



# CAS Conference Synthetic Biology

23 – 25 July 2012

Biocenter of the LMU Munich  
Martinsried

## Monday, 23 July 2012

13:00 *Registration*

14:00 *Welcome Address*

Chair: Thorsten Mascher

14:20 **Martin Fussenegger** • Engineering Mammalian Cells for Therapeutic Applications

15:05 **Victor de Lorenzo** • Reshaping Network Motifs for Increased Responsiveness to Environmental Pollutants

15:50 **Audrey Leprince** • Generation of Streamlined Microbial Chassis

16:15 *Coffee*

16:45 **Ralf Wagner** • Applying Synthetic Biology Principles for Better Vaccines: Challenging HIV

17:10 **Lei Pei** • Biofuels and Environmental Impact

17:35 **Alfred Nordmann** • Creative Control

18:20 **Klaus-Peter Michel** • ERANET „ERASynBio“

18:30 *Welcome Night / Poster Session*

## Tuesday, 24 July 2012

Chair: Erwin Frey

9:00 **Terence Hwa** • Growth Laws, Proteome Partition, and Metabolic Coordination

9:45 **Heinz Neumann** • Synthetic Biology Approaches to Study Chromatin Structure and Dynamics in Vivo

10:30 **Bryne Stanton** • Building Extensible, Repressor-based Logic from Synthetic Regulatory Parts

- 10:55 **Ralf Steuer** • Systems Biology of Cyanobacterial Biofuel Production
- 11:20 *Coffee*
- 11:50 **Vincent Noireaux** • Molecular Programming with a Cell-Free Transcription Translation System: Elementary Gene Circuits, Phage Synthesis and Artificial Cell in a Test Tube
- 12:35 **Kristian Müller** • From Protein Interaction to Virus Design
- 13:00 *Lunch*
- Chair: Ulrich Gerland*
- 14:00 **Alfonso Jaramillo** • Automatic Design of RNA and Transcriptional Circuits in E.coli
- 14:45 **Erwin Frey** • Robust Regulation of Oscillatory Min-Protein Patterns
- 15:30 **Dieter Braun** • Synthetic Evolution
- 15:55 *Coffee*
- 16:25 **Dirk Trauner** • Synthetic Neurobiology
- 17:10 *Poster Session*
- 19:30 *Dinner Franziskaner*

### Wednesday, 25 July 2012

*Chair: Kirsten Jung*

- 9:00 **Eriko Takano** • Synthetic Biology of Antibiotic Production
- 9:45 **Lotte Søgaard-Andersen** • Defining a Molecular Module for Regulation of Dynamic Cell Polarity
- 10:30 **Stefan M. Schiller** • Synthetic Biogenic & Structural Building-Block Networks within and across Cells
- 10:55 **Trygve Brautaset** • Novel Expression Tools for Synthetic Biology in Bacteria
- 11:20 *Coffee*
- 11:50 **Petra Schwille** • Synthetic Biology of Protein Pattern Formation
- 12:35 **Simon Ausländer** • Programmable Single-Cell Mammalian Biocomputers Performing Half-Subtractor and Half-Adder Calculations
- 13:00 *Lunch*
- Chair: Dirk Trauner*
- 14:00 **Christina Smolka** • Designing Synthetic Regulatory RNAs: New Tools for Temporal and Spatial Control Biological Systems
- 14:45 **Ilka Maria Axmann** • Designing Biocomputing Devices Based on RNA-RNA Interactions
- 15:10 **Günter Mayer** • Aptamer Modules and Assemblies for Exogenous Control of Biomolecule Function
- 15:35 *Coffee*
- 16:05 **Jay Keasling** • Synthetic Biology for Synthetic Fuels
- 16:50 *Conclusion*
- 17:00 *End*

### Scientific Organizers

Kirsten Jung • Thorsten Mascher • Ulrich Gerland • Erwin Frey • Dirk Trauner

