Wednesday, September 14

6:00 p.m.-7:00 p.m.
**Keynote Lecture**
Grand Ballroom

Opening remarks
Conference Chairperson: Elizabeth H. Blackburn,
University of California, San Francisco, CA

Building molecules to guide anticancer therapy*
Roger Y. Tsien, University of California, San Diego,
La Jolla, CA

7:00 p.m.-8:30 p.m.
**Opening Welcome Reception**
InterContinental Ballroom

Thursday, September 15

7:00 a.m.-8:00 a.m.
**Continental Breakfast**
Pacific Terrace

**Meet-the-Expert Roundtables†**
Jackson, Howard, and Fremont

†Advance sign up is required at Registration in the Grand Ballroom Foyer.

8:00 a.m.-10:00 a.m.
**Session 1: Understanding the Cancer Genome**
Grand Ballroom

Chairperson: David P. Lane, Agency for Science,
Technology, and Research (A*STAR), Singapore

Special Opening Lecture:
Cancer genomes and their implications for basic
and applied research*
**Bert Vogelstein**, Johns Hopkins Sidney Kimmel
Comprehensive Cancer Center, Baltimore, MD

Discovery in cancer genomics by next-generation sequencing
and data analysis*
**Elaine Mardis**, Washington University School of Medicine,
St. Louis, MO

Insights into tumor biology and therapeutic resistance from
systematic genetic studies
**Levi A. Garraway**, Dana-Farber Cancer Institute, Boston, MA

10:00 a.m.-10:30 a.m.
**Break**

10:30 a.m.-12:30 p.m.
**Session 2: Cancer as an Organ**
Grand Ballroom

Chairperson: Zena Werb, University of California,
San Francisco, CA

Normalizing the tumor microenvironment to enhance
therapeutic outcome*
**Rakesh K. Jain**, Massachusetts General Hospital, Boston, MA

The role of nitric oxide in tumor microenvironment*
**Dai Fukumura**, Massachusetts General Hospital, Boston, MA

DNA-damaging anticancer therapies modify the tumor
microenvironment*
**Judith Campisi**, Buck Institute for Age Research, Novato, CA

Direct signaling between platelets and cancer cells
induces an epithelial-mesenchymal-like transition and
promotes metastasis**
**Myriam Labelle**, Koch Institute for Integrative Cancer Research
at MIT, Cambridge, MA

*An extended abstract for this presentation is available in the Invited Abstracts section of the Proceedings.
**Short talks from proffered papers.
A genetic screen for novel determinants of anoikis resistance identifies PVRL4**

Natalya N. Pavlova, Harvard Medical School, Boston, MA

12:30 p.m.-2:00 p.m.
Lunch on own

Mentoring Roundtables†
Jackson, Howard, and Fremont

†Advance sign up is required at Registration in the Grand Ballroom Foyer.

2:00 p.m.-4:00 p.m.
Session 3: Immunomodulation
Grand Ballroom

Chairperson: Dai Fukumura, Massachusetts General Hospital, Boston, MA

Immune checkpoint blockade in cancer therapy: New insights and opportunities
James P. Allison, Memorial Sloan-Kettering Cancer Center, New York, NY

Blockade of immunologic checkpoints in cancer therapy: The B7-H1/PD-1 pathway*
Suzanne L. Topalian, Johns Hopkins University, Baltimore, MD

Natural killer cells in host defense against cancer*
Lewis L. Lanier, University of California, San Francisco, CA

Friday, September 16

7:00 a.m.-8:00 a.m.
Continental Breakfast
Pacific Terrace

Meet-the-Expert Roundtables†
Jackson, Howard, and Fremont

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8:00 a.m.-10:00 a.m.
Session 4: Genomic Instability and Genome Surveillance
Grand Ballroom

Chairperson: Elizabeth H. Blackburn, University of California, San Francisco, CA

How the p53 pathway controls the response to chemotherapy*
David P. Lane, Agency for Science, Technology, and Research (A*STAR), Singapore

Exploiting cell cycle checkpoint control in cancer therapy
Helen M. Piwnica-Worms, Washington University School of Medicine, St. Louis, MO

Targeting the Fanconi anemia/BRCA pathway in cancer therapy*
Alan D. D’Andrea, Dana-Farber Cancer Institute, Boston, MA

The BLM helicase facilitates RNA polymerase I-mediated ribosomal RNA transcription**
Patrick Grierson, The Ohio State University College of Medicine, Columbus, OH

Regulation of the Fanconi anemia pathway by a SUMO-like delivery network**
Kailin Yang, Dana-Farber Cancer Institute, Harvard Medical School, Boston, MA

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**Short talks from proffered papers.

Frontiers in Basic Cancer Research • September 14-18, 2011 • San Francisco, CA
10:00 a.m.-10:30 a.m.
Break

10:30 a.m.-12:30 p.m.
Session 5: Risk Factors
Grand Ballroom

Chairperson: Helen M. Piwnica-Worms, Washington University School of Medicine, St. Louis, MO

New insights into the microenvironment and metastasis*
Zena Werb, University of California, San Francisco, CA

Systems genetics analysis of cancer susceptibility
Allan Balmain, UCSF Helen Diller Family Comprehensive Cancer Center, San Francisco, CA

Ribosomal protein-Mdm2-p53 signaling and metabolism
Yanping Zhang, University of North Carolina, Chapel Hill, NC

Human Merkel cell polyomavirus causes Merkel cell carcinoma: Implication of viral etiology in human cancers**
Huichen Feng, University of Pittsburgh Cancer Institute, Pittsburgh, PA

Why redheads are at increased risk of melanoma: A novel BRAF mutant mouse model**
Devarati Mitra, Harvard Medical School, Massachusetts General Hospital, Boston, MA

12:30 p.m.-2:00 p.m.
Lunch on own

Mentoring Roundtables†
Jackson, Howard, and Fremont

†Advance sign up is required at Registration in the Grand Ballroom Foyer.

2:00 p.m.-4:00 p.m.
Session 6: Reprogramming and Plasticity of Cancer Stem Cells
Grand Ballroom

Chairperson: Judith Campisi, Buck Institute for Age Research, Novato, CA

Induction of pluripotency by defined factors*
Shinya Yamanaka, Kyoto University, Kyoto, Japan

Stem cell self-renewal and cancer cell proliferation
Sean J. Morrison, University of Michigan, Ann Arbor, MI

Reprogramming cell fate by mimicking natural mechanisms*
Helen M. Blau, Stanford University School of Medicine, Stanford, CA

The complexity of tumor cell hierarchies*
Jeremy N. Rich, The Cleveland Clinic, Cleveland, OH

4:30 p.m.-7:30 p.m.
Poster Session B and Reception
InterContinental Ballroom

See detailed listing for Poster Session B beginning on page 21.

*An extended abstract for this presentation is available in the Invited Abstracts section of the Proceedings.
**Short talks from proffered papers.
Saturday, September 17

7:00 a.m.-8:00 a.m.
Continental Breakfast
Pacific Terrace

Meet-the-Expert Roundtables†
Jackson, Howard, and Fremont
†Advance sign up is required at Registration in the Grand Ballroom Foyer.

8:00 a.m.-10:00 a.m.
Session 7: Emerging Technologies for Cancer Research
Grand Ballroom
Chairperson: Scott Manalis, Massachusetts Institute of Technology, Cambridge, MA

Measuring evolution in neoplasms*
Carlo Maley, University of California, San Francisco, CA

Technologies for detecting and analyzing proteins in living cells*
Alice Y. Ting, Massachusetts Institute of Technology, Cambridge, MA

Microfluidic measurements of single cell mass reveal how growth and division are coordinated*
Scott Manalis

An oncolytic vaccinia virus encoding the human sodium iodide symporter facilitates long-term deep tissue image monitoring of virotherapy and targeted radiotherapy of pancreatic cancer**
Dana Haddad, Memorial Sloan-Kettering Cancer Center, New York, NY

From prediction to prognosis and therapeutics: The power of breast cancer transcriptional networks**
Bin Zhang, Sage Bionetworks, Seattle, WA

10:00 a.m.-10:30 a.m.
Break

10:30 a.m.-12:30 p.m.
Session 8: Metabolism and Autophagy
Grand Ballroom
Chairperson: William G. Kaelin, Jr., Dana-Farber Cancer Institute, Boston, MA

Role of autophagy and cellular metabolism in cancer
Eileen P. White, UMDNJ-The Cancer Institute of New Jersey, New Brunswick, NJ

Oncogene regulation of the autophagy machinery*
Beth C. Levine, University of Texas Southwestern Medical Center, Dallas, TX

2-Oxoglutarate-dependent dioxygenases: Potential links between altered metabolism and cancer
William G. Kaelin, Jr.

PICT1/GLTSCR2 is a critical nucleolar binding partner of RPL11 that regulates the MDM2-p53 pathway and tumor growth**
Kohichi Kawahara, Kyushu University, Fukuoka, Japan

A mechanistic investigation into the dynamic alliance between autophagy and tumor suppression in prostate cancer**
Lorena A. Puto, Salk Institute, La Jolla, CA

12:30 p.m.-2:00 p.m.
Lunch on own

Mentoring Roundtables†
Jackson, Howard, and Fremont
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*An extended abstract for this presentation is available in the Invited Abstracts section of the Proceedings.
**Short talks from proffered papers.
2:00 p.m.-4:00 p.m.
**Session 9: Epigenetics and Cancer**
Grand Ballroom

**Chairperson: Helen M. Blau,** Stanford University School of Medicine, Stanford, CA

DNA methylation and nucleosome repositioning in cancer*
**Peter A. Jones,** USC Norris Comprehensive Cancer Center, Los Angeles, CA

Role of Tet1-catalyzed 5mC hydroxylation in transcriptional regulation and ES cell maintenance*
**Yi Zhang,** Howard Hughes Medical Institute at University of North Carolina, Chapel Hill, NC

Targeting epigenetic reader proteins in cancer therapy
**James E. Bradner,** Dana-Farber Cancer Institute, Harvard Medical School, Boston, MA

Egfr is essential for Ras-driven pancreatic cancer development**
**Barbara M. Grüner,** Klinikum Rechts der Isar, Technical University Munich, Munich, Germany

Extracellular miR-92a secreted by human leukemia cells enhances endothelial cell migration in HUVECs**
**Tomohiro Umezue,** Tokyo Medical University, Tokyo, Japan

4:30 p.m.-7:30 p.m.
**Poster Session C and Reception**
InterContinental Ballroom

*See detailed listing for Poster Session C beginning on page 25.

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**Sunday, September 18**

7:00 a.m.-8:00 a.m.
**Continental Breakfast**
Pacific Terrace

**Meet-the-Expert Roundtables†**
Jackson, Howard, and Fremont

†Advance sign up is required at Registration in the Grand Ballroom Foyer.

8:00 a.m.-10:00 a.m.
**Session 10: Killing the Tumor Cell**
Grand Ballroom

**Chairperson: René Bernards,** The Netherlands Cancer Institute, Amsterdam, The Netherlands

Harnessing genetic dependencies in cancer therapy*
**Alan Ashworth,** Institute of Cancer Research, London, United Kingdom

The application of synthetic lethality as a therapeutic approach to cancer*
**Christopher Lord,** Institute of Cancer Research, London, United Kingdom

Drugging the undruggable: Small molecule inhibition of the Ras oncoprotein*
**Guowei Fang,** Genentech, Inc., San Francisco, CA

The canonical Wnt pathway participates in anchorage-independent growth in a subset of heterogeneous tumor cells derived from a single murine pancreatic tumor**
**Man Yeung Heung,** University of Edinburgh CRUK Centre, Edinburgh, United Kingdom

Germline submicroscopic chromosome imbalances in pediatric cancer**
**Carla Rosenberg,** University of São Paulo, São Paulo, Brazil

*An extended abstract for this presentation is available in the Invited Abstracts section of the Proceedings.
**Short talks from proffered papers.
10:00 a.m.–10:15 a.m.

Break

10:15 a.m.–12:15 p.m.

Session 11: Mechanisms of Drug Resistance
Grand Ballroom

Chairperson: Elizabeth Blackburn, University of California, San Francisco, CA

Using old mouse models to identify new cancer drug targets*
Michael T. Hemann, Massachusetts Institute of Technology, Cambridge, MA

Finding mechanisms of cancer drug resistance through functional genetic screens*
Rene Bernards, The Netherlands Cancer Institute, Amsterdam, The Netherlands

Overcoming intrinsic and acquired resistance to targeted therapies
Jeffrey A. Engelman, Massachusetts General Hospital, Boston, MA

Inhibition of RNA polymerase I as a therapeutic strategy for cancer-specific activation of p53**
Megan J. Bywater, Peter MacCallum Cancer Centre, Melbourne, Australia

Important bidirectional function in the Notch-Delta signaling in pancreatic carcinogenesis and metastasis**
Pawel K. Mazur, Stanford University, Stanford, CA

12:15 p.m.

Departure

*An extended abstract for this presentation is available in the Invited Abstracts section of the Proceedings.
**Short talks from proffered papers.