

Innovations in Single Cell Omics

15-16 May 2023

Registration

Opens at **8:30**

Coffee and tea served

Conference Program 15 May 2023

09:00 Welcome by the organizers

09:10 Keynote: **Chloe Villani** (Harvard University, Boston, USA) Deciphering the Achilles heel of cancer immunotherapy through the lenses of single-cell genomics

session 1 "Immunology"

10:10 **Florian Grünschläger** (Heidelberg University) Multiple myeloma long-term survivors display sustained immune alterations decades after a single therapy line

10:25 **Ramon Massoni-Badosa** (CNAG-CRG, Barcelona) An Atlas of Cells in the Human Tonsil

10:40 **Aina Rill** (Josep Carreras Leukemia Research Inst, Barcelona) Deciphering the Clonal and Transcriptional Dynamics of CAR T-Cell Therapy in B-ALL Using Single-Cell Multiomics.

10:55 **Mostafa Elmaghraby** (PhD, Technical Sales Manager, Parse Bioscience) Scalable, Targeted Single Cell Sequencing

11:05 - 11:45 **Coffee break**

session 2 "Systems Biology"

11:45 **Judith Zaugg** (EMBL Heidelberg, Germany) How do cells integrate extrinsic signals and intrinsic state? A systems epigenetics approach

12:15 **Laura Jiménez Gracia** (CNAG-CRG, Barcelona) FixNCut: Single-cell genomics through reversible tissue fixation and dissociation

12:30 **Jake Yeung** (IST Austria, Vienna) Greater than the sum of the parts: learning relationships between histone modifications in single cells

12:45 **Philipp Becker** (PhD, Scientific Collaboration Manager, Singleron Biotechnologies) Cellular multi-verse in a nutshell: Advanced single cell technologies

12:55 - 14:00 **Lunch**

session 3 "Spatial Technologies & Tissue Architecture"

14:00 **Xiao Wang** (Broad Institute, Boston, USA) 3D in situ transcriptomics and translomics

14:30 **Lea Jopp-Saile** (Heidelberg University) Combined single-cell and spatially resolved mapping of the human lymph node ecosystem reveals fundamental principles of lymphoma tissue organization

14:45 **Tancredi Pentimalli** (BIMSB/MDC, Berlin) 3D molecular reconstruction of a human tumor at single-cell resolution reveals invasion dynamics and predicts personalized therapeutic targets

15:00 **Christoph König** (Sr. Product Application Scientist, Nanostring Technologies) Elevate Your Spatial Biology Research with NanoString Technologies

15:10 - 15:40 **Coffee break**

session 4 "Computational Biology"

- 15:40 **Laleh Haghverdi** (Berlin Institute for Medical Systems Biology at the Max-Delbrück-Center for Molecular Medicine) Dynamical inference from high-throughput single-cell data
- 16:10 **Rory Maizels** (The Francis Crick Inst, London, UK) Modelling the dynamics of development with time-resolved transcriptomics
- 16:25 **Maria Solovey** (LMU Munich) Community: computational tool for assessing differential cell type to cell type communication in case-control studies using scRNA-seq
- 16:40 **Adriano Bolondi** (MPI Molecular Genetics, Berlin) Single-cell genetic lineage tracing reconstructs transient progenitor field dynamics in stem cell-derived embryoids
- 16:55 **Christina Galonska** (Staff Scientist, 10x Genomics) Empowering Impactful Science with Leading Edge Single Cell, Spatial, and In Situ Technologies

17:05 **Poster session and networking**

18:45 **Dinner**

20:00 **Networking Event at Berlin Institute for Medical Systems Biology**
Hannoversche Str. 28, 10115 Berlin

Conference Program 16 May 2023

session 5 "Complex Diseases"

- 09:30 **Denis Schapiro** (University of Heidelberg, Germany) "Google Maps" for tissue biology – Mapping tissues with spatial omics technologies
- 10:00 **Anja Hess** (Mass General Hospital) Single cell transcriptomic landscapes of human liver organoids stratify models of non-alcoholic fatty liver disease
- 10:15 **Mustafa Sibai** (Josep Carreras Leukemia Research Inst, Barcelona) Unraveling the spatial architecture of Cancer Hallmarks
- 10:30 **Amy Hamilton** (Senior Field Applications Scientist, EMEA, Scale Bioscience) Unlocking the potential for single-cell sequencing at scale with combinatorial indexing

10:40 - 11:00 **Coffee break**

session 6 "Cancer Biology"

- 11:00 **Kai Kretzschmar** (University of Würzburg, Germany) A single-cell atlas reveals cellular heterogeneity within the stem cell niches of the adult mouse oral mucosa
- 11:30 **Sergi Beneyto-Calabuig** (CRG, Barcelona) Clonally resolved scRNAseq identifies routes of cellular differentiation in acute myeloid leukemia
- 11:45 **Aino-Maija Leppä** (DKFZ) Single-cell dissection of complex karyotype AML characterizes targetable disease-driving leukemic stem cell clones
- 12:00 **Giovanni Russo** (PhD, Field Application Scientist, Resolve Biosciences) Dissecting the Tumor Micro-Environment with Spatial Transcriptomics at Single Molecule Resolution
- 12:10 **Keynote: Dan Landau** (NY Genome Center, NY, USA) Somatic evolution through the lens of single cell multi-omics
- 13:10 **Awards & Wrap up**

Directions

Conference venue

Langenbeck-Virchow Haus

Luisenstraße 58/59, 10117 Berlin

Networking Event venue

Berlin Institute for Medical Systems Biology at the Max Delbrück Center for Molecular Medicine

Hannoversche Str. 28, 10115 Berlin

