

Liebig-Lectureship

der Liebig-Vereinigung für Organische Chemie
in der Gesellschaft Deutscher Chemiker



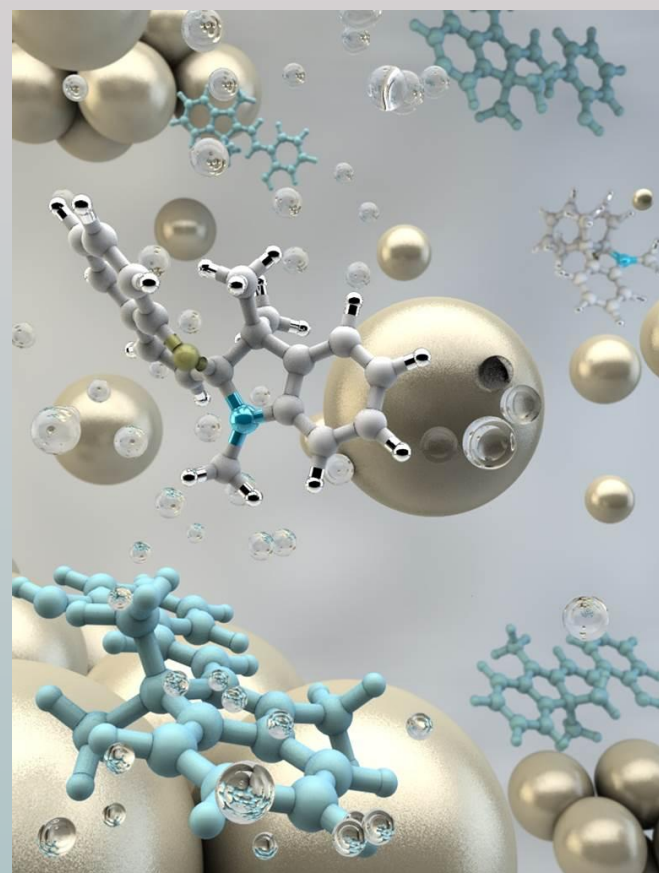
December 2015

Dr. Rafal Klajn

Weizmann Institute of Science, Israel

From dynamically self-assembling materials to chemical reactivity in confined environments

Living organisms are the most prominent examples of systems self-assembled and performing useful functions under far-from-equilibrium conditions. Inspired by nature, we design new materials whose structures and functions can be adjusted on demand, using external stimuli as “inputs”. Among the different external stimuli, we focus on magnetic fields (*Adv. Mater.* **2013**, *25*, 422; *Science* **2014**, *345*, 1149) and light (*Nature Commun.* **2014**, *5*, 3588; *J. Am. Chem. Soc.* **2014**, *136*, 11276; *Nature Chem.* **2015**, *7*, 646) since they can be delivered instantaneously and into precise locations. In this Liebig Lecture, I will discuss molecular switches and inorganic nanoparticles as the key building blocks of new dynamically self-assembling materials. These materials hold promise for novel applications as diverse as light-controlled catalysis (unpublished work), or manipulating non-magnetic objects with the help of magnets (*J. Am. Chem. Soc.* **2012**, *134*, 19564).



Wednesday

Thursday

Friday

Monday

Tuesday

Thursday

December 2nd

December 3th

December 4th

December 7th

December 8th

December 10th

Giessen

Mainz

Bonn

HU Berlin

Regensburg

Ulm

Rafal Klajn (1982) completed with Ph.D. in Chemical & Biological Engineering at Northwestern University, working with Profs. Bartosz A. Grzybowski and Sir J. Fraser Stoddart. Since 2009, he has been an Assistant Professor at the Department of Organic Chemistry at the Weizmann Institute of Science (Israel), where the interests of his group revolve around nanoscale self-assembly and reactivity, and the development of new stimuli-responsive materials. He is a recipient of the 2010 IUPAC Prize for Young Chemists, the 2013 ACS Victor K. LaMer Award, and the 2013 ERC Starting Investigator Award.