Fakultät für Naturwissenschaften
Institut für Chemie

lädt ein
gemeinsam mit der Gesellschaft Deutscher Chemiker
zum

Vortrag
von Herrn
Assistant Prof. Dr. Christoph Rameshan
Institut für Materialchemie
Technische Universität Wien

am: 23.04.2020
um: 16:00 Uhr
wo: 1/232 (Straße der Nationen 62)

Gäste sind herzlich willkommen!

„Treffen mit dem Vortragenden“
Kaffee und Kekse ab 15:30 Uhr
im Hörsaal 1/232

Prof. Dr. Michael Sommer
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Heterogeneous Catalysis is among the most important industrial processes for society and environment. These ranges from ammonia production via Haber-Bosch-Process, the creation of synthetic fuel via Fischer-Tropsch-Synthesis, to the current need of a change towards renewable and sustainable energy systems which rely strongly on catalytic reactions that enable the conversion and storage of primary renewable energy (e.g. wind or solar power) into a distributable form. Although research in heterogeneous catalysis has a long tradition, many catalytic processes still lack a fundamental understanding of the basic mechanistic steps and the relationship between catalyst structure and reactivity. The main difficulty is due to the complexity of catalyst materials and their dynamic behavior under reaction conditions. A sophisticated approach is to simplify catalytic systems by using model surfaces or catalysts. For this, single crystal surfaces, supported nanoparticles or inverse model systems are studied step-by-step, increasing the complexity to obtain a molecular level understanding of catalytic processes on heterogeneous catalyst surfaces and to identify structure-performance relationships. Employing in-situ spectroscopy, model catalysts can be studied in their reactive environment, allowing the identification of catalytically active sites of a catalyst material.