**Hematopoietic Stem Cell Biology**

**Workshop 1: Biological Basis of Blood Development and Disease**

**Welcome and Keynote Address**

Hanna K.A. Mikkola, University of California, Los Angeles, USA
Dissecting Human Hematopoietic Stem Cell Specification and Self-Renewal at Single Cell Level

**Developmental Hematopoiesis**

Trista E. North, Boston Children’s Hospital, USA
Extrinsic Regulation of Hematopoietic Stem Cell Specification in the Vertebrate Embryo

Anna E. Beaudin, University of Utah School of Medicine, USA
Metabolic Regulation of Hematopoietic Development and Function

Fernando D. Camargo, Boston Children’s Hospital, USA
Tracing Contributions of Hematopoietic Stem and Progenitor Population to Life-Long Hematopoiesis

Mo Reza Ebrahimkhani, University of Pittsburgh, USA
Short Talk: Modelling Human Post-Implantation Embryogenesis to Multilineage Yolk Sac Haematopoiesis Ex-Utero

**Workshop 1: Biological Basis of Blood Development and Disease**

Justin Perry†, Memorial Sloan Kettering Cancer Center, USA
On How Function Determines Form

Ondrej Svooboda, Institute of Molecular Genetics, AS CR, Czech Republic
Origins of Primitive Erythropoiesis in Zebrafish

Franco Izzo†, Mount Sinai School of Medicine, USA
Mapping Genotypes to Chromatin Accessibility Profiles In Single Cells

Nico M. Woodhead, University of Wisconsin-Madison, USA
Loss of integrin α4 Function During Development Leads to Premature Aging of Hematopoietic Stem and Progenitor Cells in Adulthood

Aaron Viny†, Columbia University Irving Medical Center, USA
Cohesin mutations prevent HSC chromatin silencing of Flt1 targets to exit stemness

Stephanie Zhi-Juan Xie, University Health Network, Canada
CD83 Marks an Effector State of Human Inflammatory Memory Hematopoietic Stem Cells

**Hematopoietic Stem Cell Biology**

Nina Cabezas-Wallscheid, Max Planck Institute of Immunobiology and Epigenetics, Germany
Epigenetic and Metabolic Regulation of Hematopoietic Stem Cell Dormancy

Toshio Suda, Cancer Science Institute of Singapore, Singapore
Metabolic Control of Hematopoietic Stem Cell Regeneration and Lineage Potential

Elisa Laurenti, University of Cambridge, UK
Defining Life-Long Lineage Trajectories in the Human Hematopoietic System

Ashley N. Kamimae-Lanning, MRC Weatherall Institute of Molecular Medicine, UK
Short Talk: Hematopoietic Stem Cell Extinction & Clonal Dominance Driven by Endogenous Formaldehyde

Alanna Van Huizen, St. Jude Children’s Research Hospital, USA
Short Talk: Gprasp2 Expression Identifies a Deeply Quiescent HSC Subset with Superior Stemness and Self-Renewal

**Poster Session 1**

**TUESDAY, FEBRUARY 27**

**Hematopoietic Microenvironment**

Claudia Waskow, Friedrich Schiller University Jena, Germany
Defining Cellular Interplay in the Hematopoietic Bone Marrow Niche

Elizabeth S. Ng, Murdoch Children’s Research Institute, Australia
Long-term Engrafting Haematopoietic Cells Differentiated from Human Pluripotent Stem Cells

César Nombela-Arrieta, University Hospital Zurich, Switzerland
Remodeling and Regeneration of the Bone Marrow Microenvironment Post-Inflammatory Stress

David T. Scadden, Massachusetts General Hospital and Harvard University, USA
Microenvironmental Regulation of the Bone Marrow Niche in Hematologic Disease States

Chloe Baron, Boston Children’s Hospital, USA
Short Talk: Apelin-Mediated Clonal Expansion of Niche Endothelial Cells Drives Selection of Leukemic and Normal HSC Clones

Kira Gritsman, Albert Einstein College of Medicine, USA
Short Talk: Hematopoietic Stem Cell Numbers are Not Solely Determined by Niche Availability

**Career Roundtable**

**Aging and Stress Hematopoiesis**

Emmanuelle Passegué, Columbia University, USA
Inflammatory Regulation of Hematopoietic Homeostasis Drives Aging Phenotypes

Eirini D. Trompouki, ICRAN-Institute for research on Cancer and Aging, France
Institute for Research on Cancer and Aging

Matthew Porteus, Stanford University School of Medicine, USA
Inflammatory Regulation of Hematopoietic Homeostasis Drives Aging Phenotypes

Hitoshi Takizawa†, Kumamoto University, Japan
Short Talk: Mitochondrial translation regulates fetal erythropoiesis through regulation of iron homeostasis

Rebecca Austin†, NYU Langone, USA
Short Talk: Inflammation drives aberrant hematopoiesis in the spleens of patients with advanced myelofibrosis

**Poster Session 2**

**WEDNESDAY, FEBRUARY 28**

**Hematologic Malignancies**
Michael G. Kharas, Memorial Sloan Kettering Cancer Center, USA
RNA Regulators and Control of Leukemic Cell Fate

Andreas Trumpp, German Cancer Research Center, Germany
Decoding Consequences of Complex Chromosomal Aberrations by Multi-Modal Single-Cell Deconstruction to Overcome Treatment-Resistance Leukemia

John E. Dick, Princess Margaret Cancer Centre, Canada
What Makes a Stem Cell a Stem Cell and How Does it Go Bad?

Eirini P. Papapetrou, Icahn School of Medicine at Mount Sinai, USA
Insights into Disease Mechanisms and Discovery of New Therapeutic Targets for Myeloid Malignancies from Human iPSC Models

Fatemeh Alikarami, Children’s Hospital of Philadelphia, USA
Short Talk: GATA2 Promotes Drug Resistance in KMT2A-rearranged Acute Myeloid Leukemia by Enhancing the Protein Stability of MDM2

Daisuke Nakada, Baylor College of Medicine, USA
Short Talk: Selenocysteine recoding is a vulnerability of FLT3-mutant leukemias

Workshop 2: Novel Technologies and Therapeutics Discovery in Hematology

Makayla Pardo, Brown University, USA
10x Spatial Transcriptomics of Human AML Core Bone Marrow Biopsies Reveals the Complex Remodeling of the Non-Hematopoietic Stromal Microenvironment Post-Treatment

Marta Derecka, St. Jude Children’s Research Hospital, USA
EBF1: A New Regulator of Onco-Niche in Myelofibrosis

Stéphane J. C. Mancini, INSERM, France
Bone Marrow B Cell Niche Signals Shape the Pre-Leukemic Cell Fate of B Cell Acute Lymphoblastic leukemia

Kasidy K. Dobish, University of Utah, USA
p85α Ubiquitination as a Target in Hematopoietic Malignancies

Juan Jose Rodriguez-Sevilla, MD Anderson Cancer Center, USA
Myelodysplastic Syndrome HSCs’ Plasticity Drives Venetoclax Therapy Escape

Caroline Kubaczka, Boston Children's Hospital, USA
Engineered hiPSC Derived CAR T Cells with Enhanced Safety Profile

Directed Differentiation and Therapeutics

Ross L. Levine, Memorial Sloan Kettering Cancer Center, USA
Single-Cell Profiling of Clonal Evolution in Myeloid Malignancies

Pablo Menendez, Josep Carreras Leukaemia Institute, Spain
Cell-of-Origin, Pathobiology and Therapeutics of MLL-rearranged Pediatric B-cell ALL

Ravi Majeti, Stanford University, USA
Stem Cells in Human AML

Stefan Radtke†, Fred Hutchinson Cancer Center, USA
Short Talk: Long-term persisting HSCs contribute during early neutrophil recovery and form clonal pools: implications for ex vivo and in vivo HSC gene therapy applications

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)