



## **12 months Post-doctoral position opening on Plasma functionnalization of nanostructured carbon surfaces**

A post-doctoral grant for an experimental physicist is available within the framework of project on plasma technology applications for development of novel sensors (more detailed: plasma surface functionalization, carbon nanotube growth, polymer deposition...).

**Research project description:** The post-doctoral researcher will join the Modi'Surf project\* in CNRS-University of Orléans, France, within team studying the growth and functionalization of carbon surfaces. The targeted production of surfaces is controlled by wide range of experimental techniques, for example material characterization by characterization by means of (SEM, NEXAFS, XPS, FTIR), and the functional properties like wettability, electrical and thermal conductivity. The experimental techniques are available in the local laboratories collaborating on this project or within international cooperations. The plasma will be characterized by different *in situ* diagnostics (mass spectrometer, energy flux, IR spectroscopy, optical emission spectroscopy, laser absorption) in order to correlate the gaseous phase knowledge to the surface analysis and the layer properties. One of the aims of his work is the evaluation of the key parameters to the functionnalization of multi-wall carbon nanotube carpets by plasma as well as other carbon nanostructured surfaces. This research is also motivated by the fact that GREMI has developed a great expertise in plasma techniques. In particular, a dedicated original and extremely high-performance experimental setup which combines micro-Raman spectroscopy and the plasma reactor has been recently developed and will be used by the applicant.

This project is founded by the “La Region Centre”,

**Profile:** Applicants must hold a high-quality Ph.D. in Plasma Physics, Condensed Matter Physics, Materials Science or Nanoscience. The successful candidate should be highly motivated and able to initiate independent research as well as to work in a team setting. She/he should have a solid experience in spectroscopic methods. Additional experience in carbon based materials; electrical measurements would be a plus. English fluency is highly desired.

**Starting period:** The position is open in February 2015.

**Location:** Orléans is situated at 140 km south from Paris, France. Modi'Surf Project groups several laboratories : GREMI, CEMHTI, PRISME, CRMD, ICARE for Surface Modifications.

The candidate should send a complete CV, a letter of motivation and the coordinates of two reference persons to [eva.kovacevic@univ-orleans.fr](mailto:eva.kovacevic@univ-orleans.fr) and [mammar@cnrs-orleans.fr](mailto:mammar@cnrs-orleans.fr)