



Vortragsankündigung

- im Rahmen des UniCat-Kolloquiums -

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Es spricht: Prof. Dr. Andreas Hirsch

Department für Chemie und Pharmazie & Interdisziplinäres Zentrum für Molekulare Materialien (ICMM), Universität Erlangen-Nürnberg

Zeit: Mittwoch, 03. Dezember 2008 17:15 Uhr

**Ort: TU Berlin
Institut für Chemie, Altes Chemiegebäude
Straße des 17. Juni 115
10623 Berlin
Raum C 243**

Thema: Synthese und supramolekulare Organisation von kohlenstoffreichen Architekturen

Abstract: The core surface of C_{60} provides an ideal platform for the attachment of functional addends in a globular arrangement. The defined addition of a selected combination of functional groups at specific sites of the fullerene framework allows for the synthesis of new molecular architectures with unprecedented properties. For this purpose the complete control over the regioselectivity of subsequent additions to the [6,6]-bonds of the C_{60} framework is an important requirement. We achieved this goal by the introduction of new functionalization concepts. One strategy takes advantage of the even distribution of strain within flexible macrocyclic malonate addends. Based on these synthetic methods the tailor design of a large variety of functional fullerene derivatives with properties such as photo-induced charge separation, liposome formation and biological activity was possible. Typical examples are the π -stacked dyads and the first globular amphiphiles. In water these amphiphiles forms pH-switchable and functionalizable liposomes (buckysomes) which represent a new type of drug delivery vehicles. Related calixarene based architectures allowed for the first self-assembly of completely uniform and stable micelles. This C_2 -symmetric supramolecular architecture has a diameter of 7 nm and consists of exactly seven amphiphilic molecules. It is the first micelle which is structurally characterized. Finally, methods for the chemical functionalization of SWNTs will be presented.

Organisator: Prof. Dr. Christian Thomsen (TUB)

Gäste sind herzlich willkommen!

Prof. Dr. Matthias Drieß
Sprecher des Exzellenz-Clusters UniCat