

Postdoctoral Researcher

Hybrid simulation of nanocomposites

Computational Soft and Molecular Matter group, Aalto University, Finland

The Computational Soft and Molecular Matter Group at Aalto University, Helsinki, Finland (<http://physics.aalto.fi/groups/comp/csmm>) has one position for a postdoctoral researcher in the area of multi-scale simulation of nanocomposites. The group is a member of the Centre of Excellence for Computational Nanoscience (COMP) at Aalto University School of Science, Helsinki, Finland. The centre consists of ten focused research groups with research areas covering from electronic structure to mesoscopic dynamics and transport. The basic strategy of COMP is to develop and apply cutting-edge theoretical and computational methods and the best available computing resources in attacking challenging problems in condensed-matter and materials physics.

The aim of the research is to model the electronic properties of nanocomposites using hybrid classical-quantum simulations. The modeling based on the simulations includes the emergence of electronic properties when the system size varies, the long-scale assembly and dynamical relaxations. The systems to study include polymer stabilized metal clusters and carbon-based nanosensors of biomolecules. These are ideal systems to support the exploration of novel computational techniques. The nanocomponent can play the role of a sensor since its experimental electronic properties can be used to determine the accuracy of the algorithmic developments.

We are looking for independent and strongly motivated candidates with a PhD in Physics or Chemistry. It is required to have experience in density functional theory simulation of nanosystems. Additional experience with classical simulations or code development are a plus.

The position is for 2 years and gross salary range at Aalto University for the postdoctoral level is 3300-3700 euros/month.

Application

Please submit your CV, publication list, names of two referees and a short motivation paragraph by email to Dr Olga Lopez-Acevedo olga.lopez.acevedo@aalto.fi. Deadline for the first round of applications is September 31st. The position will be available until suitable candidates are selected.