimed at predicting the physical/chemical properties of these (and potentially some new) 2D materials. Numerical outputs will be compared to the experimental results. Methodological details are to be discussed, but will in principle involve DFT simulations (e.g. QUANTUM ESPRESSO and VASP) and machine learning methods (e.g. predicting the conductance/conductivity by training a supervised algorithm on selected disordered systems, or using genetic algorithms for optimization of tight-binding). All necessary computing resources are available, including (at least) 600 CPU cores devoted exclusively to this research.

Degree and expertise requirements. Strongly motivated candidate should hold a PhD in physics, chemistry or computer science, and have (at least some) expertise in simulating quantum systems in the context of material science.

Employment details. Contract is for two years starting ASAP. Net salary is approx. 1,400 EUR per month plus all employment benefits (full health insurance, retirement funds, etc). Position is research-only (no teaching).

To express interest, send CV and publication record to zoran.levnajic@fis.unm.si