

Master Matériaux

Ingénierie des matériaux - Ingénierie des polymères - Ingénierie des surfaces

Année universitaire 2012/2013

Nom du responsable et intitulé du laboratoire d'accueil :

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Titre : Study of the catalytic properties of gold-graphene nanocomposites in hydrogenation and oxidation reactions

Résumé :

Background:

Since its discovery in 2004, graphene has found numerous applications in sensors and electronic devices. An impact of its exceptional electron conducting properties is also expected in some metal-catalyzed petrochemical transformations.

Scientific project:

The work is part of the IDEX project GRAPHOGOLD (2012-2014), which aims at evaluating the potentials of graphene as a support for metal catalysts in selective hydrogenations and oxidations. It will focus on determining the catalytic properties (activity, selectivity, activation energy) of hydrophobic nanocomposites, consisting of Au nanoparticles dispersed at the surface of few layers graphene (FLG), of various size and surface compositions. The candidate will join a team of scientists, engineers and technicians dedicated to the project and benefit from their know-how throughout the project.

Profile:

The M2 candidate is expected to show particular interest in heterogeneous catalysis, as well as the ability to work on deadlines, both independently and in a team.

Gratification: ~ 436 €/month

Veillez préciser pour quel(s) parcours vous proposez votre sujet et mettez une croix devant la(les) spécialité(s) correspondante(s) :

- Ingénierie des matériaux / Physique des matériaux**
- Ingénierie des matériaux / Chimie des matériaux**
- Ingénierie des polymères**
- Ingénierie des surfaces**