Functional Nanomaterials Symposium

FuNMat 2015, 30th of July, Prague, CZ

Faculty of Science
CHARLES UNIVERSITY IN PRAGUE

Bulk graphite and activated carbon are widely exploited for its electrochemical and absorbent properties leading to applications in **energy storage** (Li^+ battery anodes) to **gas storage**, **energy harvesting** or **biomedical applications**. Since its recent rise, graphene has been considered as a new "wonder" material merit its advantageous combination of high electrical and thermal conductivity and stability. We suggest that heavily doped, organic functional materials offer even wider possibilities for real applications in the near-term. This symposium aims to bring together scientists who are at the forefront of research into **design and applications of novel functional materials** on all length-scales, *i.e.* as molecular porous solids (0D), layered functional sheets (2D), or as amorphous assemblies (3D). Research topics will stem from the large field of functional, porous materials indispensable for industrial, scientific and domestic applications.

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Keynote Speakers

Andrew I. Cooper (FRS)
University of Liverpool, UK

Andy Cooper is the founding Director of the Centre for Materials Discovery (established in 2007) and is the Academic Director of the new Materials Innovation Factory (MIF). Andy's research interests are polymeric materials, porous organic cages, crystal engineering, supercritical fluids, CO_2 capture, materials for energy production, and high-throughput materials methodology.

Modular and predictable assembly of porous organic molecular crystals. J. T. A. Jones, T. Hasell, X. Wu, J. Bacsa, K. E. Jelfs, M. Schmidtmann, S. Y. Chong, D. J. Adams, A. Trewin, F. Schiffman, et al., *Nature* **2011**, *474*, 367.

Michael Mastalerz
Ruprecht-Karls-Universität Heidelberg, D

Since April 2013, Michael Mastalerz is a full professor for Organic Chemistry at Ruprecht-Karls-Universität Heidelberg. His main research interests include organic porous molecules and materials by dynamic covalent bond formation, crystal engineering and self-assembly, and nonplanar extended aromatic molecules.

A Shape-Persistent Quadruply Interlocked Giant Cage Catenane with Two Distinct Pores in the Solid State. G. Zhang, O. Presly, F. White, I. M. Oppel, M. Mastalerz, *Angew. Chem. Int. Ed.* **2014**, 53, 5126.

Arne Thomas
Technische Universität Berlin, D

Arne Thomas is a full professor at the Institute of Chemistry, Technische Universität Berlin. His research interests include the immobilization of homogenous catalysts in porous organic frameworks, and the synthesis of functional mesoporous catalysts/catalyst supports.

An Anionic Microporous Polymer Network Prepared by the Polymerization of Weakly Coordinating Anions. S. Fischer, J. Schmidt, P. Strauch, A. Thomas, *Angew. Chem. Int. Ed.* **2013**, *52*, 12174.

Charl F. J. Faul
University of Bristol, UK

Charl Faul is currently a Reader in the Inorganic and Materials Chemistry Section at the School of Chemistry, University of Bristol. His research efforts are focussed on the production of complex functional hierarchical materials based on ionic self-assembly, guanine biomotifs and oligo(aniline)s with tunable optoelectronic properties.

Self-Assembled Polymeric Supramolecular Frameworks. N. Houbenov, J. Haataja, H. Iatrou, N. Hadjichristidis, J. Ruokolainen, C. Faul, O. Ikkala, *Angew. Chem. Int. Ed.* **2011**, *50*, 2516.

Neil B. McKeown
University of Edinburgh, UK

Neil McKeown holds the Crawford Chair of Chemistry at the University of Edinburgh. Neil is interested in synthesis of organic materials, Polymers of Intrinsic Microporosity (PIMs), membranes, CO_2 capture, and nanoporous molecular crystals.

An Efficient Polymer Molecular Sieve for Membrane Gas Separations. M. Carta, R. Malpass-Evans, M. Croad, J. C. Jansen, P. Bernardo, F. Bazzarelli, N. B. McKeown, *Science* **2013**, *339*, 303.

Martin Kalbac
J. Heyrovsky Institute of Physical Chemistry, CZ

Martin Kalbac is currently the Head of the Department of Low-dimensional Systems at the J. Heyrovsky Institute of Physical Chemistry. His research is focused on Raman spectroelectrochemistry on graphene and carbon nanotubes; CVD production of graphene and carbon nanotubes.

Ion-Irradiation-Induced Defects in Isotopically-Labeled Two Layered Graphene: Enhanced In-Situ Annealing of the Damage. M. Kalbáč, O. Lehtinen, A. V. Krasheninnikov, J. Keinonen *Adv. Mater.* **2013**, *25*, 1004.

Organiser

Michael J. Bojdys
Charles University in Prague, CZ

Michael Bojdys joined the Charles University in Prague in 2014 as an Assistant Professor. His current research interest lies in the field of functional nanomaterials for semiconductor applications, gas storage and catalysis.

Triazine-Based, Graphitic Carbon Nitride: a Two-Dimensional Semiconductor. G. Algara-Siller, N. Severin, S. Y. Chong, T. Björkman, R. G. Palgrave, A. Laybourn, M. Antonietti, Y. Khimyak, A. V. Krasheninnikov, J. P. Rabe, U. Kaiser, A. I. Cooper, A. Thomas, M. J. Boidys. *Angew. Chem. Int. Ed.* **2014**, *53*, 7450.

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