



GESELLSCHAFT DEUTSCHER CHEMIKER
ORTSVERBAND SIEGEN

Ankündigung

Am Montag, 17. November 2025, spricht um 17:00 Uhr
im Hörsaal AR-F 002 des Departments Chemie und Biologie

Prof. Dr. Guido Clever

Technische Universität Dortmund

über das Thema

Non-Statistical Assembly of Multifunctional Coordination Cages

Kaffeerunde ab 16:30 Uhr in Raum AR H 100
organisiert durch das JCF (JungesChemieForum) Siegen

16:15 h Kurzeinführung nur für Studierende und Promovierende
(AR- H 100)

Alle interessierten Kolleginnen und Kollegen, Mitarbeiterinnen und Mitarbeiter und Studierende sind zu diesem Vortrag herzlich eingeladen.
Gäste sind herzlich willkommen.

Der Ortsverbandsvorsitzende
Prof. Dr. Jörn Schmedt auf der Günne

Non-Statistical Assembly of Multifunctional Coordination Cages

Advanced self-assembly strategies enable the targeted synthesis of supramolecular systems and materials with increasing structural and functional complexity.

In the field of nanosized coordination cages, we develop non-statistical assembly methods based on 'shape complementary assembly' (SCA), 'coordination sphere engineering' (CSE) and 'adjacent backbone interactions' (ABI). With a focus on multi-chromophore systems, we investigate the suitability of modular assemblies for light-induced charge separation and vectorial excitation transport.

We also study 'complex systems' behaviour by following the stimuli-responsive population and evolution of co-existing species in mixtures.

Furthermore, we investigate the supramolecular chemistry of DNA G-quadruplexes (GQs). Inspired by metalloprotein coordination environments, we incorporate ligands such as imidazoles into guanine-rich oligonucleotides that fold into GQs with a binding site for transition metals. Metal binding induces GQ formation and folding into specific topologies. Paramagnetic copper(II) ions, rigidly placed inside modified GQs, are used as EPR spin labels with applications in structural biology.