GESELLSCHAFT DEUTSCHER CHEMIKER
ORTSVERBAND SIEGEN

Ankündigung

Am Dienstag, **19. November 2019**, spricht um **16:30 Uhr**
im Hörsaal AR-F 002, Department Chemie und Biologie

Prof. Dr. Jürgen Senker
Universität Bayreuth

über das Thema

„Structure, Disorder and Function of Porous Materials – an NMR Crystallographic Approach“

Kaffeerunde ab 16 Uhr im Foyer des Hörsaals AR-F 002, organisiert durch das
JungChemikerForum

Alle interessierten Kolleginnen und Kollegen, Mitarbeiterinnen und Mitarbeiter und Studierende sind zu diesem Vortrag herzlich eingeladen.
Gäste sind herzlich willkommen.

Der Ortsverbandsvorsitzende
PD Dr. Stephan Bäurle
Tel. 0271 740-4025

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Prof. Dr. Jürgen Senker

Structure, Disorder and Function of Porous Materials – an NMR Crystallographic Approach

Porous materials offer potential for applications like drug delivery, gas storage and separation as well as sensor design. In particular, within the context of current efforts for the realization of a sustainable energy future, porous materials are of relevance. Most applications rely crucially on the interactions between the framework and the incorporated guest molecules. The lecture will provide an overview of our recent advancements on the synthesis and postsynthetic modification of covalent-organic and metal-organic frameworks with the aim to introduce selectivity into sorption processes. Among other things we demonstrate how the disorder of side chains attached to flexible networks influences the breathing and changes adsorption properties for guest molecules.
Investigating host-guest interactions in such complex systems requires an integral approach analysing both structural details and dynamical properties equally. Therefore, we combine different techniques like powder X-ray diffraction, sorption measurements, solid-state NMR spectroscopy and computational chemistry. We make use of techniques to hyperpolarise Xe gas to determine pore spaces as well as the intra- and interparticle diffusion of guests and apply modern multinuclear and multidimensional NMR techniques to unravel connectivities.