

第 2 1 回錯体物性化学講演会

Prof. Stefan Kaskel

Chair of Inorganic Chemistry I
Technical University Dresden
Germany



機能性の多孔性化合物 (MOFs) ならびに LiS 電池の研究で世界的に著名な Stefan Kaskel 教授 (Technical University Dresden, Germany) をお招きして、講演会を開催いたします。皆さまのご来聴をお待ち申し上げます。

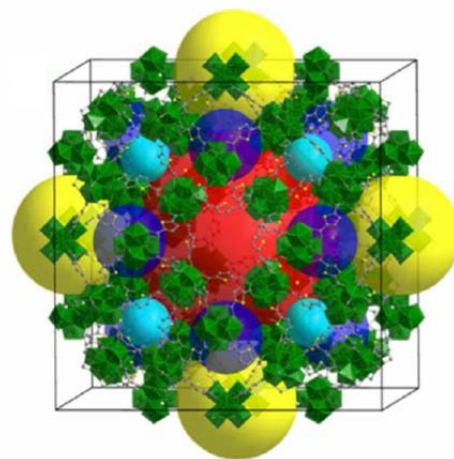
日時 : 2016 年 2 月 22 日 (月) 16:00 ~ 18:00

場所 : ウエスト 1 号館 B-314 号室

講演タイトル :

Metal-Organic Frameworks with Ultrahigh Porosity, Switchability and Functionality

Abstract: Metal-Organic Frameworks (MOFs) are an exciting class of materials due to their high porosity and modular construction. The integration of chiral or optically active functional groups gives access to enantioselective catalysts, adsorbents or sensing materials through changes of optical properties. A fascinating phenomenon of some MOFs is flexibility in the solid state. Some porous solids were discovered showing step-wise huge volume changes (more than 240 % in case of DUT-8, DUT = Dresden University of Technology) during gas uptake. Recently also the highly porous cubic DUT-49 ($S_g > 5000$ m²/g) was found to show pronounced structural changes during methane adsorption at low temperatures resulting in anomalous Negative Gas Adsorption (NGA) behavior. Robust frameworks with high chemical stability were synthesized based on zirconium clusters (DUT-67). Zirconium MOFs are also a promising basis for optical sensor integration. MOF mineralization in the presence of biological (marine) sponges gives access to hierarchical materials suitable for filter applications.



連絡先: 理学研究院化学部門 大場正昭

E-mail: ohba@chem.kyushu-univ.jp, Tel: 092-802-4152