



Postdoctoral Fellowship – Coordination Chemistry and Catalysis

A postdoctoral researcher position in chemistry is available at the CNRS Laboratory of Coordination Chemistry in Toulouse, within the framework of a Priority Research Program and Equipment (PEPR) dedicated to CO₂ valorization.

Missions

The recruited researcher will be involved in a research project aimed at developing molecular metal catalysts for the synthesis of polycarbonates from CO₂ and bio-sourced molecules.

Activities

- Organic and organometallic synthesis
- Physicochemical characterization
- Catalytic testing

Required Skills

- Strong experience in synthetic chemistry, particularly organic synthesis (ligand synthesis) and coordination chemistry
- Molecular characterization techniques (NMR, MS, IR, UV/Vis, etc.)
- Working under inert atmosphere (Schlenk line, glovebox)
- Experience in catalysis and/or in carrying out reactions under pressure would be a plus
- Organizational skills and adaptability
- Compliance with hygiene and safety regulations
- Excellent command of English (written and spoken)
- Knowledge of French is a plus

Working Environment

The recruited researcher will join the Catalysis and Fine Chemistry team at the CNRS Laboratory of Coordination Chemistry in Toulouse.

The team develops fundamental research with applied objectives in the field of catalysis. The research aims to explore new concepts in catalysis (confinement effects, bimetallic catalysis, single-atom catalysis), to design new catalytic systems, and more recently, through collaborations, to develop specific tools for catalysis, notably via continuous-flow chemistry approaches. The activation of small molecules and the functionalization of bio-sourced molecules are key targets of the team.

The project is part of a collaborative program with CEA Grenoble (LITEN) and the University of Lyon (ICBMS), aiming to develop bio-based polycarbonates that are free of BPA and

phosgene, with improved recyclability through CO₂ valorization. Unlike existing partially bio-based solutions, the project relies on second- and third-generation resources such as terpenes and diols derived from biomass, in order to avoid competition with food crops. Two routes will be explored: polymerization of epoxidized terpenes (ETP route) and direct carbonation of bio-based diols (DCD route), using CO₂ as the carbon source.

Constraints and Risks

The position involves exposure to chemical hazards.

The position is located in an area subject to the protection of scientific and technical potential (PPST) and therefore requires, in accordance with regulations, authorization from the competent authority of the French Ministry of Higher Education and Research (MESR) prior to appointment.

Conditions

- Contract duration: 24 months
- Starting date: March 2026
- Gross Salary: starting from 3040 euros according to experience

Application

Applicants are invited to submit:

- a detailed CV,
- a cover letter,
- a list of publications,
- contact details of at least one referee.

Applications should be sent by email to:

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