

# **JSMC Symposium 2017**

## **Program**

**October 16 – 17<sup>th</sup> 2017**

Hans Knöll Institute (HKI), new building A8,  
Beutenbergstraße 11a, 07745 Jena

## Monday, Oct 16<sup>th</sup>

### Lecture Hall Koch & Pasteur

09:00 - 09:15 *Arrival and Coffee*

09:15- 09:30 **Welcome**

Prof. Dr. Axel Brakhage, HKI  
JSMC Coordinator

09:30 **Model Systems and Natural Environments I**

Session chair: Dr. Hendrik Huthoff, JSMC

09:30 - 09:45 **Pathogenic yeasts express virulence determinants in a new natural model system to defend against amoeba predation.**

Silvia Novohradská, HKI

09:45 - 10:00 ***Candida albicans* colonization of the murine gut - lessons learned.**

Sven Rudolphi, HKI

10:00 - 10:15 **Survival strategies of *Enterococcus mundtii* in the gut of *Spodoptera littoralis*.**

Tilottama Mazumdar, MPI-CE

10:15 - 10:30 **Coffee break**

10:30 **Model Systems and Natural Environments II**

Session chair: Prof. Dr. Maria Mittag, FSU

10:30 - 10:45 **Establishing a model organism for seawater microalgae.**

David Carrasco Flores, FSU

10:45- 11:00 **Nanocrystal Width Controls Fibrinogen Orientation and Assembly Kinetics on Poly (butene-1) Surfaces.**

Xiaoyuan Zhang, FSU

11:00 - 11:15 **Sharing of goods during *Bacillus subtilis* sliding motility**

Theresa Hölscher, FSU

11:15 - 11:30 **Poster teasers**

**P01 Candidalysin interferes with members of the commensal microbiota**

Toni Förster, HKI

**P02 Proteomic studies on the degradation of DHN melanin, a fungal virulence factor**

Annica Pschibul, HKI

**P03 Studying the role of CgMIP1 in the evolution of *Candida glabrata* during adaption to the human host**

Sofia Lewin Siscar, HKI

**P04 A Himar1 transposon-based *Streptomyces iranensis* mutant library to identify elicitors of *Aspergillus nidulans* secondary metabolism**

Mario Krespach, HKI

**P05 Iron sensing in the pathogenic fungus *Aspergillus fumigatus* involves HapX and GrxD interaction**

Mareike Scheven, HKI

**P06 Genomic and metabolomic analysis of Termitomyces, the fungal mutualist of Macrotermitinae**

Nina Kreuzenbeck, HKI

**P07 Regulation of natural product gene cluster during fungal bacterial coculture**

Jakob Weber, HKI

**P08 The role of Stp2 and Ahr1 in the amino acid metabolism of *Candida albicans***

Enrico Garbe, HKI

**P09 Functional and chemical analysis of Actinobacteria associated with fungus-growing termites**

René Benndorf, HKI

**11:30 -11:40 MiCom2018 Announcement**

**11:40-12:00 Participant photo shoot**

**12:00 Lunch & Posters**

**13:15 Innovative Methods**

Session chair: Dr. Hendrik Huthoff, JSMC

**13:15 - 13:30 One sensor and multiple colors: fluorescence detection in droplet microfluidics and flow cytometry using frequency-division multiplexing**

Sundar Hengoju, HKI

**13:30 - 13:45 Using Raman spectroscopy to identify sepsis-relevant pathogens phagocytized by human neutrophils**

Natalie Töpfer, UKJ

**13:45 - 14:00 A microfluidic-droplet approach to illuminate microbial dark matter**

Lisa Mahler, HKI

**14:00 - 14:15** Exploiting a melleolide from honey mushroom as tool for deciphering Cys159 in 5-lipoxygenase as determinant for regulation of leukotriene biosynthesis  
Stefanie König, FSU

**14:15 - 14:30** Enhanced Detection of Unstained Cells in an Existing Segmentation and Tracking Framework  
Naim Al Zaben, HKI

**14:30 – 14:45** *Coffee Break*

**14:45** **Chemical Communication I**

Session chair: Dr. Severin Sasso, FSU

**14:45 - 15:00** Use of pattern recognition methods for fungal adenylation domain substrate specificity predictions  
Sagar Gore, HKI

**15:00 - 15:15** Basidiomycete reducing polyketide synthases - the known unknowns  
Philip Brandt, FSU

**15:15 - 15:30** Structure elucidation of ralsolamycin and rhizochelin  
Florian Baldeweg, HKI

**15:30 – 15:45** **Poster teasers**

**P10** Integration of multilevel OMICs data based on the identification of regulatory modules  
Theresia Conrad, HKI

**P11** holoSTORM: A new approach of high spatial resolution imaging for the characterization of intracellular infections  
Alexander Jügler, IPHT

**P12** Differential contribution of distinct *Candida albicans* Ece1 peptides to macrophage damage and inflammatory response  
Annika König, HKI

**P13** Iron - a new insight into the acquisition, transport and utilization in *Lichtheimia corymbifera*  
Felicia Stanford, JMRC

**P14** Characterization of *Aspergillus fumigatus* mutants regarding their interactions with human leukocytes  
Mai Hoang, UKJ

**P15 Reduction of microbial adhesion via nano-rough materials: titanium surfaces with PVD and wet etching**

Michaela Schürmann, FSU

**P16 Heavy metals and co-cultivation as triggers for the production of secondary metabolites in Actinomycetes and yeasts**

Benjamin Funai, FSU

**P17 Morphokinetic analysis of neutrophils from whole-blood infection assays**

Ivan Beliaev, HKI

**P18 Differences in crosstalk between monocytes/ moDCs and natural killer cells induced by *C. albicans* and *C. glabrata***

Alessandra Marolda, ZIK Septomics

**15:45 – 16:00**            ***Coffee Break***

**16:00**                **Interspecies Interactions I**

**Session chair: Dr. Falk Hillman, HKI**

**16:00 - 16:15**    **Chlorophyll degradation in a Lepidopteran pest *Spodoptera littoralis***

Vincensius Oetama, MPI-CE

**16:15 - 16:30**    **How do phytoplasmas generate 'zombie plants'? Interaction of the bacterial effector protein SAP54 with floral homeotic proteins**

Marc-Benjamin Aurin, FSU

**16:30 - 16:45**    **The suspiciousness of a single undercover agent -- why quantity matters in camouflage of pathogenic fungi**

Stefan Lang, FSU

**16:45 - 17:00**    **Interaction of the human pathogenic fungus *Aspergillus fumigatus* with the innate immune system**

Hanno Schoeler, HKI

**Tuesday, Oct 17<sup>th</sup>**

**09:00 - 09:15**

***Arrival and Coffee***

**09:15 - 10:15**

**Keynote: Prof. Dr. Leo Eberl**, Department of Plant and Microbial Biology, University of Zürich, Switzerland  
**„Communication and Death in Biofilms“**

**10:15 - 10:30**

***Coffee Break***

**10:30**

**Chemical Communication II**

**Session chair: Dr. Hendrik Huhoff, JSMC**

**10:30- 10:45**

**Exploring Anaerobes' hidden Treasures**  
Florian Bredy, HKI

**10:45 - 11:00**

**Communication between *Tricholoma vaccinum* and *Picea abies*: Talk of chemicals and enzymes**  
Oluwatosin Abdulsalam, FSU

**11:15 – 11:30**

**The fungal quorum sensing molecule Farnesol impairs Dendritic cells differentiation and maturation**  
Wolfgang Vivas, ZIK Septomics

**11:30 – 11:45**

**Gramibactin - a new multifunctional siderophore**  
Ron Hermenau, HKI

**10:45 - 12:00**

**Screening of allelopathic interactions amongst phytoplankton species**  
Lydia Papanikolopoulou, FSU

**12:00 – 12:15**

**Poster teasers**

**P19 The human pathogenic fungus *Aspergillus fumigatus* counteracts phagolysosomal function by interference with flotillin-dependent lipid rafts through conidial melanin**  
Franziska Schmidt & Marie Röcker, HKI

**P20 Bacteria adhered on nano-rough Titanium surfaces and the search for nano-rough sensitive genes**  
Nathalie Stefani, HKI

**P21 *Candida albicans* induced epithelial damage mediates translocation through intestinal barriers**  
Stefanie Allert, HKI

**P22 Predictions of antimicrobial treatment strategies based on in silico experiments of virtual neutropenic patients**  
Sandra Timme, HKI

**P23 Morphogenic molecules and natural products from microorganisms associated with the marine hydroid polyp *Hydractinia echinata***

Maja Rischer, HKI

**P24 Chemical communication between iron oxidizer (*Acidithrix c25*) and iron oxidizer (*Acidocella c78*) in iron-rich lake aggregates**

Qianqian Li, FSU

**P25 Total synthesis of sphingolipids and sphingosine-type signaling molecules of microbial origin**

Luka Raguz, HKI

**P26 Approximation to the heterologous expression and structure elucidation of the proposed cofactor mycofactocin**

Luis Alberto Peña Ortiz, FSU

**P27 Towards a Total Synthesis of Copepodamides, the First Identified Inducers of Defense Mechanisms in Microalgae**

Marino Wirgenings, FSU

**P28 Directed Evolution of Antibiotic Producers**

Farzaneh Pourmasoumi, HKI

**12:15 – 13:30 Lunch & Posters**

**13:30 Microbial Genetics**

Session chair: Dr. Slavena Vylkova, HKI

**13:30 - 13:45 Nucleosome positioning method application for deciphering CCAAT binding complex regulation mechanism**

Francesco Pezzini, HKI

**13:45 - 14:00 What triggers transcriptional regulation of organohalide respiration in *Sulfurospirillum* spp.?**

Jens Esken, FSU

**14:00 - 14:15 Alternative splicing in *Aspergillus fumigatus* during interaction with human neutrophils**

Patricia Sieber, HKI

**14:15 - 14:30 Impact of a transferrable *Streptomyces* sp. plasmid on heavy metal resistance**

Hanka Brangsch, FSU

**14:30 – 14:45 Adaptation of the filamentous fungus *Aspergillus nidulans* to low temperature stress**

Benjamin Hanf, HKI



**14:45 – 15:00**            *Coffee Break*

**15:00**            **Interspecies Interactions II**

**Session chair: Dr. Pierre Stallforth, HKI**

**15:00 - 15:15**    **Interactions between *Chlamydomonas reinhardtii* and soil-borne bacteria**  
Daniel Schaeme, FSU

**15:15 - 15:30**    **Bacterial sabotage of algal Calcium homeostasis**  
Prasad Aiyar, FSU

**15:30 - 15:45**    ***Dictyostelium discoideum* is providing insight in the fate of *Aspergillus fumigatus* infection**  
Iuliia Ferling, HKI

**15:45 - 16:00**    **MyD88-mediated stimulation of B cells by *Candida albicans* hyphae leads to an increased IgG1 and IL-6 production**  
Marta Ferreira Gomes, FSU

**16:00 – 16:15**    **Kallikrein represents an independent complement activator**  
Sarah Irmscher, HKI

**16:15 – 16:45**    **General Assembly & Speakers Election**

**16:45**            **End of the event**

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