



Master Thesis

Miniplants | Homogeneous catalysis | Catalyst recycling

New concepts for catalyst recycling in miniplants

Our group:

The Multiphase Catalysis Group in the department of Molecular Catalysis at the Max Planck Institute for Chemical Energy Conversion (MPI CEC) is currently looking for students interested in conducting research in the field of catalysis and reaction engineering.

Our research is focused on green chemistry, catalysis and process intensification. We work at the interface between chemistry and engineering and therefore offer a very versatile work environment. Projects include the development of new reactions, design of suitable catalysts, catalyst recycling in multiphase systems and scale-up of processes into batch and continuously operated miniplants.

Your thesis:

The Power2ValueChemicals project is a collaboration between Evonik, Siemens Energy, the Forschungszentrum Jülich and the Max Planck Institute for Chemical Energy Conversion (<https://www.fz-juelich.de/de/iet/iet-1/projekte/p2vc-power2valuechemicals>). The project aims to demonstrate a value chain for the climate-friendly production of value chemicals from renewable CO₂ sources and electricity generated from renewable energy. Siemens Energy and the Forschungszentrum Jülich will establish and operate a low-temperature CO₂-to-CO electrolyzer on a long-term basis. To assess whether the sustainably produced CO can be used in a value chain, a mini-plant for the continuous methoxycarbonylation of C₄ cuts using electrolyzer-generated CO will be designed and constructed at the MPI CEC.

What is waiting for you:

- A green and sustainable project in the field of chemical engineering on the interface between research and industry
- Working in state-of-the-art technikum and laboratory
- A fun and friendly international work environment at an excellent research institution
- HiWi contract and salary for 6 months

Requirements:

- Interest and motivation to work in the field of homogeneous catalysis and green chemistry
- Interest and motivation in working with miniplants
- A level of English that is sufficient for communication with your international colleagues and understanding scientific literature

If this description sounds like you and you are interested, do not hesitate to contact me with a short description of your background and interests and why you want to join the team!

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