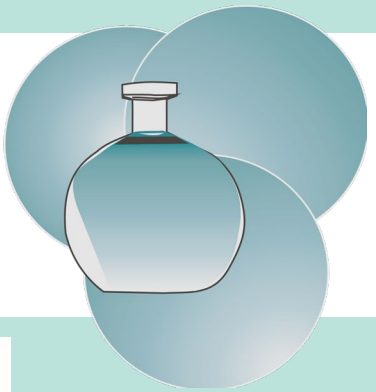
Fakultät für Naturwissenschaften

Institut für Chemie



lädt ein

gemeinsam mit der Gesellschaft Deutscher Chemiker zum

GDCh
GESELLSCHAFT DEUTSCHER CHEMIKER

Vortrag
von Herrn

Prof. Markus Retsch

Physical Chemistry
Department of Chemistry
University of Bayreuth

“Thermal transport and heat management in self-assembled materials”

am: 24. Oktober 2024

um: 16:00 Uhr

wo: im Raum 1/232

Die kleine Kaffeerunde vor dem Vortrag beginnt um 15:30 Uhr im Raum 1/232.
Das Mitbringen von eigenen Trinkgefäßen ist erwünscht.

Gäste sind herzlich willkommen!

TECHNISCHE UNIVERSITÄT
IN DER KULTURHAUPTSTADT EUROPAS
CHEMNITZ

Prof. Dr. Michael Sommer
Telefon: 0371 / 531 32507
E-Mail: michael.sommer@chemie.tu-chemnitz.de

Fakultät für Naturwissenschaften

Institut für Chemie

Prof. Markus Retsch

Physical Chemistry
Department of Chemistry
University of Bayreuth

GDCh
Gesellschaft Deutscher Chemiker

Thermal transport and heat management in self-assembled materials

Thermal transport can be significantly influenced by the presence of nano- and mesostructures and the interfaces that exist in such materials. This structuring can be employed to realize super-insulation properties as well as efficient heat spreading. Consequently, nanoscale thermal transport has attracted a lot of research interest for the past 20 years. Furthermore, (colloidal) mesostructures play a pivotal role in light-matter interaction, covering a broad spectral range from ultra-violet to mid-infrared. Thus, solar radiance scattering and thermal radiation emission can be tuned towards passive radiative daytime cooling.
In this presentation, I will provide an overview of heat transport and heat management in mesostructured materials. Based on anisotropically structured materials on different length scales and dimensionalities I will highlight the vast possibilities to control the temperature distribution for various applications. Order and disorder further contribute to thermal transport pathways and scattering of light. Colloidal mixtures of distinct compositions are well-suited model systems to systematically unravel their role in heat management. Finally, we have a strong interest in materials with a gradient structure. I will demonstrate various pathways to access gradually structured materials and how they can be employed for optical engineering and switchable temperature gradients.

TECHNISCHE UNIVERSITÄT
IN DER KULTURHAUPTSTADT EUROPAS
CHEMNITZ

Prof. Dr. Michael Sommer
Telefon: 0371 / 531 32507
E-Mail: michael.sommer@chemie.tu-chemnitz.de