

**FORSYS / JCB**  
**International Workshop**  
**Systems Biology for Industry:**  
**Dynamics and Regulation of the Metabolic Balance**  
**in *Escherichia coli***

**7<sup>th</sup>-8<sup>th</sup> October 2010, Jena/Germany**

Technologie- und Innovationspark TIP Jena, 3<sup>rd</sup> Floor,  
Beutenberg Campus, Wildenbruchstr. 15, D-07745 Jena

Organized by the Leibniz Institute for Natural Product Research and Infection Biology - Hans Knöll Institute - and BioControl Jena GmbH  
with Support from the German BMBF Systems Biology Initiative FORSYS Partner and the Jena Centre for Bioinformatics JCB



**Programme 7<sup>th</sup> October 2010**

- 13.00 - 13.15**     *Registration*
- 13.15 - 13.30**     **Welcome, Introduction and Programme Overview**  
*R. Guthke* (Hans Knöll Institute, Jena, Germany)  
*M. Pfaff* (BioControl Jena GmbH, Germany)
- 13.30 - 14.00**     **From Systems Biology to Systems Biotechnology – A Modeller's Perspective**  
*A. Kremling* (Technical University Munich, Germany),  
*K. Bettenbrock, M. Nees* (Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg, Germany)
- 14.00 - 14.30**     **Design of Optimal Expression Vectors using the Stress Response of *E. coli***  
*U. Horn* (Hans Knöll Institute, Jena, Germany)
- 14.30 - 15.00**     **Secretion of Antibody Fragments and Target-Binding Proteins by *E. coli***  
*G. Seidel* (Wacker Biotech GmbH, Jena, Germany)
- 15.00 - 15.30**     *Coffee Break*
- 15.30 - 16.00**     **Protein Production Related Alterations of Central Carbon Metabolism in *E. coli***  
*U. Rinas, Ö. Kökpinar, Z. Li* (Helmholtz Centre for Infection Research GmbH, Braunschweig, Germany)
- 16.00 - 16.30**     **Modelling Metabolic Processes during Recombinant Protein Production by *E. coli***  
*C. Kaleta, F. Wessely* (Friedrich Schiller University Jena, Germany)
- 16.30 - 17.00**     **Modelling Gene Expression during Recombinant Protein Production by *E. coli***  
*W. Schmidt-Heck, R. Guthke* (Hans Knöll Institute, Jena, Germany)
- 17.00 - 17.30**     **Integrative Analysis of Transcriptomic and Proteomic Data from *E. coli***  
*D. Driesch, D. Woetzel, M. Pfaff* (BioControl Jena GmbH, Germany)
- 19.30**             *Get-Together*

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**Programme 8<sup>th</sup> October 2010**

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|---------------|--|
| 09.00 - 09.30 | <b>Balanced Growth of <i>E. coli</i> in Shaken Cultures</b><br><u>P. Neubauer</u> (Technical University Berlin, Germany)   |
| 09.30 - 10.00 | <b>Global Transcription and Metabolic Flux Analysis of <i>E. coli</i> in Glucose-Limited Fed-Batch Cultivations</b><br><u>K. Lemuth</u> (Fraunhofer Institute for Interfacial Engineering and Biotechnology, Stuttgart, Germany) |
| 10.00 - 10.30 | <b>The Glucose-PTS of <i>E. coli</i> as a Key to Metabolic Balance</b><br><u>K. Jahreis</u> , A. Kosfeld, A. Goehler (University of Osnabrück, Germany)  |
| 10.30 - 11.00 | <i>Coffee Break</i>  |
| 11.00 - 11.30 | <b>Tuning and Control of Recombinant Gene Expression for Optimal Exploitation of Cellular Capacities</b><br><u>G. Striedner</u> (University of Natural Resources and Applied Life Sciences, Vienna, Austria)                     |
| 11.30 - 12.00 | <b>Modelling <i>E. coli</i>'s Response to Acid Stress</b><br><u>F. Falciani</u> (University of Birmingham, U.K.)   |
| 12.00 - 12.30 | <b>Physiological Proteomics of <i>Bacillus licheniformis</i></b><br><u>T. Schweder</u> (Ernst Moritz Arndt University Greifswald, Germany)   |
| 12.30 - 13.00 | <b>Biotechnological Relevance of Cooperation and Competition in Exoproduct Secretion by Microorganisms</b><br><u>S. Schuster</u> , A. Schröter (Friedrich Schiller University Jena, Germany)                                     |
| 13.00 - 13.10 | <b>Concluding Remarks</b><br><u>R. Guthke</u> (Hans Knöll Institute, Jena, Germany)<br><u>M. Pfaff</u> (BioControl Jena GmbH, Germany)   |
| 13.10         | <i>Lunch</i>   |
| 14.00         | <i>End of Workshop</i>   |