

Announcing Keystone Symposia's
2015 conference on:

Hematopoiesis

February 22–27, 2015
Keystone Resort
Keystone, Colorado, USA

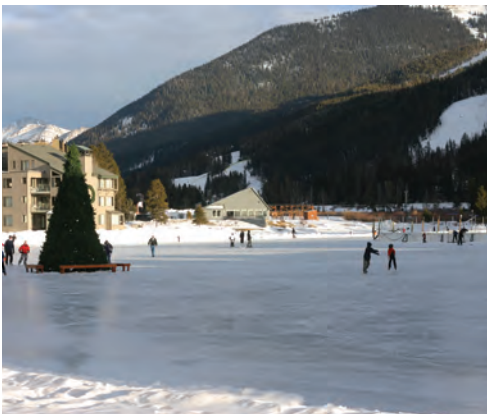
Scientific Organizers:

Timm Schroeder, Hanna K.A. Mikkola and Patricia Ernst

Integration of years of hematological clinical experience with basic hematopoiesis research has established principles and approaches that have informed many other fields, and continues to push technological and conceptual advances in both basic and clinical research. In this tradition, the 2015 meeting brings together a spectrum of basic to clinical researchers who cover various aspects of hematopoiesis encompassing stem and progenitor cell development, and maintenance and differentiation during homeostasis, stress and disease. The meeting will provide a forum for cross-fertilization between investigators pursuing diverse approaches such that participants benefit from the latest technological developments and insights from different model systems, and pursue their research challenges with new insight and collaborations.

Session Topics:

- Architecture of the Hematopoietic System
 - Development of the Hematopoietic System
 - Transcriptional Cell Fate Control
 - Directed Development of Hematopoietic Cells
 - Microenvironment
 - Systemic Signals Controlling HSC Behavior
 - Self-Renewal in Normal and Malignant Hematopoietic Cells
 - Hematopoiesis in Aging and Stress
- plus two workshops with short talks chosen from abstracts*



Discounted Abstract/Scholarship Deadline: Oct 22, 2014
Abstract Deadline: Nov 20, 2014
Discounted Registration Deadline: Dec 18, 2014

To see the full program and for additional details,
visit www.keystonesymposia.org/15B6.

KEYSTONE SYMPOSIA™
on Molecular and Cellular Biology
Accelerating Life Science Discovery

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SUNDAY, FEBRUARY 22

Arrival and Registration

MONDAY, FEBRUARY 23

Keynote Address

***Timm Schroeder**, ETH Zürich, Switzerland

John E. Dick, Princess Margaret Cancer Centre, Canada
Stem Cells in Cancer: Do They Matter?

Architecture of the Hematopoietic System

Connie J. Eaves, British Columbia Cancer Agency, Canada
Transitioning from Monistic to Pluralistic Models of Hematopoiesis

E. Camilla Forsberg, University of California, Santa Cruz, USA
Hematopoietic Stem and Progenitor Differentiation Pathways

Irving L. Weissman, Stanford University, USA
Normal and Malignant Hematopoiesis

Jianlong Sun, Children's Hospital Boston, Harvard Medical School, USA

Short Talk: Clonal Features of Native Hematopoiesis Revealed by Transposon-Mediated Cellular Barcoding

Dennis E. Discher, University of Pennsylvania, USA
Short Talk: HSC Myosin-II β Explains Asymmetric Division, and HSC Nuclear Rigidity Explains their Marrow Enrichment

Workshop 1: Normal and Malignant Lymphoid Biology

***Trista E. North**, Beth Israel Deaconess Medical Center, USA

***Jian Xu**, University of Texas Southwestern Medical Center, USA

James DeGregori, University of Colorado Denver School of Medicine, USA

Suppression of Inflammation Maintains B-Progenitor Fitness in Chronologically Aged Mice and Abrogates Oncogenic Adaptation

Kathrin M. Bernt, Children's Hospital of Philadelphia, USA
Targeting MN1 Driven AML through Epigenetic Modulation of the Cell of Origin

Bidisha Chanda, Tokai University School of Medicine, Japan
A Single Micro-RNA Can Completely Rescue B-Cell Differentiation Arrest due to EBF1 Deficiency — Can Micro-RNA Control Cell Fate as a Potential Alternative of Transcriptional Factor?

Alya Zriwil, University of Lund, Sweden
Role of Colony Stimulating Factor 1 Receptor in Fetal B Lymphopoiesis

Mamle Quarmyne, Bayer Healthcare, USA
Protein Tyrosine Phosphatase-Sigma (PTP?) Regulates Hematopoietic Stem Cell Repopulating Capacity

Martijn A. Nolte, Sanquin Blood Supply, Netherlands
Bone Marrow Memory CD8+ T Cells Support the Function of HSCs

Louise M. Treanor, Novartis Institutes for BioMedical Research, USA
Bromodomain Inhibitor Efficacy in Murine ETP-ALL Is Mediated by Inhibition of Lmo2 Expression and Super-Enhancer Dereglulation

Anastasia N. Tikhonova, New York University Medical School, USA
CXCL12-Producing Vascular Endothelial Niches Control Acute T Cell Leukemia Maintenance

Development of the Hematopoietic System

***Patricia Ernst**, University of Colorado Anschutz Medical Center, USA

Nancy A. Speck, University of Pennsylvania, USA
Runx1 Deficiency Decreases Ribosome Biogenesis and Confers Resistance to Genotoxic Stress

David Traver, University of California, San Diego, USA
Pathways Controlling the Emergence of Hematopoietic Stem Cells

Hanna K.A. Mikkola, University of California, Los Angeles, USA
Establishment of Self-Renewal during HSC Development

Ann C. Zovein, University of California, San Francisco, USA
Short Talk: Cell Fate Decisions in Hemogenic Endothelium

Poster Session 1

TUESDAY, FEBRUARY 24

Transcriptional Cell Fate Control

***E. Camilla Forsberg**, University of California, Santa Cruz, USA

Stuart H. Orkin, Dana-Farber Cancer Institute, USA
Molecular Identification and Control of Hematopoietic Cell Types

Claus Nerlov, University of Oxford, UK
Heterogeneity of Hematopoietic Stem Cells: Implications for Regeneration and Aging

Timm Schroeder, ETH Zürich, Switzerland
Intrinsic and Extrinsic Regulation of Hematopoietic Lineage Choice

Atsushi Iwama, University of Tokyo, Japan
Epigenetic Regulation of Hematopoiesis and Disease

Alan B. Cantor, Boston Children's Hospital and Dana-Farber Cancer Institute, Harvard Medical Center, USA

Short Talk: An SCF-Fbw7 Ubiquitin Ligase Mediated Feedback Loop Facilitates GATA Factor Switching and Reinforces Commitment to Terminal Erythroid Maturation

Jian Xu, University of Texas Southwestern Medical Center, USA
Short Talk: GATA Switch-Controlled Alternative Polycomb Subunit Composition Mediates Non-Canonical Functions during Hematopoiesis

Directed Development of Hematopoietic Cells

***Hanna K.A. Mikkola**, University of California, Los Angeles, USA

Gordon M. Keller, University Health Network, MaRS Centre, Canada
Generation of Definitive Hematopoietic Progenitors from Human Pluripotent Stem Cells

Leonard I. Zon, HHMI/Boston Children's Hospital, USA
Pathways Regulating Stem Cell Induction, Self-Renewal and Engraftment

Kateri Ann Moore, Ichan School of Medicine at Mount Sinai, USA
Direct Reprogramming of Fibroblasts into Hemogenic Cells Informs the Identification of Hemogenic Precursor Cells in Vivo

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Sergei Doulatov, Boston Children's Hospital, USA
Short Talk: Tailored Combinations of Transcription Factors for Generating Multipotential and Lineage-Specific Progenitors from Human iPS Cells

Poster Session 2

WEDNESDAY, FEBRUARY 25

Microenvironment

- ***Emmanuelle Passegué**, Columbia University, USA
Sean J. Morrison, University of Texas Southwestern Medical Center, USA
Hematopoietic Stem and Progenitor Cells Regulate the Regeneration of their Niche by Secreting Angiopoietin-1
- Paul S. Frenette**, Albert Einstein College of Medicine, USA
Analysis of HSC Niche Constituents in Bone Marrow and the Developing Fetal Liver
- Utpal Banerjee**, University of California, Los Angeles, USA
Local and Systemic Signaling in Maintenance of Hematopoietic Progenitors
- Louise E. Purton**, St. Vincent's Institute of Medical Research, Australia
Cytotoxic Therapies Cause Irreversible Damage to the Niches for Multipotent Progenitor Cells, Resulting in Impaired Long-Term Repopulating Potential of Bone Marrow
- Katja Brückner**, University of California, San Francisco, USA
Short Talk: An Inducible Signal from Sensory Neurons Regulates the Self-Renewing Blood Cell Pool in Drosophila
- Wilson K. Clements**, St. Jude Children's Research Hospital, USA
Short Talk: Somite-Derived Vascular Smooth Muscle Cell Precursors Form the Hematopoietic Stem Cell Specification Niche

Workshop 2: New Frontiers in HSC Biology

- ***Matthias Stadtfeld**, New York University School of Medicine, USA
- ***Julien Y. Bertrand**, University of Geneva, School of Medicine, Switzerland
- Andrea Ditadi**, SR-TIGET, Italy
Human Definitive Hemogenic Endothelium and Arterial Vascular Endothelium Represent Distinct Lineages
- Ah Ram Kim**, University of Rochester, USA
Bmi-1 Is a Critical Regulator of Erythroid Self-Renewal
- Jonathan E. Henninger**, Boston Children's Hospital, USA
Zebrabow Clonal Analysis with Fate-Mapping Defines the Number of Stem Cells Arising during Hematopoietic Development
- Larry L. Luchsinger**, Columbia University, USA
Mitochondrial Dynamics Regulates Hematopoietic Stem Cell Function
- Christopher P. Dillon**, St. Jude Children's Research Hospital, USA
Caspase-8 Regulates Hematopoiesis via RIP Kinases at Two Distinct Stages during Embryonic Development
- Marieke Essers**, Deutsches Krebsforschungszentrum DKFZ / HI-STEM, Germany
Inflammation-Induced Emergency Megakaryopoiesis Driven by Hematopoietic Stem Cell-Like Megakaryocyte Progenitors

Eric M. Pietras, University of California, San Francisco, USA
Interleukin-1 Drives Hematopoietic Stem Cells toward Precocious Myeloid Differentiation at the Expense of Self-Renewal

Eirini P. Papapetrou, Icahn School of Medicine at Mount Sinai, USA
Haploinsufficient Gene Discovery with iPSC Models of del(7q)-Myelodysplastic Syndrome

Systemic Signals Controlling HSC Behavior

- ***Nancy A. Speck**, University of Pennsylvania, USA
- Andreas Trumpp**, German Cancer Research Center, Germany
Expression Landscape of HSCs and its Progeny and Analysis of the MDS Niche
- Markus G. Manz**, University Hospital Zürich, Switzerland
Hematopoietic Stem and Progenitor Cell Response to Bacterial Stimuli
- Margaret A. Goodell**, Baylor College of Medicine, USA
DNA Methyltransferases in Normal and Malignant Hematopoiesis
- Trista E. North**, Beth Israel Deaconess Medical Center, USA
Short Talk: Developmental Vitamin D Availability Regulates Hematopoietic Stem Cell Production and Expansion

Poster Session 3

THURSDAY, FEBRUARY 26

Self-Renewal in Normal and Malignant Hematopoietic Cells

- ***Atsushi Iwama**, University of Tokyo, Japan
- Guy Sauvageau**, IRIC/Université de Montréal, Canada
Pharmacological Manipulation of HSC Self-Renewal
- Patricia Ernst**, University of Colorado Anschutz Medical Center, USA
Pathways and Mechanisms Coordinating HSC Self-Renewal by the MLL1 Epigenetic Regulator
- Koichi Akashi**, Kyushu University, Japan
TIM-3 Signaling and Human Myeloid Leukemia Stem Cell Development
- Anthony R. Green**, University of Cambridge, UK
Myeloproliferative Neoplasms – Tweaking the Hematopoietic Rheostat
- Michael A. Rieger**, Goethe University Frankfurt, Germany
Short Talk: STAT5-Regulated miRNA-193b Controls Hematopoietic Stem and Progenitor Cell Expansion by Modulating Cytokine Receptor Signaling
- Daisuke Nakada**, Baylor College of Medicine, USA
Short Talk: AMPK Confers Metabolic Stress Resistance to Acute Myeloid Leukemia-Initiating Cells

Hematopoiesis in Aging and Stress

- ***Hans-Willem E. Snoeck**, Columbia University Medical Center, USA
- Gerald de Haan**, University Medical Center Groningen, Netherlands
Aging of Hematopoietic Stem Cells
- Iannis Aifantis**, New York University School of Medicine, USA
The Role of Ubiquitination and Protein Stability in the Control of Blood Stress Responses

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Emmanuelle Passegué, Columbia University, USA

DNA Repair and Stress Control in HSCs

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

FRIDAY, FEBRUARY 27

Departure