

# UniCat Colloquium

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Lecturer: **Prof. Dr. Wilfried Weber**, Institute of Biology II /  
Faculty of Biology, BIOS Centre for Biological  
Signalling Studies, University of Freiburg, Germany

Title: **Synthetic biological tools  
to program mammalian cells**

Abstract: Synthetic biological switches and sensors enable controlling and analyzing cellular function in time and space. We will present an overview of synthetic biological tools to program mammalian cells either by controlling gene expression in time and space or by controlling the mechanical and biological properties of the extracellular matrix. For this aim we will elaborate on recently developed chemically and optically triggered switches to control gene expression in a spatiotemporal manner. Interconnecting mutually compatible switches resulted in the design of synthetic biological networks that enabled to functionally interconnect cells for programming complex gene expression patterns. We will conclude by presenting how the synthetic biological switches can also be applied for controlling the properties of the extracellular matrix for tissue engineering or drug delivery applications.

Find more about Prof. Weber:

[www.biologie.uni-freiburg.de/forschung/biochemie.php](http://www.biologie.uni-freiburg.de/forschung/biochemie.php)

Date: **Wednesday, November 21, 2012**

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

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

Organiser: **Prof. Andreas Möglich (HUB)**

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