



Postdoctoral researcher position

New catalysts for carbon dioxide (photo)electroreduction

A postdoctoral researcher position in the synthesis and evaluation of new catalysts for carbon dioxide (photo)electroreduction is available for **12 months** with a starting date from October 2015 to March 2016, in the frame of a "PSL-Chimie" Project (**CATACARB**) involving three partners:

Partner 1: Collège de France - Laboratoire de Chimie des Processus Biologiques - UMR CDF-CNRS-UPMC 8229 (Prof. Marc FONTECAVE)

Partner 2 : Chimie ParisTech - Unité de Technologies Chimiques et Biologiques pour la Santé – UMR 8258 - Equipe Synthèse, Electrochimie, Imagerie et Systèmes Analytiques pour le Diagnostic (Dr. Fethi BEDIQUI)

Partner 3 : ENS - Laboratoire des BioMolécules (LBM) – UMR7203, Département chimie de l'ENS (Prof. Clotilde POLICAR)

The development of new energy storage technologies is central to solve the challenges facing the widespread use of renewable energies. An attractive option is the reduction of carbon dioxide (CO₂) into carbon-based fuels either at an electrode or by direct photoreduction (artificial photosynthesis). These are complex multi-electron and multi-proton reactions, which require selective, efficient and cheap catalysts. We will focus on the development of new molecular catalysts for the reduction of CO₂, either as electrocatalysts or within a photosystem (coupled to a photosensitizer). The recruited postdoc will be in charge of *(i)* the synthesis of a new class of pyridine-triazole Re tricarbonyl complexes (Partner 3) and of their evaluation (Partner 1) as catalysts for CO₂ reduction and *(ii)* the preparation of stable electrodes through the immobilization of the most active compounds at the conducting surfaces using the methodologies developed by Partner 2.

The recruited candidate will develop the project within the three partners premises, and will start with the synthesis of the designed catalysts in Partner 3 lab.

The required candidate will have a PhD in molecular chemistry. Previous experience in organic synthesis is mandatory. A good knowledge in organometallic chemistry would be an asset. The basic knowledge of complementary characterization techniques such as electrochemistry and/or photochemistry would be an asset for the project.

Interested candidates should email a CV along with a short description of their research background and publications.

Contacts:

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