

# SBMI 2019 Program

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Thursday, September 26, 2019

12:00-12:30 Registration & Light Lunch

12:30-12:40 Opening  
Gianni Panagiotou, Leibniz HKI, Jena, Germany

## Session I: Microbiota Evolution, Development and Metabolism

Chair: Howell Leung

12:40-13:20 Colin Hill, University College Cork, Ireland  
*Bacteriophages as architects of bacteriome structure and function*



13:20-14:00 Nassos Typas, EMBL Heidelberg, Germany  
*High-throughput interaction profiling in bacteria*



14:00-14:15 Yueqiong Ni, Leibniz HKI, Jena, Germany  
*Gut microbiome fermentation determines the therapeutic efficacy of exercise on insulin resistance in individuals with prediabetes*



14:15-15:00 Break

## Session II: Current Innovations in Metagenomics Analysis

Chair: Daniel Loos

15:00-15:40 Nicola Segata, University of Trento, Italy  
*High-resolution large-scale profiling of pathogens and commensals from metagenomics*



15:40-16:20 Bernhard Renard, Robert Koch Institute, Berlin, Germany  
*Keeping up with exponentially growing databases and time constraints in metagenomic pathogen discovery*






16:20-16:35 Bastian Seelbinder, Leibniz HKI, Jena, Germany  
*Gut fungi – How antibiotics administration shapes our mycobiome*



16:35-17:00 Break

### Session III: Imaging and Organ-on-Chip Models

Chair: Teresa Lehnert

- 17:00-17:15 **Alexander Mosig**, Jena University Hospital, Germany  
*Microphysiological systems as platform for studies on host-microbiota interaction* 
- 17:15-17:40 **Susann Hartung & Zoltan Cseresnyes**, Jena University Hospital, Germany & Leibniz HKI, Jena, Germany  
*"Invasive aspergillosis-on-a-chip" – a novel disease model to study Aspergillus fumigatus infection in the human lung* 
- 17:40-18:05 **Diego U. Pizzagalli & Santiago Fernando Gonzales**, USI, Lugano, Switzerland & Institute for Research in Biomedicine, Bellinzona, Switzerland  
*Describing neutrophil behavior following influenza vaccination from intravital imaging data* 
- 18:05 **Dinner**
- 19:00 **Poster Session**

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## Friday, September 27, 2019

### Session IV: Systems Biology of Blood Infection and Sepsis

Chair: Sandra Timme

- 9:00-9:40 **Oliver Kurzai**, University of Würzburg, Germany  
*Immune recognition of fungal pathogens in human blood* 
- 9:40-10:05 **Teresa Lehnert & Ilse D. Jacobsen**, Leibniz HKI, Jena, Germany  
*Unraveling innate immune mechanisms against pathogens in avian whole blood by combining experimental and mathematical infection models* 
- 10:05-10:20 **Rainer König**, Jena University Hospital, Germany  
*Reprogramming of macrophages employing gene-regulatory and metabolic network models* 
- 10:20-10:45 **Jan Rüger & Anuradha Ramoji**, Leibniz IPHT, Jena, Germany & Friedrich Schiller University Jena, Germany  
*High throughput Raman spectroscopy for leukocytes investigations* 
- 10:45-11:05 **Break**

## Session V: Systems Biology of Fungal and Bacterial Infections I

Chair: Alexander Tille

11:05-11:45 **Alexandra Brand**, University of Exeter, UK  
*Sensing and signalling during directional growth in Candida albicans hyphae*



11:45-12:10 **Jan Ewald & Sascha Brunke**, Friedrich Schiller University Jena, Germany & Leibniz HKI, Jena, Germany  
*Multiple perspectives of the glyoxylate shunt as antifungal drug target in Candida albicans*



12:10-12:25 **Ron Hübner**, MPI for the Science of Human History, Jena, Germany  
*HOPS: A pipeline for screening archaeological remains for pathogen DNA*



12:25-12:40 **Dana Kleimeier**, University Medicine Greifswald, Germany  
*Effects of 1-Methyltryptophan on the kynurenine pathway in pigs*



**12:40-13:30 Lunch Break**

## Session VI: Systems Biology of Fungal and Bacterial Infections II

Chair: Albert Garcia Lopez

13:30-14:10 **Liz Ballou**, University of Birmingham, UK  
*The Cryptococcus neoformans Titan cell is an inducible and regulated morphotype underlying pathogenesis*



14:10-14:50 **Alice C. McHardy**, Helmholtz Center for Infection Research, Braunschweig, Germany  
*Fighting antimicrobial resistance in Pseudomonas aeruginosa with machine learning-enabled molecular diagnostics*



14:50-15:15 **Antje Header & Sascha Schäuble**, Leibniz HKI, Jena, Germany  
*Impact of genetic variability on fungal and bacterial infection*



**15:15-15:25 Concluding remarks**  
**Marc Thilo Figge**, Leibniz HKI, Jena, Germany