

## **Post-doc position Molecular Electronics**

### **The job:**

A post-doctoral research position is open in the "molecular nanostructures & devices" group at the Institute for Electronics Microelectronics and Nanotechnologies, a CNRS laboratory located at the university of Lille – France. The position is open for 18 months. The selected candidate will work with physicists, electronic engineers, nanotechnologists and chemists. The general objective of the project is to explore the feasibility of "molecular electronics at high frequency" (up to 100 GHz). More precisely, the post-doc will explore the nanofabrication of molecular structures by microwave-assisted surface nanochemistry using a newly developed Scanning Microwave Microscope (SMM).

### **The candidate:**

We are seeking for a talented candidate with a PhD in device physics or nanoelectronics or nanotechnologies, with proved experiences and skills in scanning probe microscopes and relevant electrical characterizations, both at the device and nanoscale level. Specific skills in surface chemistry will be highly appreciated. The position requires a good autonomy and initiative to work in a multidisciplinary area. Good communication skills in English are also mandatory.

### **The lab:**

The "molecular nanostructures & devices" group is mainly interested in the electronic properties of organic nanostructures and molecular-scale electronics devices. The group consists of 6 permanent researchers and 7 PhD students and post-doc researchers. IEMN is a widely recognized nano-technology research centers in France with world-class clean-room equipments, electrical characterization and simulation capabilities, near-field scanning probe platform. Our group is well equipped with a platform for "materials and molecular devices", we have a large experience for molecular materials, molecular nano-devices fabrication and characterization.

[www.iemn.univ-lille1.fr](http://www.iemn.univ-lille1.fr)

<http://ncm.univ-lille1.fr>

### **To apply:**

Applicants should send by e-mail: A detailed curriculum-vitae, a summary of their research works, a detailed list of publications, conferences, etc..., letters of recommendation, to: Nicolas Clément, research scientist at CNRS.

[nicolas.clement@iemn.univ-lille1.fr](mailto:nicolas.clement@iemn.univ-lille1.fr)

*Position available last trimester, 2012. Seeking will continue until the position is filled.*

1. N.Clément, G. Patriarche, K. Smaali, F. Vaurette, K. Nishiguchi, D. Troadec, A. Fujiwara, and D. Vuillaume "Large Array of Sub-10 nm Single-Grain Au Nanodots for use in Nanotechnology", *Small* 7, 2607 (2011)
2. K. Smaali, N. Clément, G. Patriarche, and D. Vuillaume "Conductance statistics from a large array of sub-10 nm molecular junctions", *ACS Nano* (2012), in press, doi 10.1021/nn301850g