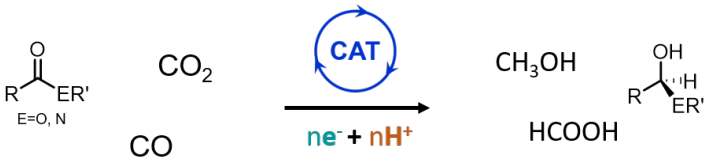
PhD Position in Grenoble

Topic: Electrochemical Hydrogenation of unsaturated C-O bonds using molecular complexes; CO_2 conversion

Location: Département de Chimie Moléculaire, Saint Martin d'Hères Campus

Project Leaders: Noémie Lalaoui and Carole Duboc

Project Description: The project aims to develop efficient and selective catalysts for electro-driven hydrogenation reactions of unsaturated C-O bonds using molecular complexes and integrating the latter into functional electrodes. These reactions offer a pathway to access a variety of value-added chemicals and fuels through environmentally and energetically sustainable processes. The project will target both the conversion of CO_2 and other small organic substrates. The successful candidate will work on two main axes: (i) the development of electrochemical hydrogenation reactions, including CO_2 conversion to formate, in a homogeneous medium, and (ii) the immobilization of the most promising catalysts on electrodes, allowing for the benefits of homogeneous and heterogeneous catalysis to be combined.



Methods and Materials: Inorganic synthesis, electrochemical characterization, catalytic reaction screening, and optimization.

Requirements: Master's degree in chemistry or a related field, background in molecular synthesis and coordination chemistry, including characterization techniques, background/interest in electrocatalysis, strong motivation to work on sustainable energy research, good written and oral communication skills in English.

Application Process: Interested candidates should submit their CV, a motivation letter outlining research interests and relevant experience in the domain, copies of academic transcripts and degrees, and names and contact information of two references to the project leaders: Noémie Lalaoui (noemie.lalaoui@univ-grenoble-alpes.fr) and Carole Duboc (carole.duboc@univ-grenoble-alpes.fr).

APPLICATION DEADLINE: May 20 at 23:59.