



Join Keystone Symposia
for the 2016 conference on:

Molecular and Cellular Basis of Growth and Regeneration

January 10–14, 2016

Beaver Run Resort | Breckenridge, Colorado | USA

Scientific Organizers:

Alejandro Sánchez Alvarado, Duoja D.J. Pan and Valentina Greco

The regulation of scale and proportion is a fundamental attribute of life. Yet, the molecular, cellular and systems-level mechanisms regulating these processes remain largely unknown. How is organ size achieved in animals during normal development, and how is it reconstituted in animals capable of regenerating organs and body parts lost to injury? This meeting aims to delineate the molecular and cellular basis of growth and regeneration by highlighting, comparing and contrasting the differences and similarities in scale and proportion mechanisms and stem cell management among diverse animal species. How these biological findings may inform regenerative medicine and stem cell biology and therapeutics will be considered and discussed.

Session Topics:

- Patterning, Growth and Regeneration
- Size Regulation and Signaling Pathways
- Organ and Systemic Regulation of Scale and Proportion
- Epigenetics in Growth and Regeneration
- Genetics of Growth and Regeneration
- Genetics of Morphological Variation
- Physical Forces, Growth and Scale
- Stem Cells, Self-Assembly, Tissue Growth and Regeneration



Submitting an abstract is a great way of participating in the conference through poster presentation and possible selection for a short talk.

Scholarship & Discounted Abstract Deadline: Sep 22, 2015

Abstract Deadline: Oct 21, 2015

Discounted Registration Deadline: Nov 10, 2015

For additional details, visit www.keystonesymposia.org/16A3.

KEYSTONE SYMPOSIA™
on Molecular and Cellular Biology

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Molecular and Cellular Basis of Growth and Regeneration (A3)

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Sponsored by Cell Research

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SUNDAY, JANUARY 10

Arrival and Registration

MONDAY, JANUARY 11

Welcome and Keynote Address

Hopi E. Hoekstra, HHMI/Harvard University, USA
Talk Title to be Determined

Patterning, Growth and Regeneration

Norbert Perrimon, Harvard Medical School, USA
Signaling Mechanisms Involved in Drosophila Gut Regeneration

Elly M. Tanaka, Technische Universität Dresden, Germany
Stem Cells, Growth and Patterning during Axolotl Appendage Regeneration

Valentina Greco, Yale School of Medicine, USA
Balancing Tissue Homeostasis with Repair by Two Photon Imaging in Living Mice

Short Talk(s) Chosen from Abstracts

Size Regulation and Signaling Pathways

Duoia D.J. Pan, HHMI/Johns Hopkins University School of Medicine, USA
The Hippo Pathway and Organ Size Regulation

Laura Johnston, Columbia University, USA
Sensing and Responding to Cell Fitness Differences During Tissue Growth

Tatjana Piotrowski, Stowers Institute for Medical Research, USA
Signaling Interactions That Control Progenitor Number, Maintenance, and Differentiation in Sensory Hair Cell Regeneration

Short Talk Chosen from Abstracts

Poster Session 1

TUESDAY, JANUARY 12

Organ and Systemic Regulation of Scale and Proportion

Nadia A. Rosenthal, Monash University, Australia
Growth and Regeneration in Vertebrates

Richard Schneider, University of California, San Francisco, USA
Regulation of Jaw size during Development and Evolution

David D. Moore, Baylor College of Medicine, USA
Making Hepatocytes without Stem Cells

Arkhat Abzhanov, Imperial College London, UK
Evolution of the Animal Face: From Principles to Mechanisms

Short Talk(s) Chosen from Abstracts

Epigenetics in Growth and Regeneration

Julie C. Baker, Stanford University, USA
Genomics of Tissue Development

Renato Paro, ETH Zurich, Switzerland
Epigenetic Memory in Regeneration and Cancer

Speaker to be Announced

Short Talk Chosen from Abstracts

Poster Session 2

WEDNESDAY, JANUARY 13

Genetics of Growth and Regeneration

Bruce A. Edgar, German Cancer Research Center, Germany
Regeneration and Tumorigenesis in the Drosophila intestinal epithelium

Mary Baylies, Memorial Sloan-Kettering Cancer Center, USA
Regulation of Muscle Cell Size and Organization.

Matthew Charles Gibson, Stowers Institute For Medical Research, USA

Coordinating Mitosis and Morphogenesis During Early Embryogenesis of the Sea Anemone, Nematostella Vectensis

Kenneth D. Poss, Duke University Medical Center, USA
Regeneration in Zebrafish

Short Talk(s) Chosen from Abstracts

Genetics of Morphological Variation

Elaine Ostrander, National Human Genome Research Institute, USA
Genomics of Growth in Canines

David M. Kingsley, Stanford University, USA
Fishing for the Secrets of Evolutionary Change in Vertebrates

Mathieu Joron, Centre d'Ecologie Fonctionnelle et Evolutive, France
What Underlies Shape and Pattern Diversity on the Wings of Butterflies?

Poster Session 3

THURSDAY, JANUARY 14

Physical Forces, Growth and Scale

Speaker to be Announced

L. Mahadevan, Harvard University, USA
The Physical Bases for Morphogenesis

Marcos Gonzalez-Gaitan, University of Geneva, Switzerland
Biophysics of Tissue Growth and Morphogens

Yohanns Bellaïche, Institut Curie, France
Cell Division and Epithelial Tissue Morphogenesis

Short Talk(s) Chosen from Abstracts

Stem Cells, Self-Assembly, Tissue Growth and Regeneration

Alfonso Martinez Arias, University of Cambridge, UK
Cell Dynamics during Symmetry Breaking in Ensembles of ES Cells

Joachim Wittbrodt, University of Heidelberg, Germany
Talk Title to be Announced

Alejandro Sánchez Alvarado, Stowers Institute for Medical Research/HHMI, USA
Planarian Regeneration

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

FRIDAY, JANUARY 15

Departure