

Postdoc position

Plasmonic Molecular Rectennas

A postdoc position is open in the “*molecular nanostructures & devices (NCM)*” group at the Institute for Electronics Microelectronics and Nanotechnologies (IEMN), a CNRS laboratory located at the university of Lille – France.

This position is open in the context of a collaborative project funded by the "Agence National de la Recherche". It is a project in "molecular-scale electronics" with collaborations in chemistry (ICR, Marseille), nanostructures and materials (IM2NP and CiNAM, Marseille).

We are looking for a highly motivated postdoc (*max 4 years of experience after PhD*) with a PhD degree in condensed matter physics, materials science, nanoscience or a related discipline and a strong interest for organic nanostructures, molecular electronics, scanning probe microscopy (SPM) and interdisciplinary research. The postdoc researcher will be in charge of the electrical characterizations at the nanoscale (C-AFM, EFM, KPFM) of self-assembled molecular nanostructures. **This person must be a physicist with backgrounds and skills in SPM characterization and/or electrical measurements of nanostructures.**

Our main goal with this project is to develop a methodology allowing to electrically connect high frequency molecular diodes, bifunctional molecules and patch plasmonic nano-antennas in an optical rectenna device. The second objective aims at investigating new innovative strategies for the development of wavelength-tunable rectennas. In particular, IEMN will be in charge of the study of the electronic and plasmonic behaviors of innovative molecular junctions synthesized by the partners of the project.

The position requires a good autonomy and initiative to work in a multidisciplinary environment. Good communication skills (written and oral) in English are also mandatory. The person will be hired by CNRS and mainly working at IEMN (Villeneuve d'Ascq) with short stays at partner labs.

The “molecular nanostructures & devices” group is mainly interested in the electronic properties of organic nanostructures and molecular-scale electronics devices. IEMN (www.iemn.fr) is a widely recognized nanotechnology research centers in France with world-class clean-room equipment, electrical characterization and simulation capabilities, near-field scanning probe platform. Our group is well equipped with a platform for "materials and organic devices". We have a large experience for molecular materials and nano-device fabrication and characterization. For more details: [NCM group](#) or [DV page](#).

The position is funded for 1 year (renewable one year). Starting date : mid 2022.

Salary : 2690€ et 3099€ gross monthly depending on experience (no more than 4 years after PhD).

Candidates should apply on the CNRS web site at <https://bit.ly/3CEotCS>