

## UniCat Colloquium

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Lecturer: **Prof. Josef Michl**, Department of Chemistry, University of Colorado, Boulder, USA, and Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague, Czech Republic

Title: **Singlet Fission: an Obscure and Inefficient Process, or a Boon for Mankind?**

Abstract: Singlet fission is a process in which an excited singlet chromophore shares its energy with a nearby ground state chromophore. The result is a pair of chromophores excited into their triplet states. If the process were fully efficient and if each triplet could be made to charge separate into an electron-hole pair in a simple solar cell, the theoretical maximum efficiency of the cell would be raised from  $\sim 1/3$  to nearly  $1/2$ . However, singlet fission has so far only been observed for a few chromophores, typically with very low triplet yields. First principles permit the development of design rules for molecular structures in which singlet fission should be efficient. These will be presented and some initial applications described.

Date: **Wednesday, 15 June 2011**

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 243**

Organiser: **Prof. Matthias Driess (TUB), Prof. Martin Kaupp (TUB), Prof. Helmut Schwarz (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