University of Stuttgart
Institute of Polymer Chemistry

Research Group of
Jun.-Prof. Kenichi Endo

Collaborative Research Center 1333
Molecular Heterogeneous Catalysis in Confined Geometries

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PhD or postdoctoral positions for catalysis in porous crystalline materials (f/m/d)

Are you interested in the development of future materials, the chemistry of crystalline molecular assemblies, or chemical reactions catalyzed by unique atomic arrangements? Do you prefer research and supervision in an interactive and flexible setting? The research group of Jun.-Prof. Dr. Endo, just launched in May 2025, is looking for highly motivated candidates for PhD or postdoctoral positions, with a starting date as soon as possible.

The positions are funded by the Collaborative Research Center (CRC) 1333 "Molecular Heterogeneous Catalysis in Confined Geometries" at the Institute of Polymer Chemistry, University of Stuttgart, Campus Stuttgart-Vaihingen. It offers a pay grade of 50% or 67% E13 TV-L for PhD candidates and 100% E14 TV-L for postdocs, continuing until December 2026. Further funding, including the pursuit of a doctorate, is being requested.

Job description

- Synthesis of MOF–COF hybrid frameworks (Figure 1) with embedded catalytic centers
- Investigation of catalytic aerobic oxidation of organic molecules within the frameworks.
- Elucidation of the effects of coupled confinement of multiple catalytic centers.

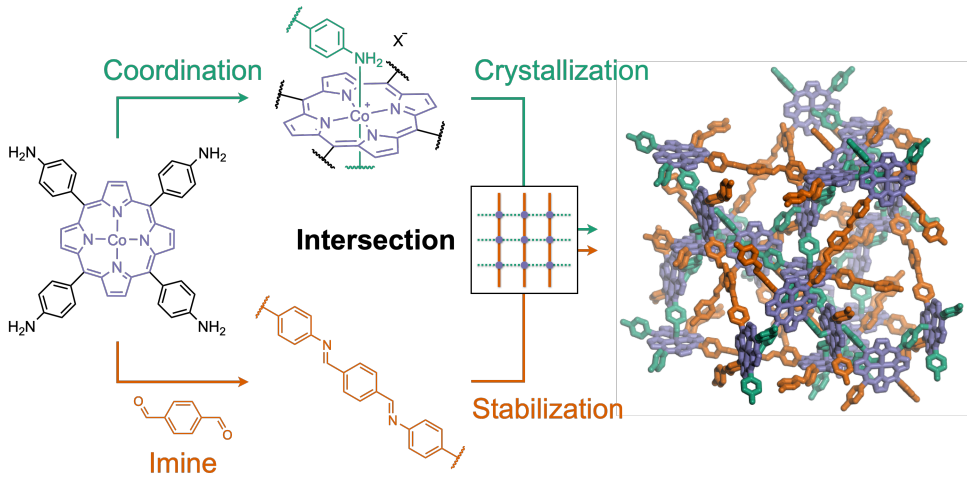

Figure 1. MOF–COF hybrid frameworks developed in our previous work.[1]

Requirements

- Master's degree in Chemistry or Materials Science.
- Experience in organic/metal–organic synthesis or catalysis.
- Excellent oral and written English communication skills.
- Willingness to engage in the CRC and other academic events.

At the University of Stuttgart, we actively promote diversity among our employees. We have set a goal of recruiting more female scientists and individuals with disabilities. We are therefore particularly pleased to receive applications from such candidates and will prioritize them over others with equal qualifications.

Your benefits

We provide experience and supervision in the emerging chemical technology of porous crystalline materials, supported by the outstanding research infrastructure of the Faculty of Chemistry. PhD students will develop problem-solving skills and critical thinking through original research in a supportive and motivating environment. Furthermore, the CRC offers opportunities for scientific exchange regarding catalysis and porous materials, along with social interactions with other members through regular events. The doctorate will be pursued within a structured graduate program of the CRC integrated into the Graduate Academy of the University of Stuttgart (GRADUS).

The University of Stuttgart symbolizes exceptional, internationally recognized research in one of Europe's most vibrant industrial regions. It takes pride in its employees, who currently include individuals from over 100 different countries. The university serves as a partner for knowledge and technology transfer, emphasizing multidisciplinarity.

As a certified family-friendly university, we support the balance between work and family, as well as between professional and personal life in general, through various flexible modules. We have an award-winning employee health management system and offer our employees a broad range of continuing education programs. We are consistently enhancing our accessibility. Our Welcome Center assists international scientists in starting their careers in Stuttgart.

Application

The closing date is **June 27, 2025**. Please send your application, which should include a cover letter, CV, academic transcripts, and contact information for two potential references, by email to kenichi.endo.2@ipoc.uni-stuttgart.de or by post to the Institute of Polymer Chemistry, University of Stuttgart, Jun.-Prof. Dr. Kenichi Endo, Pfaffenwaldring 55, 70569 Stuttgart. If you submit your application in paper form, please ensure that you send only copies of essential documents. After the selection process, we will dispose of your documents as required by data protection laws.

References

[1] K. Endo,* S. Canossa, F. Heck, D. M. Proserpio, M. S. Istek, F. Stemmler, J. van Slageren, S. Hartmann, A. Hartschuh, B. V. Lotsch,* *Nat. Synth.* **2025**, *4*, 603–613, DOI: 10.1038/s44160-024-00719-x.

Group website: https://www.ipoc.uni-stuttgart.de/pcmc/