

## International DEEP-DV Summer School

### High resolution virology: imaging – omics – data science

6<sup>th</sup> – 8<sup>th</sup> July 2023 at the CSSB, Hamburg, Germany

#### PROGRAM

*Location: CSSB Main Lecture Hall*

#### Thursday, July 6

10:15 – 11:45 **“Science writing: addressing your audience”** Aditya Sankar (EMBL Heidelberg)  
*Open to all registered participants of the DEEP-DV Summer School*

11:30 – 12:15 **Arrival & registration with refreshments**

12:15 – 12:30 **Welcome and opening**  
By DEEP-DV speakers Melanie Brinkmann & Nicole Fischer

12:30 – 14:00 **Session 1      NextGen Virology: Imaging and Integrative Virology I**

*Chairs: Jens Bosse (CSSB) and Gabrielle Vieyres (LIV)*

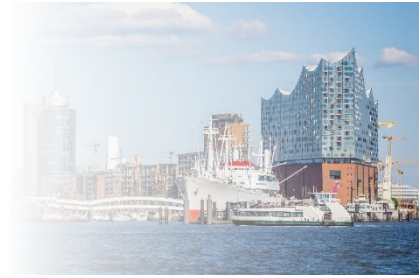
- 12:30 – 13:15 **“Membrane modulations by herpesviruses - a structural cell biology perspective”**  
Kay Grünewald, CSSB/LIV/UHH, Hamburg, Germany
- 13:15 – 13:30 **“Spatiotemporal dynamics of herpesvirus nuclear egress complex formation using lattice light sheet microscopy”** Saskia Sanders, CSSB, Hamburg, Germany
- 13:30 – 13:45 **“Visualization of the dynamics of Bat influenza viruses with their proteinaceous receptor MHCII using super resolution microscopy”** Maria Kaukab Osman, Universitätsklinikum Freiburg, Freiburg, Germany
- 13:45 – 14:00 **“MINFLUX nanoscopy of pathogens on the example of *Yersinia enterocolitica* and its type 3 secretion system”** Alexander Carsten, UKE, Hamburg, Germany

14:00 – 14:30 **Coffee break**

14:30 – 16:00 **Session 2      NextGen Virology: Imaging and Integrative Virology II**

*Chairs: Benedikt Kaufer (FU Berlin) and Thomas Günther (LIV)*

- 14:30 – 15:15 **“Dynamic genome interactions during virus infection”** Matthew D. Weitzman, University of Pennsylvania, Philadelphia, PA, USA
- 15:15 – 15:30 **“A complex human hair bearing, innervated skin organoid model for the investigation of Herpesvirus infections”** Manja Czech-Sioli, UKE, Hamburg, Germany



15:30 – 15:45 **“Proteome-spanning structure predictions of herpesvirus protein interaction networks”** Timothy K. Soh, CSSB, Hamburg, Germany

15:45 – 16:00 **“Gammaherpesvirus Ribonucleotide Reductases Sequester Target Proteins in Pleomorphic Cytoplasmic Aggregates”** Laura-Marie Luoto, LIV, Hamburg, Germany

**16:00 – 16:30 FLASH TALKS**

*Chair: Markus Landthaler (MDC Berlin)*

Lena Allweiss, Kevin Berg, Nadine Brückner, Thalea Buchta, Enrico Caragliano, Simon Dörner, Marius Flörchinger, Sebastian Gaßmann, Thomas Günther, Anna Katharina Kuderna, Baxolele Mhlekode

**16:30 – 18:00 Poster session (1 – 30)**

**18:00 – 19:00 Session 2 continued NextGen Virology: Imaging and Integrative Virology II**

*Chairs: Benedikt Kaufer (FU Berlin) and Thomas Günther (LIV)*

18:00 – 18:45 **“An integrative approach to decipher viral protein-protein interactions and their structures”** Maya Topf, CSSB/LIV/UKE, Hamburg, Germany

18:45 – 19:00 **“Stochastic gene expression drives memory inflation”** Niels Lemmermann, JGU University Medical Center, Mainz, University Bonn, Bonn, Germany

**19:00 – 19:30 Group picture**

**19:30 BBQ for all participants at the CSSB**

**Friday, July 7**

**09:00 – 10:30 Session 3 NextGen Virology: Chromatin Remodeling and Nuclear Compartments**

*Chairs: Adam Grundhoff (LIV) and Manja Czech-Sioli (UKE)*

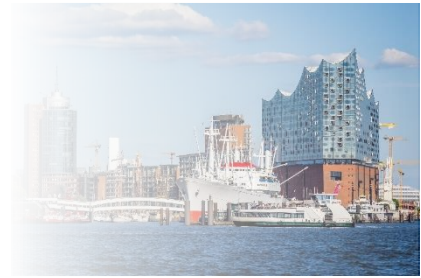
09:00 – 09:45 **“Transcriptional condensates in health and disease”** Denes Hnisz, Max Planck for Molecular Genetics, Berlin, Germany

09:45 – 10:00 **“Epitranscriptomic regulation of Varicella-Zoster Virus infection”** Elene Loliashvili, MHH, Hannover, Germany

10:00 – 10:15 **“The HSV-1 ICP22 protein selectively impairs histone repositioning upon Pol II transcription downstream of genes”** Thomas Hennig, JMU, Würzburg, Germany

10:15 – 10:30 **“grandR: A Comprehensive Toolkit for the Analysis of Nucleotide Conversion RNA-seq Data”** Teresa Rummel, JMU, Würzburg, Germany

**10:30 – 11:00 Coffee break**



**11:00 – 13:00 Session 4 NextGen Virology: Transcription and Nuclear Compartments**

*Chairs: Sabrina Schreiner (MHH) and Simon Weissmann (LIV)*

- 11:00 – 11:45** “Nuclear sorting of RNA” Torben Heick Jensen, Aarhus University, Aarhus, Denmark
- 11:45 – 12:00** “Herpesvirus chromatin composition shapes latency establishment and episomal maintenance” Simon Weißmann, LIV, Hamburg, Germany
- 12:00 – 12:15** “Activation of the germline transcription factor DUX4 is essential for Herpesvirus replication” Florian Full, Universitätsklinikum Freiburg, Freiburg, Germany
- 12:15 – 13:00** “Physical mechanisms of genome organization” Thomas Quail, EMBL, Heidelberg, Germany

**13:00 – 14:00 Lunch break**

**14:00 – 15:30 Session 5 NextGen Virology: Integrative Virology – Data Science**

*Chairs: Caroline Friedel (LMU) and Emanuel Wyler (MDC)*

- 14:00 – 14:45** “RNA interactomics: a new perspective on RNA viruses and beyond” Mathias Munschauer, Helmholtz Institute for RNA-based Infection Research, Würzburg, Germany
- 14:45 – 15:00** “Neuropilin-1 Expression Modulates Infection Susceptibility to Murine Cytomegalovirus (MCMV) at the Feto-Maternal Interface” Felix Stahl, UKE, Hamburg, Germany
- 15:00 – 15:15** “Development of an enteroid-lymphocyte co-culture system to model and study human adenovirus infection and virus persistence” Alessandro Grodzicki, MHH, Hannover, Germany
- 15:15 – 15:30** “Cytomegalovirus in vivo lytic replication and latent persistence in fibroblastic stromal cells is regulated by Stat1” Luka Cicin-Sain, HZI, Braunschweig, Germany

**15:30 – 16:00 FLASH talks**

*Chair: Lars Dölken (JMU)*

Francesco Montagner, Eleonore Ostermann, Ramya Ramani, Nora Schmidt, Dilan Serdar, Dörte Stalling, Romina Vargas-Ayala, Elena Weiß, Ute Westerkamp, Hannah Wullenkord, Marcel Zimmeck

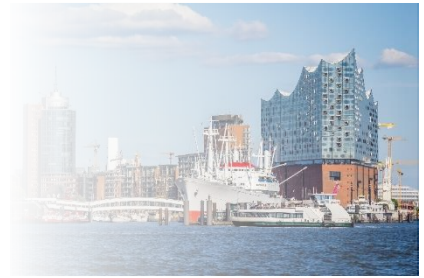
**16:00 – 17:30 Poster session (31 – 60)**

**17:30 – 18:15 Session 5 continued NextGen Virology: Integrative Virology – Data Science**

*Chairs: Florian Erhard (UR) and Maya Topf (CSSB/LIV/UKE)*

- 17:30 – 18:15** “Developing structural interactomics and its application in virology” Fan Liu, Leibniz Forschungsinstitut für Molekulare Pharmakologie, Berlin, Germany

**19:30 Speakers dinner**



## Saturday, July 8

### 09:00 – 10:15 Session 6 NextGen Virology: Molecular Switches in Infection

*Chairs: Abel Viejo-Borbolla (MHH) and Thomas Hennig (JMU)*

**09:00 – 09:45 “Virus Infection Variability in Single Cells - From Entry to Egress”** Urs Greber, University of Zurich, Zurich, Switzerland

**09:45 – 10:15 “Apoptosis, Necroptosis, and Pyroptosis: Many Ways for a Cell to Die ... and for a Virus to Interfere”** Wolfram Brune, Leibniz Institute for Virology, Hamburg, Germany

**10:15 – 10:45 Coffee break**

### 10:45 – 12:00 Session 6 continued NextGen Virology: Molecular Switches in Infection

*Chairs: Melanie Brinkmann (TU Braunschweig) and Nicole Fischer (UKE)*

**10:45 – 11:15 “Kaposi Sarcoma-associated Herpesvirus Latent Nuclear Antigen: more than a key mediator of viral persistence”** Thomas Schulz, Medizinische Hochschule Hannover, Hannover, Germany

**11:15 – 12:00 “Intersection of neuronal immune and stress signaling pathways with the latent HSV epigenome”** Anna Cliffe, University of Virginia, Charlottesville, VA, USA

**12:00 – 12:30 Poster-price awards and farewell**