

Master's thesis project with Biosimo AG

Catalyst development for bioethanol oxidation to bio-based acetic acid

Background:

Biosimo AG is a spin-off, based at ETH Zurich, aiming to develop and produce bio-based platform chemicals. Its focus so far has been on bio-acetic acid from bioethanol. Biosimo AG has developed proprietary catalytic processes that stand at the core of its technology platform.

Project:

In this master thesis project, the student will work with Biosimo AG' scientist on the catalyst formulation for the next-generation bioethanol oxidation catalysts. The project will focus on a literature review, catalyst preparation, testing, and characterization. Specifically, the role of dopants and the catalyst performance will be evaluated in this work.

Tasks:

- Gain an understanding of catalytic ethanol oxidation
- Learn how to prepare heterogeneous catalysts
- Test and characterize catalysts
- Determine relations between properties and performance
- Draft scientific reports and present results

Candidate profile:

- Master's student in the field of Chemistry, Chemical, Process, or Environmental or Engineering
- Habitude of driving research independently and of taking initiative
- Excellent communication skills in English (both written and spoken)
- Good interpersonal skills
- A basic knowledge of lab work and catalyst testing and evaluation is a plus

Framework:

- Work location: Biosimo Labs at ETH Zurich Hoenggerberg and Schlieren
- Supervision: Dr. Maximilian Moser (Biosimo AG) and Prof. Jeroen van Bokhoven (ETH Zurich)
- Students not enrolled at ETH Zurich need the support of their Master Program Manager
- Start: Spring 2023

Contact:

- If interested, please contact us directly at: info@biosimo-chemicals.com