

EINLADUNG

Im Rahmen der gemeinsamen Kolloquien der Fakultät für Chemie und Chemische Biologie der Technischen Universität Dortmund und des DFG Graduiertenkollegs GRK2376 "Confinement-Controlled Chemistry" hält

Frau Prof. Michaele Hardie

University of Leeds

einen Vortrag mit dem Thema:

"Self-assembled cages and networks using host-type ligands: self-sorting, shape-changing and more"

Cyclotrimeratrylene (= CTV) is a pyramidal host molecule that can be functionalised to form tripodal or hexapodal cavitated L ligands. These can be used to form multi-metallic assemblies including discrete metallated complexes, coordination cages and coordination polymers and other networked materials. Examples of metallo-cages include trigonal bipyramidal M_3L_2 cages, M_6L_8 stella octangula cages and $M_{12}L_8$ cubes. Cages and other assemblies may show topological complexity,⁽¹⁾ and functionality such as luminescence and/or whole-cage photoisomerisation⁽²⁾ can be embedded in the cages. Families of cages with small variations to the L ligand leads to different solution self-assembly which can be exploited to dynamically control cage speciation in solution. Crystalline coordination polymers can also be formed from networked cages. These have shown guest-uptake or photocatalytic activity and clusters of cage-catenanes undergo solid-state structural transformations on solvent-exchange.⁽³⁾ In this lecture, different cage types and functionalities will be discussed.

References:

1. Thorp-Greenwood, F. L.; Kulak, A. N.; Hardie, M. J.* An infinite chainmail of M_6L_6 metallacycles featuring multiple Borromean links, *Nature Chem.* **2015**, *7*, 526-531.
2. Oldknow, S.; Rota Martir, D.; Pritchard, V. E.; Blitz, M. A.; Fishwick, C. W. G.; Zysman-Colman, E.; Hardie, M. J.* Structure-switching M_3L_2 Ir(iii) coordination cages with photo-isomerising azo-aromatic linkers, *Chem. Sci.* **2018**, *9*, 8150-8159.
3. Snelgrove, M. P.; Sergeeva, N. N.; Hardie, M. J.* Higher Assemblies of Coordination Cage-Catenanes Linked by Copper(II) Chloride Clusters: Networks and Transformations *Chem. Eur. J.* **2025**, *31*, e202403692.

Zeit: Dienstag, 19.05.2026, 15.30 Uhr
Ort: Campus Nord, Chemiegebäude, Hörsaal 1

Für die Dozierenden der Chemie

Im Auftrag des Dekans

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