PhD position on plasma synthesis and functionalization of materials in the field of biosensors
-36 months PhD position at GREMI Laboratory: Development of plasma-based processes for synthesis and functionalization of materials in the field of biosensors
-Deadline for applications – September 5th 2015

Motivated candidates are invited to apply for fully-funded scholarship for PhD position (Thesis) at GREMI, UMR 7344 CNRS&Université d’Orléans, France, for the PhD program starting from October 2015 or later

Context:
In more detail this PhD position (36 months) is financed by the ANR project PlasBioSens (Process development for novel low temperature plasma synthesized nanocarbon–based biosensors).

The main objective of this large project in general is the development of novel methods for the synthesis and functionalization of conductive nanocarbons for a new generation of field effect transistor sensors suitable for high sensitivity bio-sensing applications. Numerous in-situ diagnostics of the plasma will be performed in combination with the surface analysis to understand and control the grafting of functional groups at carbon surfaces. This will enable the targeted coupling of antibodies/proteins important for the development of sensors for the detection of allergens or allergy markers in biological fluids.

This highly interdisciplinary research will be performed by 4 complementary laboratories dealing with plasma-processing; nanomaterials, electronics and biology (see http://www.agence-nationale-recherche.fr/?Project=ANR-14-CE07-0019).

The GREMI team involved in this project includes scientists specialized in carbon nanomaterial deposition and functionalization by means of plasma, as well as in plasma diagnostics, with a strong support of technical stuff.

PhD candidate work(thesis subject):
The candidate will be involved in the part of the project concerning plasma processes, especially the deposition of polymers on surfaces and the functionalization of surfaces.

One important part of the work is in-situ plasma diagnostics and process diagnostics by means of mass-spectrometry, in-situ FTIR spectroscopy, electron density measurements, or optical measurements already developed at GREMI.

Moreover the candidate will be involved in the exchange with the other partners in the project, especially with the Institute of Molecular and Experimental Immunology and Neurogenetics (INEM).

Skills of the candidate:
She/he will have to possess, besides a Master degree or an equivalent degree, basic knowledge and experience in plasmas or plasma deposition methods, a very good knowledge of English, communications skills, and team-work abilities.

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