

Conference Program and Schedule

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.

Conference Program and Schedule

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

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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

4:30 p.m.-7:30 p.m.

Poster Session A and Reception

InterContinental Ballroom

See detailed listing for Poster Session A beginning on page 17.

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.

Conference Program and Schedule

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

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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[†]

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Conference Program and Schedule

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 Umezū, 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.

Sunday, September 18

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 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

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**Short talks from proffered papers.

Conference Program and Schedule

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*

René 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

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**Short talks from proffered papers.