

Academic Employees / PhD students (f/m/d)

Development and operando characterization of heterogeneous catalysts for exhaust gas aftertreatment

For the Institute for Chemical Technology and Polymer Chemistry (ITCP), we are currently seeking to recruit, limited to three years, two Academic Employees / PhD students (f/m/d).

Job description

The Chair in Chemical Technology and Catalysis (www.itcp.kit.edu/grunwaldt) focuses on the design, testing and in-depth characterization of heterogeneous catalysts. Our research topics range from exhaust gas aftertreatment and fine chemical synthesis, to renewable energy applications including biomass conversion. The group operates in close collaboration with other leading figures in both science and industry, offering a complete approach spanning from fundamental studies to industrial applications.

The exhaust gas aftertreatment group is engaged in the understanding and development of conventional and novel new promising materials for application as pollution control catalysts. It is embedded in the "Exhaust Gas Center Karlsruhe", which is equipped with modern test benches and a broad variety of state-of-the art characterization techniques. It is in particular utilizing cutting-edge synchrotron based techniques, which allow the characterization under realistic operation conditions, to investigate the relationship between structure and catalytic activity of heterogeneous catalysts.

The PhD work will be part of a research project focusing on the development and in-depth characterization of exhaust gas aftertreatment catalysts. For this purpose, systematic preparation and testing will be combined with in situ/operando characterization by using advanced characterization methods. The study will be closely coordinated with external project partners from industry and academia.

You will therefore work in a multidisciplinary environment, in close collaboration with our group and our external partners. The position will particularly involve the use of synchrotron radiation, therefore you will have the opportunity to conduct experiments at world-leading large-scale facilities (eg. PETRA III, ESRF, SOLEIL, SLS, ANKA). Moreover, you will promote your research and represent the group at international conferences.

Responsibilities:

- Synthesis, testing and characterization of exhaust gas aftertreatment catalysts
- Catalyst characterization by applying state of the art spectroscopic methods at synchrotron radiation sources, e.g. operando X-ray absorption and emission spectroscopy
- Extensive data analysis, preparation of reports and publications
- Supervision of bachelor and master students

Personal qualification

You hold a very good master's degree in chemistry, chemical engineering, materials science, or physics. Very good knowledge and experience in physical, materials and technical chemistry, as well as dedication to spectroscopy and catalysis are required. Besides the professional qualification, strong commitment, independent and self-responsible working including fluent verbal and written English skills are expected. German language skills are a plus.

Salary

Salary category E13, depending on the fulfillment of professional and personal requirements.

Organizational unit

Institute for Chemical Technology and Polymer Chemistry (ITCP)

Starting date

as soon as possible

Contract duration

limited to three years

Application up to

31.05.2020

Contact person in line-management

For subject-specific information please contact Prof. Dr. Jan-Dierk Grunwaldt, phone +49 721 608 42120 (www.itcp.kit.edu/grunwaldt).

Application

Please apply **online** using the button below for this vacancy number 3592 .
Personnel Support is provided by

Ms Brückner
phone: +49 721 608-42016,
Kaiserstr. 12, 76131 Karlsruhe

We prefer to balance the number of employees (f/m/d). Therefore we kindly ask female applicants to apply for this job.

If qualified, severely disabled persons will be preferred.



KIT - The Research University in the Helmholtz Association

powered by [d.vinci](#)