



**PhD Fellowship (m/f/d)**  
**at the department “Catalyst Discovery and Reaction Engineering”**  
**404-01/2020**

The Leibniz Institute for Catalysis (LIKAT) with approx. 300 employees and guests is one of the leading European research institutions in the field of catalysis. LIKAT is a competent partner for the research and development of homogeneous and heterogeneous catalysts as well as catalytic processes and technologies. LIKAT’s focus is on application-oriented basic research and applied research. Therefore, it cooperates with industrial companies and research institutes worldwide.

The research group (“Reaction mechanisms”) of Priv.-Doz. Dr. habil. E.V. Kondratenko in the department “Catalyst Discovery and Reaction Engineering” has a vacant PhD position in heterogeneous catalysis. The position is in the frame of an internal project closely interacting with a DFG funded project. The research topic is the metathesis of ethylene with 2-butenes to propene over catalysts with supported  $\text{MoO}_x$ ,  $\text{WO}_x$  or  $\text{ReO}_x$  species. The main objective is to establish fundamental insights into factors affecting in situ formation of metal-carbenes from supported  $\text{MO}_x$  ( $M = \text{W}, \text{Re}$  or  $\text{Mo}$ ). It is also important to understand if metal-carbenes can be transformed into inactive complexes causing catalyst deactivation. To achieve the objectives, we will follow a complementary approach combining controlled catalyst synthesis, steady-state and transient catalytic tests as well as operando catalyst characterization by UV-Vis and DRIF spectroscopy with Density Functional Theory (DFT) calculations.

We are looking for a motivated researcher (m/f/d) having a diploma degree or a master’s degree in chemical engineering or chemistry with a strong background in synthetic inorganic chemistry, physical chemistry and/or heterogeneous catalysis. The candidate should be committed to research and have proficiency in written and spoken English. It is advantageous if the applicant is familiar with gas chromatographic and mass spectroscopic analysis and has good computer skills (MS Office, Origin) preferably including programming (Fortran, Python).

We offer a challenging PhD position in an international research group in an excellent environment at the LIKAT Rostock. The position is available from now and is limited to 3 years. The fellowship in the first year is worth 1,500 EUR per month and will be slightly increased in the second and third years.

LIKAT supports professional equality of women and men and so applications from women are most welcome. As women are underrepresented in this sector of LIKAT preference will be given to women with equal qualification. Disabled applicants with equal qualification and aptitude will be given preferential consideration.

Highly motivated applicants are kindly asked to submit their application letter together with a detailed CV and a copy of the masters/diploma certificate with reference “Metathesis” as an e-mail (in one pdf file with a maximum size of 25 MB) stating the reference number **404-01/2020** to

[bewerbungen@catalysis.de](mailto:bewerbungen@catalysis.de)

The application deadline is the 29<sup>th</sup> of February 2020.

For topic related questions, please contact Priv.-Doz. Dr. habil. E.V. Kondratenko ([evgenii.kondratenko@catalysis.de](mailto:evgenii.kondratenko@catalysis.de)) directly.

Please note that application and travel costs cannot be reimbursed.