

Posterexhibition ISGSB 2016

Session 1 – Infection modelling

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Modeling the host-pathogen interactions of macrophages and *Candida albicans* using game theory and dynamic optimization

Sybille Dühning (Jena/Germany)

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Dimensionality of motion but not receptor morphology governs affinity of receptor-ligand binding as revealed by molecular agent-based models

Teresa Lehnert (Jena/Germany)

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Iron redistribution after *Candida albicans* infection in the murine kidney

Theresia Conrad (Jena/Germany)

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Investigating *Candida albicans* resistance in whole-blood assays by virtual infection models using parallelized parameter estimation

Maria Prauße (Jena/Germany)

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Simulation of the dynamics of primary immunodeficiencies in CD4+ T-cells

Gabriel Teku (Lund/Sweden)

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Regulatory networks in the reponse of human monocytes to fungal and bacterial pathogens

Michael Weber (Jena/Germany)

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Mathematical Modeling of Plus-Strand RNA Virus Genome Replication to Identify Potential Drug Targets

Carolin Zitzmann (Greifswald/Germany)

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Influence of Vitamins A and D on long non-coding RNAs of human monocytes during infection with fungi *A. fumigatus*, *C. albicans* and bacteria *E. coli*

Konstantin Riege (Jena/Germany)

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Comparison of differentially expressed genes in two human cell lines infected with Zaire and RestonEbolaviruses

Nelly F. Mostajo Berrospi (Jena/Germany)

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Salmonella Typhimurium infection of epithelial cells – a stochastic model

Jennifer Scheidel (Frankfurt am Main/Germany)

Session 2 – Regulatory interactions and signalling

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Large Scale Heterogeneities Create Massive Metabolic and Transcriptional Responses in *E. coli* - Elucidating Regulatory Kinetics and ATP Demands

Ralf Takors (Stuttgart/Germany)

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Dopamine, Norepinephrine, and Serotonin produce no significant effect on the growth of *Lactobacillus acidophilus* (helveticus) NK-1

Alexander Oleskin (Moscow/Russian Federation)

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Genome-wide gene regulatory network in the opportunistic human pathogenic fungus *Aspergillus fumigatus*

Silvia Gerber (Jena/Germany)

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Post-translational regulation of enzyme activity investigated by protein-protein docking: Sexual and parasitic communication of the fungal fusion parasite *Parasitella parasitica*

Sabrina Ellenberger (Jena/Germany)

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Polynomial parametric modeling of synthetic transcriptional circuits in *S. cerevisiae*

Zhang Wei (Hangzhou/China)

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Emergent Network Properties and Entrainment in the Mammalian Circadian Clock

Christoph Schmal (Berlin/Germany)

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A collection of mathematical models showing diauxic growth behaviour

Andreas Kremling (Garching/Germany)

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Enzyme kinetics within our GRASP: A sampling framework for unravelling the feasible dynamic behaviour of metabolic reaction networks

Pedro Saa (Brisbane/Australia)

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Modelling the glucocorticoid receptor dimerisation cycle

Johann Rohwer (Stellenbosch/South Africa)

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Modelling the stress response of the mTOR network

Patricia Navas (Oldenburg/Germany)

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Phase shifts and adaptations in glycolytic oscillations.

David van Niekerk (Stellenbosch/South Africa)

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Mathematical analysis of cellular noise during bimodal competence development in *Streptococcus mutans*

Sayuri Hahl (Garching/Germany)

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Operating regimes and trade-offs in the CAND1-mediated regulation of SCF ligase activity

Ronny Straube (Erlangen/Germany)

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Facilitation in rat pyramidal neurons can be explained by a single mechanism.

Rikard Johansson (Linköping/Sweden)

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Ultra-sensitivity in Signal Transducing Ring Assemblies

Shahid Khan (Berkeley/United States)

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Auto-correlation of high-precision NF κ B oscillation data for dynamic mean population models of TNF α signaling

Daniel Kaschek (Freiburg/Germany)

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A phosphoproteome-wide mechanistic model of insulin signaling

William Lövfors (Linköping/Sweden)

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Modeling of protein-protein interactions of autophagy in *Podospora anserina*

Ina Koch (Frankfurt am Main/Germany)

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Synaptic and near-synaptic glycine transport. What is the reason to be different?

Kiril S. Zaytsev (Moscow/Russian Federation)

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Studying the effects of fructose on hepatocyte metabolism through HepatoDyn

Carles Foguet (Barcelona/Spain)

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Metabolic balance mediates seed germination: a population wide integrative analysis of the effect of the environment and genetics on the link between seed metabolism and germination

Aaron Fait (Sede Boqer/Israel)

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Modeling phosphorus uptake of *Chlorella vulgaris*
Ines Hotopp (Düsseldorf/Germany)

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Modelling metabolism of the diatom *Phaeodactylum tricornutum*
Dipali Singh (Oxford/Great Britain)

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Dynamical modelling of the heat shock response in *Chlamydomonas reinhardtii*
Stefano Magni (Düsseldorf/Germany)

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Ziva Ramsak (Ljubljana/Slovenia)

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The many routes to blooming as outcomes of a divergent selection experiment for flowering time in maize
Christine Dillmann (Gif sur Yvette/France)

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Characterizing maize leaf mechanics through automated fitting of tissue swelling data
Dirk De Vos (Antwerpen/Belgium)

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Ruth Großholz (Heidelberg/Germany)

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Kailash Adhikari (Oxford/Great Britain)

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Mirjam Fehling-Kaschek (Freiburg/Germany)

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Ovidiu Popa (Düsseldorf/Germany)

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Suraj Sharma (Düsseldorf/Germany)

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GemTox – Prediction of mixture toxicity using genome scale metabolic models
Alexander Betz (Dübendorf/Switzerland)

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Elena Mashkovtseva (Moscow/Russian Federation)

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Design Starch: Stochastic modelling of starch granule biogenesis
Adelaide Raguin (Düsseldorf/Germany)

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Stochastic simulation modeling of proton transport through D-channel in cytochrome c oxydase
Stanislav Boronovskii (Moscow/Russian Federation)

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Milan Brumen (Maribor/Slovenia)

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Jeanne Marie Onana Eloundou-Mbebi (Potsdam-Golm/Germany)

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Tobias Benedikt Alter (Aachen/Germany)

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Hugo Dourado (Düsseldorf/Germany)

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Marjan Faizi (Berlin/Germany)

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Philip Möller (Jena/Germany)

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Christine Nazaret (Bordeaux/France)

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Veronika Kopylova (Moscow/Russian Federation)

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Matthias Reinecke (Jena/Germany)

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Model-based Optimal Control Design for Algal Bioprocesses: An Experimental Study

Tobias Weise (Jena/Germany)

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Modeling nutrient gradients and fatty acid uptake

Jana Schleicher (Jena/Germany)

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Clemens Kreutz (Freiburg/Germany)

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Daniel Ioan Cazacu (Bremen/Germany)

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From genome-scale model predictions, via diverse “omics” data to detailed pathway analysis in Refsum’s disease

Agnieszka Wegrzyn (Groningen/Netherlands)

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Metabolic reprogramming in tumors by copy number co-alterations of proximal enzyme-coding and cancer-causing genes

Rainer König (Jena/Germany)

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Özlem Öztürk Mızrak (Ankara/Turkey)

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A mathematical model of gallbladder motility

Krystian Kubica (Wroclaw/Poland)

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Estimating clinical outcomes from a mechanistic model of acute leukemias using decision rules

Dennis Görlich (Münster/Germany)

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Elin Nyman (Linköping/Sweden)

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Automatic method to combine three model layers of the cell.

Cécile Moulin (Gif-sur-Yvette/France)

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The geometry of a blood vessels bifurcation can affect the level of trophic damages under forming of a brain ischemic lesion

Yaroslav Nartsissov (Moscow/Russian Federation)

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Model-driven Data Analysis Identification of the Metabolic Reprogramming associated with Prostate Epithelial Cancer Stem Cells Independent of the EMT Program.

Marta Cascante (Barcelona/Spain)

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The amount of organic phosphates (like DPG) existing in blood is determining factor of mammal's bulk

Ramin Amirmardfar (Tabriz/Islamic Republic Of Iran)

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Wanted: The Best Models For Pathway Modeling

Eberhard Voit (Atlanta/United States)

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sAnalyzer: solution space analyser for metabolic pathway design

Jurijs Meitalovs (Jelgava/Latvia)

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Katharina Nöh (Jülich/Germany)

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Fast Minimal Network Finder

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Jean-Pierre Mazat (Bordeaux/France)

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Nicole Pearcy (Nottingham/Great Britain)

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Thomas Pfau (Belvaux/Luxembourg)

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Sabine Koch (Magdeburg/Germany)

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Helena Mendes-Soares (Rochester/United States)

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Noah Mesfin (Oxford/Great Britain)

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Mathias Bockwoldt (Tromsø/Norway)

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Chuan Fu Yap (Manchester/Great Britain)

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Jacobus van Dyk (Stellenbosch/South Africa)

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A dynamic metabolic flux analysis of Myeloid-derived suppressor cells involved in the immunosuppression phenomenon

Mario Jolicoeur (Montréal/Canada)

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Marianyela Sabina Petrizelli (Gif-sur-Yvette/France)

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Anu Raghunathan (Pune/India)

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Ana Sofia Figueiredo (Magdeburg/Germany)

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Pedro de Atauri (Barcelona/Spain)