UNIVERSITÄT LEIPZIG

Fakultät für Chemie und Mineralogie
Wilhelm-Ostwald-Institut für
Physikalische und Theoretische Chemie

Kolloquium des Wilhelm-Ostwald-Instituts

Prof. Dr. Michael Köhler

Technische Universität Ilmenau

Montag, 25.11.2024, 16:15 Uhr

Wislicenus-Hörsaal, Johannisallee 29, 04103 Leipzig

"The Plenty of Room in Between" - Challenges of the microscale between chemistry and engineering technology

Abstract

The example of living nature shows us how it is possible to build functional structures on length scales starting from small groups of atoms up to the millimeter range in the form of organisms. The key lies in the modular hierarchical construction principles of biomolecules, cells and organs. With the synthesis of nano- and microparticles, the scale gap between the atomic and macroscopic dimensions can also be technically closed. Functional microparticles are interesting as sensors and catalysts, for example. Microfluidic techniques can support the construction of hierarchically designed microparticles. Hierarchically structured particles together with modular molecular concepts could help to open up the large field of possibilities and the conceivable diversity of functional systems on the microscale.