An AACR Special Conference
Advances in Modeling Cancer in Mice: Technology, Biology, and Beyond

September 24-27, 2017
Disney’s Boardwalk Inn
Orlando, Florida

CONFERENCE PROGRAM AND SCHEDULE

Sunday, September 24

Opening Keynote Session
Promenade East IV-VI
Session Chairs: Cory Abate-Shen, Columbia University Medical Center, Herbert Irving Comprehensive Cancer Center, New York, NY, and Kevin M. Haigis, Beth Israel Deaconess Medical Center, Boston, MA
6:00 p.m.-8:00 p.m.

6:00 p.m.–6:10 p.m. Welcome Remarks Cory Abate-Shen

6:10 p.m.–7:00 p.m. Engineering the cancer genome Tyler Jacks, David H. Koch Institute for Integrative Cancer Research at MIT, Cambridge, MA

7:00 p.m.–7:50 p.m. Unearthing mechanisms of malignant progression and resistance of cancer stem cells Elaine Fuchs, The Rockefeller University, New York, NY

Opening Reception
Promenade West I-III
8:00 p.m.-10:00 p.m.

Monday, September 25

Continental Breakfast / Networking Roundtables
Promenade Foyer and St. James Hall (Patio/Porte Cochere)
7:30 a.m.-8:30 a.m.

Plenary Session 1: Technological Advances for Modeling Cancer in Mice
Promenade East IV-VI
Session Chair: Julien Sage, Stanford University School of Medicine, Stanford, CA
8:30 a.m.-10:30 a.m.

8:30 a.m.–9:00 a.m. Cancer modeling in the CRISPR age Andrea Ventura, Memorial Sloan Kettering Cancer Center, New York, NY

9:00 a.m.–9:15 a.m. Modeling colorectal cancer in vivo through CRISPR-based genome editing* Lukas E. Dow, Weill Cornell Medical College, New York, NY

9:15 a.m.–9:45 a.m. Quantitative and multiplex analysis of the genomic determinants of tumorigenesis Monte M. Winslow, Stanford University School of Medicine, Stanford, CA

*Short talk from proffered abstract
9:45 a.m.-10:00 a.m.  Capturing the integration of Ras-mutant cells into normal epithelial tissue using live imaging*
Cristiana M. Pineda, Yale University, New Haven, CT

10:00 a.m.–10:30 a.m.  Genetic dissection of cancer development, therapy response, and resistance in mouse models of breast cancer
Jos Jonkers, Netherlands Cancer Institute, Amsterdam, The Netherlands

Break
Promenade Foyer
10:30 a.m.-11:00 a.m.

Plenary Session 2: Elucidating Cancer Mechanisms Using Mouse Models
Promenade East IV-VI
Session Chair: Karen M. Cichowski, Brigham & Women’s Hospital, Boston, MA
11:00 a.m.-1:00 p.m.

11:00 a.m.–11:30 a.m.  Driver mutations and cell-of-origin as critical factors determining the phenotypic characteristics of thoracic tumor subtypes
Anton J.M. Berns, Netherlands Cancer Institute, Amsterdam, The Netherlands

11:30 a.m.–11:45 a.m.  The tumor suppressor BAP1 regulates the Hippo pathway in pancreatic ductal adenocarcinoma*
Anwesha Dey, Genentech Inc., South San Francisco, CA

11:45 a.m.–12:15 p.m.  Deconstructing p53 pathways in tumor suppression
Laura D. Attardi, Stanford University School of Medicine, Stanford, CA

12:15 p.m.–12:45 p.m.  p120 catenin loss drives pancreatic cancer EMT and metastasis through activation of calcium signaling*
Jason R. Pitarresi, University of Pennsylvania, Philadelphia, PA

12:45 p.m.–1:00 p.m.  Somatic p53 mutations drive development of triple-negative breast cancer with evolutionarily distinct metastases
Guillermina Lozano, The University of Texas MD Anderson Cancer Center, Houston, TX

Poster Session A Highlights
Promenade East IV-VI
1:00 p.m.-1:15 p.m.

(A01)  Somatic engineering of the mammary gland for the development of novel mouse models of triple-negative breast cancer
Stefano Annunziato, Netherlands Cancer Institute, Amsterdam, The Netherlands

(A02)  Potent synergism between FBXW7 and PI3K signaling in a mouse model of endometrial carcinogenesis
Ileana C. Cuevas, UT Southwestern Medical Center, Dallas, TX

(A04)  Cross-species oncogenomics approach identifies PTPN11 as an oncogene and potential therapeutic target in melanoma
Minjung Kim, Moffitt Cancer Center, Tampa, FL

(A05)  Investigating mechanisms of obesity-mediated pancreatic cancer progression
Mandar Deepak Muzumdar, Koch Institute at MIT, Cambridge, MA

*Short talk from proffered abstract
Plenary Session 3: Modeling the Tumor Microenvironment
Promenade East IV-VI
Session Chair: Kwok-Kin Wong, New York University (NYU) Langone Medical Center, New York, NY
4:00 p.m.-6:00 p.m.

4:00 p.m.—4:30 p.m. **Metabolic recycling in cancer**
Marcia Haigis, Harvard Medical School, Boston, MA

4:30 p.m.—4:45 p.m. **Lineage specifiers SOX2 and NKX2-1 inversely regulate lung tumor immune microenvironment***
Trudy G. Oliver, University of Utah, Salt Lake City, UT

4:45 p.m.—5:15 p.m. **Evaluation of the microenvironment in antitumor immune responses**
Marcus W. Bosenberg, Yale University School of Medicine, New Haven, CT

5:15 p.m.—5:30 p.m. **Contribution of mutant microenvironment to hereditary cancer: Single-cell gene expression profiling of a genetically engineered mouse model of human hereditary BRCA1-related breast cancer***
Carman M. Li, Harvard Medical School, Boston, MA

5:30 p.m.—6:00 p.m. **Tumor microenvironment: Stroma-tumor cell signaling defined by a cross-species approach**
Gustavo W. Leone, Medical University of South Carolina Hollings Cancer Center, Charleston, SC

Tuesday, September 26

Continental Breakfast/Networking Roundtables
Promenade Foyer and St. James Hall (Patio/Porte Cochere)
7:30 a.m.-8:30 a.m.

Plenary Session 4: Stem Cells and Developmental Pathways in Cancer
Promenade East IV-VI
Session Chair: Michael M. Shen, Columbia University College of Physicians & Surgeons, New York, NY
8:30 a.m.-10:30 a.m.

8:30 a.m.—9:00 a.m. **Intra- and intertumoral heterogeneity and response to therapy in mouse models of SCLC**
Julien Sage, Stanford University School of Medicine, Stanford, CA

9:00 a.m.—9:15 a.m. **Elucidating mechanisms of p53-deficient breast cancer development via lineage tracing and clonal analysis***
Zhe Li, Brigham & Women’s Hospital and Harvard Medical School, Boston, MA

9:15 a.m.—9:45 a.m. **Imaging stem cell signals in cancer heterogeneity and therapy resistance**
Tannishtha Reya, University of California San Diego, La Jolla, CA

9:45 a.m.—10:00 a.m. **Altered nucleolar trafficking of the Blm helicase in the mouse reduces size, increases DNA damage and tumor susceptibility, and facilitates premature aging***
Joanna L. Groden, The Ohio State University College of Medicine, Columbus, OH

*Short talk from proffered abstract
10:00 a.m.- 10:30 a.m.  **Lessons from modeling neural tumors in mice**  
Luis F. Parada, Memorial Sloan Kettering Cancer Center, New York, NY

**Break**  
Promenade Foyer  
10:30 a.m.-11:00 a.m.

**Plenary Session 5: Genetics, Genomics, and Systems Biology**  
Promenade East IV-VI  
*Session Chair: Monte M. Winslow, Stanford University School of Medicine, Stanford, CA*  
11:00 a.m.-1:00 p.m.

11:00 a.m.–11:30 a.m. **Normal and cancer stem cells in multistage carcinogenesis**  
Allan Balmain, UCSF Helen Diller Family Comprehensive Cancer Center, San Francisco, CA

11:30 a.m.–12:00 p.m. **The global proteome and phospho-proteome of K-Ras mutant tissues**  
Kevin M. Haigis, Beth Israel Deaconess Medical Center, Boston, MA

12:00 p.m.–12:30 p.m. **RNA sequencing–based analysis of transposon-induced tumors reveals novel insights into disease pathogenesis**  
David A. Largaespada, University of Minnesota, Minneapolis, MN

12:30 p.m.–1:00 p.m. **Of mice and men: Using systems biology approaches to study human cancer**  
Cory Abate-Shen, Columbia University Medical Center, Herbert Irving Comprehensive Cancer Center, New York, NY

**Lunch on Own**  
1:00 p.m.-2:30 p.m.

**Plenary Session 6: Beyond Genetically Engineered Mouse Models**  
Promenade East IV-VI  
*Session Chair: Guillermina Lozano, The University of Texas MD Anderson Cancer Center, Houston, TX*  
2:30 p.m.–4:15 p.m.

2:30 p.m.– 3:00 p.m. **GEMMs and GEOs to characterize pancreatic cancer initiation and progression**  
David A. Tuveson, Cold Spring Harbor Laboratory Cancer Center, Cold Spring Harbor, NY

3:00 p.m.–3:30 p.m. **Organoid models of bladder cancer**  
Michael M. Shen, Columbia University College of Physicians & Surgeons, New York, NY

3:30 p.m.–3:45 p.m. **Investigating lung cancer cells-of-origin using three-dimensional organoid cultures**  
Christine Fillmore Brainson, University of Kentucky, Lexington, KY

3:45 p.m.–4:15 p.m. **The tumor immune landscape and heterogeneity projects**  
Pier Paolo Pandolfi, Beth Israel Deaconess Medical Center, Boston, MA

**Break**  
Promenade Foyer  
4:15 p.m.-4:45 p.m.

*Short talk from proffered abstract*
Keynote Address
Promenade East IV-VI
Session Chair: Katerina A. Politi, Yale Cancer Center, New Haven, CT
4:45 p.m.-5:40 p.m.

Interrogating cancer drivers and dependencies using non-germline mouse models
Scott W. Lowe, Memorial Sloan Kettering Cancer Center, New York, NY

Poster Session B Highlights
Promenade East IV-VI
5:40 p.m.-5:55 p.m.

(B01) A genetically engineered mouse model of de novo bone metastasis
Juan Martin Arriaga, Columbia University Medical Center, New York, NY

(B02) Neutrophils and Snail orchestrate the establishment of a pro-tumor microenvironment in lung adenocarcinoma
Etienne Meylan, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

(B03) Acinar cell expansion: A new step in pancreatic tumorigenesis
Patrick Neuhoefer, Stanford University, Stanford, CA

(B04) Activating K-RasA146T mutations induce Mapk-dependent hyperproliferation in the intestinal epithelium
Emily Poulin, Beth Israel Deaconess Medical Center, Boston, MA

(B05) BRAF inhibition and cytokine therapy for melanoma: A novel rational combined approach
Gabriele Romano, The University of Texas MD Anderson Cancer Center, Houston, TX

(B06) A SOX9+ bile duct progenitor as a cell of origin of hepatocellular carcinoma
Patrick Viatour, Children’s Hospital of Philadelphia, Philadelphia, PA

Wednesday, September 27

Continental Breakfast
Promenade Foyer and St. James Hall (Patio/Porte Cochere)
7:30 a.m.-8:15 a.m.

Plenary Session 7: Targeting the Tumor Microenvironment
Promenade East IV-VI
Session Chair: Martin McMahon, University of Utah Huntsman Cancer Institute, Salt Lake City, UT
8:15 a.m.-9:45 a.m.

8:15 a.m.-8:45 a.m. Lung cancer mouse models for preclinical testing of novel and immune therapies
Kwok-Kin Wong, New York University (NYU) Langone Medical Center, New York, NY

*Short talk from proffered abstract
8:45 a.m.-9:15 a.m.  **The immune microenvironment in lung cancer: Lessons from mouse models**  
Katerina A. Politi, Yale Cancer Center, New Haven, CT

9:15 a.m.-9:45 a.m.  **Targeting the drug- and immune-privileged sanctuary of pancreas cancer**  
Sunil R. Hingorani, Fred Hutchinson Cancer Research Center, Seattle, WA

9:45 a.m.-10:00 a.m.  **Selective lethality of cisplatin in pancreatic cancer is dependent on mitotic functions of BRCA2**  
Kenneth P. Olive, Columbia University Medical Center, New York, NY

Break  
Promenade Foyer  
10:00 a.m.-10:15 a.m.

**Plenary Session 8: Using Mouse Models to Study Drug Resistance**  
Promenade East IV-VI  
**Session Chair: Marcus W. Bosenberg, Yale University School of Medicine, New Haven, CT**  
10:15 a.m.-12:00 p.m.

10:15 a.m.-10:45 a.m.  **Using mouse models to improve cancer therapy**  
Michael T. Hemann, David H. Koch Institute for Integrative Cancer Research at MIT, Boston, MA

10:45 a.m.-11:00 a.m.  **Clonal dynamics during breast cancer dormancy and recurrence**  
James V. Alvarez, Duke University, Durham, NC

11:00 a.m.-11:30 a.m.  **Mutational activation of PI3-kinase-α promotes dedifferentiation of BRAFV600E-driven lung tumor cells**  
Martin McMahon, University of Utah Huntsman Cancer Institute, Salt Lake City, UT

11:30 a.m.-12:00 p.m.  **Using mouse models to develop therapies for Ras-driven cancers**  
Karen M. Cichowski, Brigham & Women's Hospital, Boston, MA

**Meeting Summary**  
Promenade East IV-VI  
12:00 p.m.-12:45 p.m.

Closing Remarks  
Julien Sage, Stanford University School of Medicine, Stanford, CA

**Departure**  
12:45 p.m.

*Short talk from proffered abstract*