Thursday, 08/09/2022

Opening of IbSB 2026

12:50-13:00 CEST

Session I

13:00 – 14:30 CEST

Chair: Carl-Magnus Svensson

13:00 – 13:40 CEST

AI-based Image-to-Image Transformation for Microscopy Image Analysis: Concepts, Tools and Validations

Jianxu Chen, Leibniz Institute for Analytical Sciences ISAS, Dortmund, Germany

Abstract +

13:40 – 14:10 CEST

Characterization of neutrophil activation phenotypes in *ex vivo* human *Candida* blood infections using deep learning modules

Jan-Philipp Praetorius & Arjun Sarkar; Leibniz Institute for Natural Product Research and Infection Biology – Hans-Knöll-Institute, Jena, Germany

Abstract +

14:10 – 14:30 CEST

Deep Learning for Antibiotic Target Identification from High-Throughput Images

Daniel Krentzel, Institut Pasteur, Paris, France

Abstract +

14:30 – 14:50 CEST

Coffee Break

Session II

14:50 – 16:20 CEST

Chair: Parastoo Akbarimoghaddam

14:50 – 15:30 CEST

VascuViz: A Multimodality and Multiscale Imaging and Visualization Pipeline for Vascular Systems Biology

Akanksha Bhargava, The Johns Hopkins University School of Medicine, Baltimore, MD, United States
Via Zoom

15:30 – 16:00 CEST

Visualization and systemic quantification of fluorescence-tagged nanoparticles through intravital microscopy

Zoltán Cseresnyés & Wanling Foo; Leibniz Institute for Natural Product Research and Infection Biology – Hans-Knöll-Institute, Jena, Germany & Jena University Hospital, Jena, Germany

16:00 – 16:20 CEST

Quantification of microtubule-guided peroxisome migration using a hidden Markov chain model

Carl-Magnus Svensson, Leibniz Institute for Natural Product Research and Infection Biology – Hans-Knöll-Institute, Jena, Germany

16:20 – 16:40 CEST

Coffee Break

Session III

16:40 – 18:10 CEST

Chair: Sandra Timme

16:40 – 17:20 CEST

Tissue and cell shape quantification integrated with models of morphogenesis in plant shoots and flowers

Henrik Jönsson, University of Cambridge, UK

17:20 – 17:50 CEST

Inferring characteristics of bacterial swimming in biofilm matrix from time-lapse confocal laser scanning microscopy

Romain Briandet & Simon Labarthe; Micalis (INRAE, Université Paris-Saclay, AgroParisTech), France & Pléiade/Biogeco (INRAE, Inria, Université de Bordeaux), France
Via Zoom

17:50 – 18:10 CEST

Towards data-driven modeling of spatio-temporal immune cell interaction dynamics

Kevin Thurley, University Hospital Bonn, Germany

18:10 – 18:40 CEST

Dinner

Poster session

18:40 – 20:00 CEST

Friday, 09/09/2022

Session IV

09:00 – 10:50 CEST

Chair: Jan-Philipp Praetorius

09:00 – 09:40 CEST

Bioimage analysis software platforms to perform tracking of cells and organelles in large samples

Jean-Yves Tinevez, Institut Pasteur, Paris, France

Abstract +

09:40 – 10:10 CEST

Detection of serosa contraction waves with PIV from 3D recordings of the embryonic development of *Tribolium Castaneum*

Mariia Golden & Marc Pereyra; Buchmann Institute for Molecular Life Sciences (BMLS), Frankfurt am Main, Germany & Frankfurt Institute for Advanced Studies (FIAS), Frankfurt am Main, Germany

Abstract +

10:10 – 10:30 CEST

A tracking graph structure function for live cell microscopy

Layton Aho, Drexel University, Philadelphia, PA, United States

Abstract +

10:30 – 10:50 CEST

Insights into the 3D subcellular impact of viral infection in an abundant marine diatom

Marie Walde, Sorbonne Université, Roscoff, France
Via Zoom

Abstract +

10:50 – 11:10 CEST

Coffee Break

Session V

11:10 – 12:40 CEST

Chair: Arjun Sarkar

11:10 – 11:50 CEST

Quantitative approaches for decoding molecular and microenvironmental factors underlying tissue architecture

Heba Sailem, University of Oxford, UK

11:50 – 12:20 CEST

Image-based analysis of *Candida albicans* infection in a gut-on-chip model

Parastoo Akbarimoghaddam & Raquel Alonso-Roman; Leibniz Institute for Natural Product Research and Infection Biology – Hans-Knöll-Institute, Jena, Germany

12:20 – 12:40 CEST

TissUUmaps 3: Interactive visualization and exploration of spatial omics data

Axel Andersson, Uppsala University, Sweden

12:40 – 13:30 CEST

Lunch Break

Session VI

13:30 – 16:20 CEST

Chair: Carl-Magnus Svensson

13:30 – 13:40 CEST	An Introduction to InfectoOptics
13:40 – 14:10 CEST	**Generation of an alveolus-on-chip model for personalized drug screening against viral-bacterial co-infections in viral pneumonia** Lena Gauthier & Hristina Koceva; Leibniz Institute of Photonic Technologies (IPHT), Jena, Germany & Jena University Hospital, Germany Abstract +
14:10 – 14:40 CEST	**VersaDrop: Versatile Droplet Handling and Deeper Analysis for Microbiological Applications** Anne-Sophie Munser & Ashkan Samimi; Fraunhofer Institute for Applied Optics and Precision Engineering, Jena, Germany & Leibniz Institute for Natural Product Research and Infection Biology – Hans-Knöll-Institute, Jena, Germany Abstract +
14:40 – 15:10 CEST	**IntraPerSpective: The Raman perspective on intracellular infections in comparison to established transmission electron microscopy** Elisabeth Liebler-Tenorio & Ute Neugebauer; Friedrich-Loeffler-Institute (FLI), Jena Germany & Leibniz Institute of Photonic Technologies (IPHT), Jena, Germany Abstract +
15:10 – 15:30 CEST	Coffee Break

15:30 – 16:00 CEST

Nanoscale Investigations of Candidalysin using Atomic Force Microscopy and Enhanced Raman Spectroscopy

Johannes Sonnberger & Xiaobin Yao; Leibniz Institute for Natural Product Research and Infection Biology – Hans-Knöll-Institute, Jena, Germany & Leibniz Institute of Photonic Technologies (IPHT), Jena, Germany

Abstract +

16:00 – 16:20 CEST

Spectroscopic and synthetic tools for detection of small molecular markers of infection processes

Constanze Schultz, Leibniz Institute of Photonic Technologies (IPHT), Jena, Germany

Abstract +

16:20 – 16:30 CEST

Closing Remarks