



Join Keystone Symposia  
for the 2016 conference on:

# Stem Cells and Cancer

March 6–10, 2016

Beaver Run Resort | Breckenridge | Colorado, USA

Scientific Organizers:

Austin Gurney, Connie J. Eaves and Jane E. Visvader

*Cancer stem cells have now been recognized in a wide variety of human tumors. The existence of cancer stem cells poses both tremendous challenges and tantalizing potential for our ability to successfully combat cancer. This Keystone Symposia meeting aims to bring together scientists who are interested in better understanding the mechanisms by which cancer stem cells contribute to tumor heterogeneity, self-renewal and drug resistance. One area of emphasis will be intercellular communication. Cellular context and microenvironment establish the tumor niche and shape the interaction of the tumor with the immune system. In addition, developmental signal transduction pathways such as Hippo, Notch and Wnt, frequently deregulated in cancer, increasingly offer tangible opportunities for therapeutic intervention. Another important area of emphasis will be efforts to better understand the mechanisms and importance of tumor heterogeneity. Techniques such as clonal analysis and barcoding are shedding important light on the interplay between tumor evolution, differentiation, miRNA control and epigenetics. This is an era of rapid progress in understanding cancer stem cell biology with great potential to benefit human health.*

*Session Topics:*

- Stem Cell Concepts and Models
- Intercellular Interactions:
  - Non-Cell Autonomous CSC Biology
- Tumorigenesis
- Disregulation of Stem/Developmental Pathways
- Understanding Tumor Heterogeneity
- Emerging Targets
- Targeting Cancer Stem Cells: Trials and Translation
- New Horizons



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: Nov 4, 2015**

**Abstract Deadline: Dec 7, 2015**

**Discounted Registration Deadline: Jan 6, 2016**

For additional details, visit [www.keystonesymposia.org/16C1](http://www.keystonesymposia.org/16C1).

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# KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

## Stem Cells and Cancer (C1)

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Sponsored by Bayer HealthCare Pharmaceuticals, BioLegend, Inc., Journal of Molecular Cell Biology (JMCB), OncoMed Pharmaceuticals, Inc. and Roche

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### SUNDAY, MARCH 6

#### Arrival and Registration

### MONDAY, MARCH 7

#### Welcome and Keynote Address

\***Jane E. Visvader**, Walter and Eliza Hall Institute of Medical Research, Australia

**Sean J. Morrison**, University of Texas Southwestern Medical Center, USA  
*Oxidative Stress Inhibits Distant Metastasis by Human Melanoma Cells*

#### Stem Cell Concepts and Models

\***Jane E. Visvader**, Walter and Eliza Hall Institute of Medical Research, Australia

*Deciphering the Mammary Epithelial Hierarchy*

**Eirini P. Papapetrou**, Icahn School of Medicine at Mount Sinai, USA  
*Modeling Myeloid Malignancies with Human Pluripotent Stem Cells*

**Ali Turhan**, University Paris Sud 11, France  
*Modeling Cancer Using Human iPSC*

**Marc Leushacke**, ASTAR Institute of Medical Biology, Singapore  
*Short Talk: Lgr5+ Stem Cells in Epithelial Homeostasis and Disease of the Stomach*

#### Intercellular Interactions: Non-Cell Autonomous CSC Biology

\***Carla F. Kim**, Boston Children's Hospital, USA  
*Lung Cancer Stem Cells*

**Dominique A. Bonnet**, Francis Crick Institute, UK  
*Modulation of Mesenchymal Stroma Cells by Acute Myeloid Leukemia*

**Christian Steidl**, University of British Columbia, Canada  
*Targeting the Tumor-Host Cellular Interface in Lymphoid Malignancies*

**Takahiko Murayama**, University of Tokyo, Japan  
*Short Talk: CD74-NRG1, a Fusion Gene Product, Leads to ErbB-NFκB-IGF2 Autocrine/Paracrine Circuit and Confers Cancer Stem Cell Properties*

#### Poster Session 1

### TUESDAY, MARCH 8

#### Tumorigenesis

\***Connie J. Eaves**, British Columbia Cancer Agency, Canada  
*Barcoding to Analyze De Novo Generated and Established Human Breast Cancers*

**Richard J. Gilbertson**, University of Cambridge, UK  
*Multi-Organ Mapping of Cancer Risk*

**Hanno Glimm**, National Center for Tumor Diseases, Germany  
*Stem Cell Kinetics in Gastrointestinal Cancers*

**Emmanuelle Passegué**, Columbia University, USA  
*Hijacking of Emergency Myelopoiesis Pathways in Myeloid Leukemia*

**Xiling Shen**, Duke University  
*Short Talk: lncRNA and microRNA Synergize to Regulate Colon Cancer Stem Cell Asymmetry and Plasticity*

#### Workshop

\***Nagarajan Kannan**, BC Cancer Research Center, Canada  
*Human Mammary Luminal Progenitor Cells use Oxidative Stress Signals to Regulate Signaling and Growth*

**Alexander T. Pearson**, University of Michigan, USA  
*Using Single-Cell Observations and Mathematical Modeling to Predict Tumor Cell Growth and Cancer Stem Cell Proportion In-Vitro and In-Vivo*

**Bryan A. Smith**, University of California, Los Angeles, USA  
*A Basal Stem Cell Signature Identifies Aggressive Prostate Cancer Phenotypes*

**Min Wang**, OncoMed Pharmaceuticals, USA  
*Identification of a Pancreatic Tumorigenic CSC Gene Signature and Demonstration of its Suppression in Pancreas PDX Models and in Patient Tumors by Treatment with an Anti-CSC Antibody, Tarextumab (TRXT)*

**Nils Degrauwe**, University of Lausanne, Switzerland  
*IMP2 Provides an Alternative to LIN28B for Glioma Stem Cell Maintenance*

**Tuomas Tammela**, Koch Institute for Integrative Cancer Research at MIT, USA  
*Molecular Mechanisms Orchestrating Intratumoral Heterogeneity in Kras-Driven Carcinomas*

**Diwakar R. Pattabiraman**, Geisel School of Medicine, Dartmouth College, USA  
*Activation of PKA Induces a Mesenchymal-to-Epithelial Transition and Loss of Tumor-Initiating Ability of Breast Carcinomas*

**Jatin Roper**, Koch Institute for Integrative Cancer Research at MIT, USA  
*Sequential Genome Editing in CRISPR/Cas9-based Colorectal Cancer Mouse Models*

#### Disregulation of Stem/Developmental Pathways

\***Stefano Piccolo**, University of Padua, Italy  
*Yap/Taz Regulation in Stem Cells and Cancer*

**Jon C. Aster**, Brigham and Women's Hospital, USA  
*Myb-Notch-p63 Transcriptional Hierarchies in Adenoid Cystic Carcinoma*

**Florian R. Greten**, Institute for Tumor Biology and Experimental Therapy, Germany  
*Mechanisms Influencing Intestinal Tumorigenesis*

**Zahra Kabiri**, Duke University, USA  
*Short Talk: RSPO3 is the Gatekeeper of Wnt/Beta-Catenin Signaling in Intestinal Stem Cell Niche*

#### Poster Session 2

### WEDNESDAY, MARCH 9

#### Understanding Tumor Heterogeneity

\***Michael F. Clarke**, Stanford University, USA  
*Clinical Implications of Regulators of Self-Renewal in Cancer*

**Dean G. Tang**, Roswell Park Cancer Institute, USA  
*Prostate Cancer Stem Cells: Molecular Understanding and Clinical Implications*

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**Samuel Aparicio**, University of British Columbia, Canada  
*Genomic and Clonal Analysis of Breast Cancer*

**Catherine A. O'Brien**, University Health Network, Canada  
*Regulation of Self-Renewal in Colon Cancer Stem Cells*

**Devraj Basu**, University of Pennsylvania, USA  
*Short Talk: Transition Between Two Distinct Stem Cell-Like States in Head and Neck Cancer is Mediated by JARID1B*

**FRIDAY, MARCH 11**

**Departure**

### Emerging Targets

**Tak W. Mak**, Campbell Family Institute for Breast Cancer, Canada  
*Metabolic Adaptation in Cancer Cells-Exploiting Cancer Metabolic Vulnerabilities*

\***Tessa L. Holyoake**, University of Glasgow, UK  
*CML - Aiming for Cure*

**Biniam Adane**, University of Colorado School of Medicine, USA  
*Short Talk: The Role of NADPH Oxidase 2 in Normal and Malignant Hematopoiesis*

**Jingwei Cheng**, Dana-Farber Cancer Institute, USA  
*Short Talk: TRRAP-EP400-Tip60 Complex and Max Interaction is Required in iPS Generation and Oncogenesis Promotion*

### Poster Session 3

### THURSDAY, MARCH 10

#### Targeting Cancer Stem Cells: Trials and Translation

\***Austin Gurney**, OncoMed Pharmaceuticals, Inc., USA  
*Therapeutic Agents Targeting the Wnt, Notch, and RSPO/LGR Pathways in Cancer*

**Jonathan A. Pachter**, Verastem, USA  
*Targeting Cancer Stem Cells with Selective Inhibitors of FAK and PI3K/mTOR*

**Feng Cong**, Novartis Institutes for BioMedical Research, USA  
*Small Molecule Inhibitors of Wnt Signaling for Cancer*

**Scott J. Dylla**, Stemcentrx, Inc., USA  
*Short Talk: A DLL3-targeted ADC Eradicates High-Grade Pulmonary Neuroendocrine Tumor-Initiating Cells*

#### Keynote Address

\***Tak W. Mak**, Campbell Family Institute for Breast Cancer, Canada

**Hans C. Clevers**, Hubrecht Institute, Netherlands  
*Lgr5 Stem Cell Organoids and Disease*

#### New Horizons

\***Tak W. Mak**, Campbell Family Institute for Breast Cancer, Canada

**Huiping Liu**, Northwestern University, USA  
*MicroRNAs Regulating Breast Cancer Stem Cells and Metastasis*

**Luke Gilbert**, University of California, San Francisco, USA  
*Retooling CRISPR to Turn Genes On and Off*

**David M. Gilbert**, Florida State University, USA  
*Investigations of Altered DNA Replication Timing in Human Pediatric Leukemia*