

UniCat Colloquium

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Lecturer: **Prof. Dr. Miquel Costas Salgueiro**, Department of Inorganic Chemistry, University of Girona, Spain

Title: **Bioinspired Catalysts for Selective C-H and C=C Oxidations**

Abstract: The selective functionalization of C-H and C=C bonds remains a formidable unsolved problem, owing to their inert nature. Novel alkane and alkene oxidation reactions exhibiting good and/or unprecedented selectivities can have a big impact on bulk and fine chemistry by opening novel synthetic methodologies. These goals are targeted in our research efforts via design of iron and manganese catalysts inspired by structural elements of the active site of non-heme iron and manganese enzymes. Designed catalysts are environmentally benign because they use catalytic amounts of non toxic Mn and Fe metal ions, H₂O₂ as oxidant, and operate under mild experimental conditions (pressure and temperature). The fundamental mechanistic aspects of the catalytic reactions, and the species implicated in C-H and C=C oxidation events is also studied with the aim of building up the necessary knowledge to design future generations of catalysts, and provide models to understand the chemistry taking place in manganese and non-heme iron-dependent oxygenases. Our recent advances in the design of iron and manganese based catalysts will be discussed.

Date: **Wednesday, 02 December 2009**

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

Location: **TU Berlin
Institute of Chemistry, Building C
Straße des 17. Juni 115, 10623 Berlin
room C 243**

Organiser: Prof. Dr. Matthias Driess (TUB)

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