

# Post Doctoral Scientist in Computational Molecular and Cluster Physics

Electron Spectroscopy Group  
Department of Physical Sciences, University of Oulu, Finland

The Electron Spectroscopy Group in Oulu has a long-time experience in high-resolution spectroscopy of atoms and molecules using synchrotron radiation. The interpretation of the atomic experimental resonant Auger, photoelectron and ion yield spectra has been done by using theoretical ab initio methods, such as the relativistic multi-configuration Dirac-Fock approach. For more information on the group and research visit the web page <http://physics.oulu.fi/elsp.php?lang=en>.

Starting from the year 2009 the group is funded by the FiDiPro (Finland distinguished professor) project for five years. In addition to the FiDiPro professor position of Stephan Fritzsche the funding includes positions for a post doctoral researcher and two graduate students.

Experimental research in the group focuses on atoms together with small atomic and molecular clusters in gas phase. A detailed modeling of the electronic structure and transitions is thus essential in order to understand the electron spectra and to reveal the basic excitation and decay processes, including time dependent phenomena.

Applications are invited for a postdoctoral research scientist to participate in development of computational methods in

- Photoexcitation and ionization in small molecules and clusters
- Decay of core excited states in small molecules and clusters

Background in some of the computational methods used in molecular and cluster physics, either in density functional, Hartree-Fock, Dirac-Fock, or many-body perturbation theory is essential.

The position is available from January 2009 on and is initially for one year, with the possibility to additional years of extension. A recent (or soon-to-be-completed) Ph.D. in physics, theoretical chemistry, or a related discipline is a requirement. For further information contact Helena Aksela ([helena.aksela@oulu.fi](mailto:helena.aksela@oulu.fi)), Stephan Fritzsche ([s.fritzsche@gsi.de](mailto:s.fritzsche@gsi.de)), or Sami Heinäsmäki ([sami.heinasmaki@oulu.fi](mailto:sami.heinasmaki@oulu.fi)).

The applications including a curriculum vitae, list of publications, and addresses of two senior researchers from whom letters of recommendation can be requested, can be sent to the persons mentioned above via e-mail or via regular mail to

Department of Physical Sciences  
P.O. Box 3000  
90014 University of Oulu  
Finland