

## PhD positions in Heterogeneous Catalysis

### Job description

Research fellow position (PhD candidate) in **heterogeneous catalysis** is available in a joint project between UCCS laboratory in Lille University of Science and Technology and Solvay International Joint Research Lab for Ecoefficient Products and Processes (E2P2L). The project aims to study **oxidation reactions** of alcohols into carbonyl compounds over metallic sites in different environment of functional groups combining experiment and theory with the goal of development of new highly selective and active catalysts. The main focus is **development** of recyclable **catalysts** for environmentally friendly and economically viable synthesis of **renewable platform molecules for the synthesis of new polymers**. Strong emphasis is put on the development of new catalytic routes for the conversion of biomass based building blocks like ethylene glycol, glycerol...

### Requirements

The applicant must have achieved a master's degree or equivalent in chemistry or chemical engineering. The candidate is a highly motivated, enthusiastic researcher and has a strong interest in heterogeneous catalysis and biomass valorization. Fluency in written and spoken English is required. The successful candidate should be able to work independently and cooperate with other researchers in an interdisciplinary group.

### Conditions of employment

The candidate is offered a full-time position for 3 years. The work time will be shared 50/50 between UCCS laboratory in Lille (France) and E2P2L laboratory in Shanghai (China). The salary will be equal to 1421€/month. The travel cost will be in charge of the Laboratories.

### Employers

**Unité de Catalyse et de Chimie du Solide (UCCS)** (<http://uccs.univ-lille1.fr>) is a joint laboratory with CNRS and academic partners : Université de Lille 1, Ecole Nationale Supérieure de Chimie de Lille and Ecole Centrale de Lille. UCCS laboratory is divided into 3 main research groups: (i) heterogeneous catalysis, (ii) organo-metallic catalysis and (ii) solid state chemistry. One of the main topics in UCCS is valorization of compounds produced from biomass conversion. The project will benefit from experience of UCCS in the field of deep catalyst characterization and high-throughput catalyst testing.

**International Joint Research Lab for Ecoefficient Products and Processes (E2P2L)** is joint research center between Solvay and French National Center for Scientific Research in Shanghai (<http://www.e2p2l.com>). Laboratory is specialized on chemistry related to sustainable development. The projects aim to develop new

methods for the environmentally friendly transformation of biomass and/or CO<sub>2</sub> with applications in the field of surfactants or biopolymers. This laboratory is based on fundamental research and modeling approaches while retaining the industrial application at the end of the research.

**Contacts:**

Please attach a curriculum vitae, a publication list and a letter of motivation. Applicants should also arrange for minimal two letters of recommendation to be sent directly to:

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**Starting date:**

The study might start in September / October 2016.