

Post-Doctoral Position

Photon and Plasmon Nanosources

Molecular Nanoscience Group
of the Institut des Sciences Moléculaires d'Orsay (ISMO),
Université Paris-Sud, Orsay, France

A post-doctoral position is available for the study and fabrication of photon and plasmon nanosources. Such nanosources are obtained using the electrons from a scanning tunneling microscope (STM), and may be used to locally and electrically excite plasmons and excitons in metallic and semiconductor nanostructures. In particular we locally engineer the electromagnetic local density of states (LDOS) of nanostructures in order to improve the efficiency of the excitation process, and to control the direction and spectrum of the emitted light.

In our group, a new experimental set-up consisting of a commercial STM/AFM mounted on an inverted optical microscope has been recently assembled. This new apparatus will allow sophisticated optical analysis and new imaging modes. In particular, spatial filtering in the image and Fourier planes will permit a greater understanding of the excitation process of the nanosources. The successful candidate will participate in the final steps necessary to complete this new experimental set-up and will be responsible for the subsequent scientific activity carried out on it. The successful candidate may also participate in nanostructure fabrication in the clean room of the Centrale de Technologie Universitaire in Orsay.

Previous experience in optics, nanophotonics, plasmonics, nanolithography or scanning probe microscopy is requested. The starting date for this position may be between Dec. 1, 2013 and April 1, 2014.

Please send a detailed CV and 2 letters of reference to:

Dr. Gérald Dujardin
Institut des Sciences Moléculaires d'Orsay
Bât. 210, Université Paris-Sud
F-91405 Orsay, France
e-mail: gerald.dujardin@u-psud.fr
<http://www.nanosciences.ismo.u-psud.fr/>