

*PhD subject :*

**« Novel hybrid materials for biobased routes  
to industrially relevant aliphatic alkanes »**

**Project** : This project aims at the development of novel bifunctional hybrid materials as catalyst for the one-pot cascade transformation of bio-based terpenes into aliphatic industrially relevant products, such as cyclic alkanes which find widespread industrial applications such as solvent for paints.

The development will be based on the original surface organometallic nanoparticle growth and embedding in well-ordered silica matrices functionalized with olefin metathesis surface catalysts, mastered by the Lyon 1 team. The catalytic testing will be performed in Institut für Technische Chemie und Makromolekulare Chemie (ITMC) at RWTH Aachen.

**Candidate**: The ideal candidate will have a solid background in at least two of the following three fields: organometallic chemistry, hybrid materials and/or heterogeneous catalysis.

**Supervisors:**

**in LYON (FRANCE - HOME Location)** : Dr. E.A. QUADRELLI and Dr. C. THIEULEUX  
(LYON 1 university – C2P2 Unit (UMR 5265 CPE-CNRS-Unily1))

**in AACHEN (GERMANY- HOST Location)** : Prof. W. LEITNER (RWTH Aachen University)

**in AACHEN (GERMANY - ASSOCIATE Location)** : (CAT Catalytic Center)