KEYSTONE SYMPOSIA
on Molecular and Cellular Biology
Single Cell Biology (EK26)
March 17-19, 2021 • Virtual at your computer
Scientific Organizers: Shalev Itzkovitz and Arjun Raj
Sponsored by 10x Genomics, AstraZeneca, BioLegend, Inc., Cell Research and Novo Nordisk A/S

WEDNESDAY, MARCH 17
Welcoming Remarks and Keynote Address (8am Denver/Mountain Time Start)
*Shalev Itzkovitz, Weizmann Institute of Science, Israel
Session Chair
Michael Elowitz, HHMI/California Institute of Technology, USA
Multicellular Circuit Design: Natural and Synthetic

Single Cell Biology of Mammalian Organs (8:30am Denver/Mountain Time Start)
*Arjun Raj, University of Pennsylvania, USA
Session Chair
Ana Domingos, University of Oxford, UK
Sympathetic Neuroimmune Heterogeneity
Naomi Habib, Hebrew University of Jerusalem, Israel
Dissecting the Alzheimer's Brain: From Single Cells to Cellular Communities
*Shalev Itzkovitz, Weizmann Institute of Science, Israel
Spatial Omics of the Intestinal Epithelium
Ramnik Xavier, Massachusetts General Hospital, USA
[NOT AVAILABLE ON DEMAND] Single Cell Analysis of the Intestine
Homaira Hamidzada, University Health Network, Canada
Short Talk: Single Cell Transcriptomics Reveals a Modular Macrophage Structure Conserved Across Organs and Species
Michael Balzer, University of Pennsylvania, USA
Short Talk: Single Cell Profiling of Acute Kidney Injury in Mice

Career Roundtable (12:30pm Denver/Mountain Time Start)
Arjun Raj, University of Pennsylvania, USA
Aaron Streets, University of California, Berkeley, USA
Thale C. Jarvis, Keystone Symposia on Molecular and Cellular Biology, USA

Poster Session 1 (1:30pm Denver/Mountain Time Start)
Novel Technologies in Single Cell Analysis (3pm Denver/Mountain Time Start)
*Arjun Raj, University of Pennsylvania, USA
Session Chair
Itai Yanai, New York University School of Medicine, USA
Space Exploration: Elucidating Tissue Biology with Spatial Transcriptomics
Prisca Liberali, Friedrich Miescher Institute for Biomedical Research, Switzerland
Single Cell Approaches to Collective Cell Behavior
Jessica Whited, Harvard University, USA
Local and Systemic Cellular Activation in Response to Injury in Axolotl

*Aaron Streets, University of California, Berkeley, USA
Imaging and Sequencing Single Cells
Long Cai, California Institute of Technology, USA
Image-Based Transcriptomics in the Spatial Context
Andrew B. Stergachis, University of Washington, USA
Short Talk: Single-Molecule Chromatin Fiber Sequencing Exposes Cell and Haplotype-Specific Chromatin Architectures
Clarice Hong, Washington University in St Louis, USA
Short Talk: scTRIP: A Method to Identify Chromatin Features Influencing Gene Expression Noise

THURSDAY, MARCH 18
Single Cell Analysis in Pathology (8am Denver/Mountain Time Start)
*Shalev Itzkovitz, Weizmann Institute of Science, Israel
Session Chair
Leeat Keren, Weizmann Institute of Science, Israel
New Tools for Visualizing Cellular Heterogeneity in Cancer
Uri Alon, Weizmann Institute of Science, Israel
Optimal Division of Labour Within a Cell Type
*Alex K. Shalek, Massachusetts Institute of Technology, USA
Leveraging Single-Cell Genomics to Understand COVID-19
Regan Hamel, University of Cambridge, UK
Short Talk: Time-Resolved Single-Cell RNAseq Profiling Identifies a Novel Fabp5-Expressing Subpopulation of Inflammatory Myeloid Cells in Chronic Spinal Cord Injury
Sarah Pfau, Harvard Medical School, USA
Short Talk: Vascular and Perivascular Cell Profiling Reveals the Molecular and Cellular Bases of Blood-Brain Barrier Heterogeneity

Meet the Editors (12:30pm Denver/Mountain Time Start)
Lucia Morgado Palacin, Journal of Cell Biology, Rockefeller University Press, USA
Maria Polychronidou, EMBO Press, Germany
Katherine Brown, Company of Biologists, UK
Ines Alvarez-Garcia, Public Library of Science, UK
Sheba Agarwal, Cell Press, iScience, Netherlands
Allison Doerr, Nature, USA

Poster Session 2 (1:30pm Denver/Mountain Time Start)
Computational Approaches (3pm Denver/Mountain Time Start)
*Shalev Itzkovitz, Weizmann Institute of Science, Israel
Session Chair
Arjun Raj, University of Pennsylvania, USA
Single Cell Analysis in Cancer

* Session Chair † Invited but not yet accepted
Program current as of July 19, 2023.
For the most up-to-date details, visit https://www.keystonesymposia.org.
FRIDAY, MARCH 19

Tracking Dynamics of Single Cells (8am Denver/Mountain Time Start)

*Shalev Itzkovitz, Weizmann Institute of Science, Israel
Session Chair

Roser Vento-Tormo, Wellcome Sanger Institute, UK
Mapping the Temporal and Spatial Dynamics of the Human Endometrium in vivo and in vitro

Silvia Santos, Francis Crick Institute, UK
Signaling Dynamics for Cellular Fate Control

*Sabrina L. Spencer, University of Colorado-Boulder, USA
Real-Time Visualization of Rapid Escape from Drug Treatment in Single Melanoma Cells

Hernan G. Garcia, University of California Berkeley, USA
Dissecting Transcriptional Dynamics in Development One Burst at a Time

Geethika Arekatla, ETH Zurich, Switzerland
Short Talk: Optogenetic Manipulation Reveals ERK and AKT Signaling Dynamics Required for ESC Differentiation

Federico Gaiti, Weill Cornell Medicine, USA
Short Talk: Deciphering the Epigenetic Encoding, Heritability, and Plasticity of Transcriptional Cancer Cell States via Single Cell Multi-Omics

Rinat Arbel Goren, Weizmann Institute of Science, Israel
Short Talk: Robust, Coherent and Synchronized Circadian Clock-Controlled Oscillations along Multicellular Filaments of Anabaena cyanobacteria

Steffen Rulands, Max Planck Institute for the Physics of Complex Systems, Germany
Short Talk: From Sequence to Space and Time: Inferring Emergent Epigenetic Processes from Single-Cell Multi-Omics

Networking Lounge (12pm Denver/Mountain Time Start)

Fate Tracing of Single Cells (3pm Denver/Mountain Time Start)