



Jena School for Microbial Communication

# JSMC Symposium 2014

**September 2<sup>nd</sup>-3<sup>rd</sup>, 2014**

Lecture Hall "Großer Hörsaal Erbertstraße", Jena

## Program

**Tuesday, September 2<sup>nd</sup>, 2014**

Lecture Hall "Großer Hörsaal Erbertstraße"

- 09:30**            **Official Welcome**
- 09:45**            **Announcement of 5<sup>th</sup> International Student Conference on Microbial Communication (MiCom 2015)**
- 09:55 - 10:50**   **Session Chair: Martin Schumann**
- 09:55**            **Sophia Wirth**, Institute of Microbiology - Microbial Communication, FSU:  
"Volatiles of *Schizophyllum commune* and their biological activity"
- 10:15**            **Riya Menezes**, Institute of Microbiology - Microbial Communication, FSU and Leibniz  
Institute of Photonic Technology e.V.:  
"Studying microbial communication with Raman microscopy and mass spectrometry  
based techniques"
- 10:35**            **Posterteachers 1**
- Stefanie Allert:** "Identification and characterization of *Candida albicans* genes  
important during translocation through intestinal epithelial barriers"
- Nicole Engert:** "Influence of hypoxia on interaction of *Candida albicans* with  
intestinal epithelia cells"
- Marta Ferreira Gomes:** "B cells and antibodies in protective immunity to *Candida  
albicans* infection"
- Johannes Pollmächer:** "Simulation of the Early Immune Response against *Aspergillus  
fumigatus* by a Hybrid Agent-based Model"
- Emeraldo Jo:** "*Candida albicans* modulates the immune response of human blood  
monocytes"
- Shih-Hung Hsieh:** "Interaction of *Aspergillus terreus* with dendritic cells"
- Hanno Schoeler:** "Interaction of the human pathogenic fungus *Aspergillus fumigatus*  
with neutrophil granulocytes"
- 10:50**            *Postersession + Coffee Break*
- 11:25 - 12:45**   **Session Chair: Claudia Lüdecke-Beyer**
- 11:25**            **Hanka Brangsch**, Institute of Microbiology - Microbial Communication, FSU:  
"Heavy metal resistance genes in *Streptomyces* sp."
- 11:45**            **Martin Schumann**, Institute of Geosciences, FSU:  
"Ferrous minerals in banded iron formation from Hamersley Range, Western  
Australia: Biotic or abiotic genesis?"

- 12:05** **Uwe Lange**, Institute of Microbiology - Microbial Communication, FSU:  
“Application of yeasts and yeast-like fungi in the bioremediation of heavy metal contaminated soil”
- 12:25** **Arno Märten**, Institute of Geosciences, FSU:  
“Monitoring of tree-soil-mycorrhiza interactions in metal/radionuclide contaminated heap material”
- 12:45** *Lunch Break*
- 14:00 - 15:15** **Session Chair:** Ramses Gallegos Monterrosa
- 14:00** **Karen Grace Bondoc**, Institute for Inorganic and Analytical Chemistry, FSU:  
“Hungry for silicic acid: the Si-directed motility of *Seminavis robusta*”
- 14:20** **Eisha Mhatre**, Institute of Microbiology - Terrestrial Biofilms, FSU:  
“Manganese influences cellular processes in *Bacillus subtilis* biofilms”
- 14:40** **Thomas Winkler**, Institute of Organic Chemistry and Macromolecular Chemistry, FSU:  
“Isolation and Derivatization of Nosiheptide, a Thiopeptide Antibiotic”
- 15:00** **Posterteachers 2**
- Martina Beretta:** “Cell type-specific role of PI3Kgamma in sepsis-associated liver failure”
- Adrian Frister:** “LPS-induced breakdown of blood brain barrier is affected by PI3K lipid kinase independent control of cAMP in microglial cells”
- Sameh Jaradat:** “Low DEFB4 copy number and high systemic hBD-2 and IL-22 levels are associated with dermatophytosis”
- Christian Meinel:** “Clinical isolates of *Streptococcus pneumoniae* use PspC to evade human complement attack”
- Janine Hofmann:** “Towards identifying the biosynthetic gene cluster of Ebelactone A and B”
- Thomas Beder:** “The Transcriptome of *Chlamydomonas reinhardtii*”
- 15:15** *Postersession + Coffee Break*
- 15:50 - 16:50** **Session Chair:** Johannes Pollmächer
- 15:50** **Constanze Kuhlisch**, Institute for Inorganic and Analytical Chemistry, FSU:  
“Phenotypic plasticity in phytoplankton – Changes in the metabolome of *Phaeocystis pouchetii*”
- 16:10** **Matthias Hirth**, Institute of General Botany and Plant Physiology, FSU:  
“Towards the characterisation of the metabolic profile of the marine microalga *Ostreococcus tauri*”

- 16:30**      **Yong Zou**, Institute of General Botany and Plant Physiology, FSU:  
“The role of animal-like cryptochrome in sexual life cycle of *Chlamydomonas reinhardtii*”
- 16:50**      **Announcement: JSMC student representatives’ elections**
- 16:55**      **Martin Föge: “Experiences from the UK - A JSMC travel report”**
- 17:15**      **Get-together at Ratszeise**

### Wednesday, September 3<sup>rd</sup>, 2014

**09:30 - 10:45**    **Session Chair:** Katharina Eick

- 09:30**      **Carolyn Klippstein**, Host Septomics Research Center, University Hospital:  
“The Role of the Immunoproteasome in *Escherichia coli* induced Sepsis”
- 09:50**      **Hella Schmidt**, Molecular and Applied Microbiology, Hans Knoell Institute:  
“The fungal pathogen *Aspergillus fumigatus* interferes with the maturation of macrophage phagosomes”
- 10:10**      **Hea-Reung Park**, Jena Microbial Resource Collection, Hans Knoell Institute:  
“Interaction between alveolar macrophages and human pathogenic *Lichtheimia corymbifera* strains”

**10:30**      **Posterteachers 3**

**Janina Wirth:** “Light-nanoparticle-interaction for the biomolecular manipulation”

**Claudia Lüdecke-Beyer:** “Bacterial adhesion on nanorough titanium: Nanostructure of the microbe-material-interface and adhesion mechanisms”

**Miguel Tovar:** “Optimizing the droplet microfluidic platform for the effective screening of novel natural product producers”

**Angela E. Klein:** “Scanning probe techniques for optical near-field microscopy below the diffraction limit”

**Peter Horbert:** “Development process of lab-on-a-chip devices for analytical procedures”

**Stefanie König:** “The melleolide DAO induces rapid cell death in human primary monocytes and cancer cells”

**Franziska Dolke:** “The Path to Novel Phosphoryl Ascarosides in *Caenorhabditis* Species”

**10:45**

*Postersession + Coffee Break*

**11:20 - 12:40** **Session Chair:** Arno Märten

**11:20** **Antje Kröber**, Fundamental Molecular Biology of Pathogenic Fungi and Molecular and Applied Microbiology, Hans Knoell Institute:

“The transcriptional regulator StuA of the dermatophyte *Arthroderma benhamiae* contributes to sexual reproduction and keratin degradation”

**11:40** **Zerrin Üzüm**, Biomolecular Chemistry, Hans Knoell Institute:

“Knocking at the door: How endosymbiont bacteria colonise its fungal host”

**12:00** **Julia Wilde**, Molecular Ecology, Max Planck Institute for Chemical Ecology:

“The effect of arbuscular mycorrhizal infection on *Nicotiana attenuata* communities in their natural habitat”

**12:20** **Marcel Bechmann**: Institute of Geosciences, FSU:

“An energy based approach to quantify the division of resistances to root water uptake – an hierarchical arrangement of root hydraulic properties maximizes the flexibility of plants”

**12:40** *Lunch Break*

**14:00 - 15:15** **Session Chair:** Stefanie Allert

**14:00** **Alexey Novoselov**, Bioorganic Chemistry, Max Planck Institute for Chemical Ecology:

“Impact of plant toxins on the gut microbiome of *Spodoptera littoralis*”

**14:20** **Beng Soon Teh**, Bioorganic Chemistry, Max Planck Institute for Chemical Ecology:

“Unraveling the secret lives of core bacteria within the gut of *Spodoptera littoralis*”

**14:40** **Toni Förster**, Microbial Pathogenicity Mechanisms, Hans Knoell Institute:

“The influence of the pore-forming toxin Ece1 of *Candida albicans* on its translocation through intestinal epithelial cells”

**15:00** **Posterteachers 4**

**Daniela Freihorst**: “Self- and non-self recognition in a mushroom forming fungus”

**Katharina Eick**: “Metabolomic and ecological studies of the allelopathy of microalgae from marine plankton”

**Silvia Novohradská**: “The human pathogenic fungus *Aspergillus fumigatus* impacts growth and development of the soil amoeba *Dictyostelium discoideum*”

**João Pedro Leonor Fernandes Saraiva**: “*Candida albicans* vs *Staphylococcus aureus*: infection-specific human immune responses”

**Stefan Kruse**: “Syntrophy in co-cultures with *Sulfurospirillum multivorans*: Bidirectional interspecies hydrogen transfer in the energy metabolism”

**Daniel Raszkowski**: “Glorin-based intercellular communication during multicellular development of *Polysphondylium pallidum*”

**Ramses Gallegos Monterrosa:** "Effect of Gramicidin-A variants over biofilm formation by *Bacillus subtilis*"

**15:15**

*Postersession + Coffee Break*

**15:50 - 16:50** **Session Chair:** Karen Grace Bondoc

**15:50**

**Silvio Waschina**, Theoretical Systems Biology, FSU and Experimental Ecology and Evolution, Max Planck Institute for Chemical Ecology:

"Carbon source-dependent metabolic costs of amino acid biosynthesis in *Escherichia coli*"

**16:10**

**Daniel Preußger**, Experimental Ecology and Evolution, Max Planck Institute for Chemical Ecology:

"Directed metabolite-exchange in an evolved obligate cooperation"

**16:30**

**Ivana Seccareccia**, Secondary Metabolism of Predatory Bacteria, Hans Knoell Institute:

"To kill or to be killed - the predatory behaviour of *Cupriavidus necator*"

**16:50**

**Contributions from JSMC community members and official goodbye**

**17:10**

**End of event**