



Novel Aspects of Bone Biology

June 13–16, 2018 | Cliff Lodge | Snowbird, Utah | USA

Scientific Organizers:

Gerard Karsenty, Columbia University, USA

David T. Scadden, Massachusetts General Hospital and Harvard University, USA

This conference presents recent progress made in two relatively novel areas of skeletal biology not covered by other meetings. The first one is the cross-talk between bone, hematopoiesis and leukemogenesis. The second is the study of the multiple endocrine functions of bone and how their study impacts on our understanding of multiple degenerative diseases. Meetings of bone biology are traditionally dominated by the need to explain the bases and to propose treatments for the most frequent bone disease: osteoporosis. Aside from this very vivid field, two other aspects of bone biology have developed in the last decade. A feature shared by these two aspects of biology is that they link bone biology to multiple other organs and to other functions besides making bones. These two aspects are the dialog between bone and hematopoiesis, whether physiological or pathological, and the endocrine functions of bone. This conference will showcase the many advances made in these two aspects of skeleton biology and how these developments have enriched our understanding of the pathogenesis of multiple degenerative diseases affecting the bone marrow, energy metabolism or the brain. Because of its very nature, this meeting will bring together investigators from different fields rarely provided with an opportunity to meet.

Session Topics:

- The Origin of the Osteoblast
- The Bone Marrow Niche
- The Endocrine Function of the Osteoblast
- The Relationship between Bone and Leukemia
- Molecular Genetics of Bone Metastasis
- The Relationship between Bone and the Immune System

Abstract Deadline for Short Talk Consideration: March 27, 2018

Discounted Registration Deadline: April 12, 2018



Submitting an abstract is an excellent opportunity to gain exposure for your work. Abstracts submitted by the abstract deadline will also be considered for short talks on the program.

Meeting Hashtag: #KSbone
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KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Novel Aspects of Bone Biology (E3)

June 13-16, 2018 • Snowbird Resort • Snowbird, Utah, USA

Scientific Organizers: Gerard Karsenty and David T. Scadden

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WEDNESDAY, JUNE 13

Arrival and Registration

THURSDAY, JUNE 14

Welcome and Keynote Address

***Christa Maes**, KU Leuven, Belgium

Daniel E. Lieberman, Harvard University, USA
An Evolutionary Medical Perspective on Bone Disease

The Origin of the Osteoblast

***Christa Maes**, KU Leuven, Belgium

Roberta Faccio, Washington University, USA
Bone-Derived Dickkopf-Related Protein 1 (Dkk1) Exerts Immune-Suppressive Effects in Cancer

Siddhartha Mukherjee, Columbia University Medical Center, USA
Definition of a Post-Natal Osteoblast Stem Cell

Henry M. Kronenberg, Massachusetts General Hospital, USA
Sox9-Expressing Cells Are Progenitors of Osteoblasts, Stromal Cells and Chondrocytes in Mouse Bone

Shawon Debnath, Weill Cornell Medicine, Cornell University, USA
Short Talk: Identification of a Novel Periosteal Stem Cell Population that Mediates Intramembranous Bone Formation

Constance T. Noguchi, NIDDK, National Institutes of Health, USA
Short Talk: Altered Erythropoietin Signaling Disrupts Bone Marrow Stromal Cell Differentiation

The Bone Marrow Niche

***Sabina Sangaletti**, Fondazione IRCCS Istituto Tumori Milano, Italy

David T. Scadden, Massachusetts General Hospital and Harvard University, USA
Defining (and applying) The Bone Marrow Niche

Sean J. Morrison, University of Texas Southwestern Medical Center, USA
The Maintenance of the Adult Skeleton

Paul S. Frenette, Albert Einstein College of Medicine, USA
Neural Regulation of the Aging Bone Marrow Niche

John Chute, University of California, Los Angeles, USA
Bone Marrow Osteolineage Cells Regulate Hematopoietic Regeneration via Secretion of Dkk1

Poster Session 1

FRIDAY, JUNE 15

The Endocrine Function of the Osteoblast

***Mathieu Ferron**, Institut de Recherches Cliniques de Montréal, Canada

Gerard Karsenty, Columbia University Medical Center, USA
Osteocalcin Is Necessary and Sufficient to Mount an Acute Stress Response

Aline Bozec, University of Erlangen, Germany
High-Fat Diet and Microbiota Control the Bone Marrow Niche and Hematopoietic Stem Cell Differentiation

Seiji Fukumoto, Tokushima University, Japan
The Biology of FGF23

Yihong Wan, University of Texas Southwestern Medical Center, USA
Endocrine and Metabolic Regulation of Osteoclastogenesis

Omar Al Rifai, Clinical Research Institute of Montreal, IRCM, Canada
Short Talk: Proprotein Convertase Furin is a Novel Pleiotropic Regulator of Bone Endocrine Functions

Julian Berger, Columbia University Medical Center, USA
Short Talk: Osteocalcin Signaling in the Adrenal Cortex is Necessary for Steroid Hormones Biosynthesis and Adrenal Gland Growth

The Relationship between Bone and Leukemia

***Lev Silberstein**, Fred Hutchinson Cancer Research Center, USA

Emmanuelle Passegué, Columbia University, USA
Aging of Stem Cells and Leukemogenesis

Stavroula Kousteni, Columbia University, USA
The Osteoblast as an Inducer of Leukemogenesis

Stéphane J. C. Mancini, INSERM, France
Short Talk: Hematopoietic Stem Cells and Early B Cells Form Specific Interaction Networks with A Unique Peri-Sinusoidal Stromal Cell Niche in the Bone Marrow

Annas Al-Sharea, Baker IDI Heart and Diabetes Institute, Australia
Short Talk: Cholinergic Regulation of Bone Marrow Vascular Microenvironment Influences Hematopoietic Stem Cell Mobilization

Poster Session 2

SATURDAY, JUNE 16

Molecular Genetics of Bone Metastasis

***Patricia Ducy**, Columbia University, USA

Yibin Kang, Princeton University, USA
The Role of Bone Stromal Niches in the Seeding, Outgrowth and Treatment Resistance of Bone Metastasis

Theresa A. Guise, Indiana University, USA
Systemic Effects of the Tumor-Bone Microenvironment: Mechanisms and Therapeutic Approaches

G. David Roodman, Indiana University, USA
The Pathogenesis of Multiple Myeloma

Camilla Engblom, Massachusetts General Hospital, USA
Lung Tumors Talk to Bones and Bones Answer Back

Aaron E. Chiou, Cornell University, USA
Short Talk: Investigating Pre-Metastatic Alterations of Bone Extracellular Matrix

The Relationship between Bone and the Immune System

Hiroshi Takayanagi, University of Tokyo, Japan
Interaction between Bone and the Immune System

Rheinallt M. Jones, Emory University, USA
The Influence of the Gut Microbiota on Bone Metabolism: In Pursuit of Mechanisms

Ralf H. Adams, Max Planck Institute for Molecular Biomedicine, Germany
Blood Vessel Growth, Function and Aging in the Skeletal System

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

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SUNDAY, JUNE 17

Departure