

Special UniCat Colloquium

with lectures of two new UniCat Research Group Leaders

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Lecturer: **Prof. Elke Dittmann**, Institute of Biochemistry and Biology, Microbiology, University of Potsdam, Germany

Work Title: ***New tricks from an ancient group of bacteria: lessons from cyanobacterial peptide libraries***

Abstract: N.N. coming soon as soon as possible

Lecturer: **Dr. Matthias Schwalbe**, Metalorganic Chemistry and Photochemistry, Department of Chemistry, Humboldt-Universität zu Berlin

Title: **The activation of small molecules (esp. O₂, H₂O₂, CO₂) – old and new concepts !**

Abstract: First, the presentation will deal with corrole and porphyrin complexes for the activation of oxygen and hydrogen peroxide. The second part will introduce new heterodinuclear complexes for the activation of carbon dioxide. The activation of oxygen and oxygen-derived species is a major task of natural metallo-enzymes (e.g. heme-oxidase enzymes). New “Hangman” and “(mixed)-Pacman” type corrole and porphyrin compounds will be presented that resemble enzyme centers. Special interest will be paid to catalase and cytochrome c oxidase. The introduction of a supporting group, either a proton donor/acceptor functionality or a second metal centre, aims for an enhanced catalytic performance.

The reduction of CO₂ becomes more and more important not only to the scientific but also the social community. Utilisation of solar light to activate the strong C-O bond is very intriguing and has been shown for metalloporphyrins; although low turnover numbers were obtained. Dinuclear systems could show superior catalytic activity than intermolecular systems. Hence, we focussed on the synthesis of a combined porphyrin-phenanthroline bridging ligand that allows connecting two metal centres and permitting electronic communication between them. The goal is to find suitable conditions to produce valuable products from CO₂.

Date: **Wednesday, April 18, 2012**

Time: **5:15 pm - around 6:45 pm**

Location: **TU Berlin, Institute of Chemistry,
Straße des 17. Juni 115, 10623 Berlin
Building C, Lecture Hall C 264**

Coffee and tea will be served thirty minutes prior to the lecture start.
Guests are cordially invited to attend!

Prof. Dr. Matthias Driess, Chair of the Cluster of Excellence UniCat