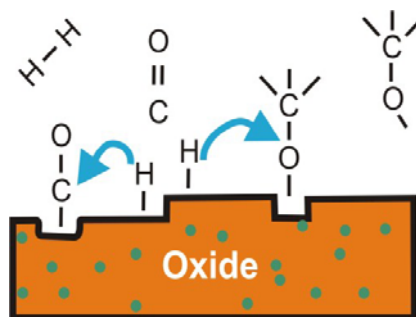


# Ruhr-Universität Bochum



**SFB 558**

## „Metall-Substrat-Wechselwirkungen in der heterogenen Katalyse“

**Einladung  
zum Vortrag von**

**Prof. Dr. Susumu Kitagawa**  
**Kyoto University, Kyoto, Japan**  
(Gast von Prof. R. A. Fischer)

### "Design of Functional Porous Coordination Polymers"

Abstract: The recent advent of porous coordination polymers (PCPs), as new functional microporous materials, have attracted the attention of chemists and physicists due to scientific interest in the creation of unprecedented regular nano-sized spaces and in the finding of novel phenomena, as well as commercial interest in their application for storage, separation and heterogeneous catalysis.<sup>1</sup> One of the advantages of PCPs is designability, which provides a variety of surface properties based on organic ligands with functional groups. This prominent feature leads us to expect that PCP will show a high adsorption capability for specific molecules and responsive nature of flexible frameworks. We have succeeded in obtaining interesting array structures of benzene, O<sub>2</sub>, acetylene etc. and observed their unusual properties in the nanochannel.<sup>2-4</sup> In addition to this confinement phenomena, we have found flexible porous frameworks, which respond to specific guests, dissimilar to the conventional porous materials.<sup>1</sup> Recently, we have utilized the regular and tunable nanochannels of PCPs for fields of polymerization, which allows controlled living radical polymerization as well as stereoregulated polymerization of substituted acetylenes.<sup>5</sup>

(1) S. Kitagawa, et.al., *Angew. Chem. Int. Ed.*, **2004**, 43, 2334 (Reviews).

(2) R. Matsuda, et.al., *Nature*, **2005**, 436, 238.

(3) R. Kitaura, et.al., *Science*, **2002**, 298, 2358.

(4) S. Kitagawa, *Nature*, **2006**, 441, 584.

(5) T. Uemura, et.al., *Chem. Asian J.* **2006**, 1, 36. (Focus Review).

**Sondertermin:**

**Montag, 29.09.2008**

**Zeit:**

**11:15 h**

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**HNC 5/99**

*Gäste sind herzlich willkommen.*