Conference Program

Sunday, October 16

7:00 p.m.-8:30 p.m. **Keynote Session**

Introduction and Welcome

Sirtuins and cancer
Leonard Guarente, Massachusetts Institute of Technology, Cambridge, MA

Cancer genes: Basic and clinical implications
Bert Vogelstein, Johns Hopkins Kimmel Comprehensive Cancer Center, Baltimore, MD

8:30 p.m.-10:00 p.m. **Welcome Reception**

Monday, October 17

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

8:00 a.m.-10:00 a.m. **Session 1: Studying Metabolism in Model Organisms**
Chairperson: Sally A. Kornbluth, Duke University School of Medicine, Durham, NC

The Hippo signaling pathway in development and cancer
Duojia Pan, Johns Hopkins Medical Institutes, Baltimore, MD

Genetic studies of growth and metabolism in *Drosophila*
Iswar Hariharan, University of California, Berkeley, CA

Intestinal homeostasis and *Drosophila* models of gastrointestinal cancer
Bruce A. Edgar, German Cancer Research Center, Heidelberg, Germany

Metabolic regulation of caspase 2-dependent cell death
Sally A. Kornbluth

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

10:30 a.m.-12:30 p.m. **Session 2: Stress Response and Metabolism**
Chairperson: Beth C. Levine, UT Southwestern Medical Center, Dallas, TX

Lactate metabolism as a target for therapeutic intervention
Mark W. Dewhirst, Duke University Medical Center, Durham, NC

Autophagy and metabolic signaling: New connections
Beth C. Levine

HIFs, hypoxia, and metabolism
M. Celeste Simon, Abramson Cancer Center of the University of Pennsylvania, Philadelphia, PA

A novel Noxa/Mcl-1L containing macromolecular complex in leukemia cells and how it controls oxidative stress*
Ameeta Kelekar, University of Minnesota, Minneapolis, MN

Autophagy facilitates glycolysis during Ras, but not Myc, transformation*
Srirupa Roy, University of California, San Francisco, CA

12:30 p.m.-3:00 p.m. **Poster Session A and Lunch**

3:00 p.m.-5:30 p.m. **Session 3: Signaling Pathways**
Chairperson: Reuben J. Shaw, Salk Institute for Biological Studies, La Jolla, CA

The regulation of metabolism by BRAF in melanoma
Richard M. Marais, Institute of Cancer Research, London, England

mTOR signaling in metabolism and cancer
Brendan D. Manning, Harvard School of Public Health, Boston, MA

The LKB1/AMPK pathway coordinates growth, metabolism, and autophagy
Reuben J. Shaw

Control of growth by the mTOR pathway
David M. Sabatini, MIT Whitehead Institute for Biomedical Research, Cambridge, MA

FGFR3 stimulates de novo lipogenesis to promote bladder tumor growth*
Jing Qing, Genentech, South San Francisco, CA

Adjacent tumors cohabiting the same tissue respond differentially to dietary restriction*
Nada Kalaany, Children's Hospital Boston, Boston, MA

*Short talks from proffered papers

Tuesday, October 18

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

8:00 a.m.-10:00 a.m. **Session 4: Metabolic Influence of Epigenetics**
Chairperson: Shelley L. Berger, University of Pennsylvania School of Medicine, Philadelphia, PA

Epigenetics and metabolism: It's about time
Paolo Sassone-Corsi, UC Irvine, Irvine, CA

Histone covalent modifications in epigenetic regulation
Shelley L. Berger

Metabolic regulation of epigenetic changes in cancer
Craig B. Thompson, Memorial Sloan-Kettering Cancer Center, New York, NY

The role of the histone deacetylase SIRT6 in tumor metabolism*
Raul Mostoslavsky, Massachusetts General Hospital Cancer Center/Harvard Medical School, Boston, MA

Deleterious mitochondrial mutations affect early steps in colon and rectal adenocarcinoma development*
Tatianna Larman, Harvard Medical School, Boston, MA

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

10:30 a.m.-12:30 p.m. **Session 5: Metabolism and Cell Death**
Chairperson: Douglas Green, St. Jude's Children's Research Hospital, Memphis, TN

Fueling immunity: Metabolic reprogramming in activated T cells
Douglas R. Green

Metabolism and Bcl-2 family proteins
Jeffrey C. Rathmell, Duke University, Durham, NC

Control of metabolism by p53 and TIGAR
Karen H. Vousden, Beatson Institute for Cancer Research, Glasgow, Scotland

Metabolic circuit disruption induces cell death in triple-negative breast cancer cells*
Fionnuala Morrish, Fred Hutchinson Cancer Research Center, Seattle, WA

Telomere-mediated senescence causes impaired insulin secretion in β cells by limiting mitochondrial function and Ca^{2+} signaling*
Mary Armanios, Johns Hopkins School of Medicine, Baltimore, MD

*Short talks from proffered papers

12:30 p.m.-2:30 p.m. **Break (Lunch on Own)**

1:00 p.m.-2:15 p.m. **Optional Metabolism Methods Workshop****
Presented by Seahorse Bioscience, Inc.

Discovering metabolic abnormalities in cancer cells via analysis of substrate flux: Interrogating bioenergetic and biosynthetic pathways by monitoring oxygen consumption and extracellular acidification
Min Wu, Seahorse Bioscience, Inc., North Billerica, MA

****Please note: This optional workshop is not part of the CME activity.**

2:30 p.m.-5:00 p.m. **Session 6: Metabolism, ER and Mitochondria**
Chairperson: Randal Kaufman, Sanford/Burnham Medical Research Institute, Center for Neuroscience, Aging, and Stem Cell Research, La Jolla, CA

Overview: The unfolded protein response
Randal Kaufman

Unfolded protein load and metabolic control in the cancer cell
David Ron, University of Cambridge, Cambridge, United Kingdom

ER stress sensors in disease
Laurie Glimcher, Ragon Institute of MGH, MIT, and Harvard, Boston, MA

Cell fate decisions of the unfolded protein response
Scott A. Oakes, University of California, San Francisco, CA

Human cancer cells with a mutation in the TCA cycle enzyme fumarate hydratase are dependent on mitochondrial metabolism and ROS for proliferation*
Lucas B. Sullivan, Northwestern University Medical School, Chicago, IL

5:00 p.m.-7:30 p.m. **Poster Session B and Reception**

*Short talks from proffered papers

Wednesday, October 19

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

8:00 a.m.-10:00 a.m. **Session 7: Drug Development and Therapeutics**
Chairperson: Kevan Shokat, University of California, San Francisco, CA

IDH mutations in cancer
Shin-San Michael Su, Agios Pharmaceuticals, Cambridge, MA

Chemical genetic investigations of protein and lipid kinase signaling
Kevan Shokat

HIF-1: Upstream and downstream of cancer metabolism
Gregg L. Semenza, Johns Hopkins University School of Medicine, Baltimore, MD

A biochemical analysis of IDH1 neomorphic mutations*
Benjamin Schwartz, GlaxoSmithKline, Collegeville, PA

A systems approach to predicting cell type-specific cancer therapies through metabolic network analysis*
Edik M. Blais, University of Virginia, Charlottesville, VA

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

10:30 a.m.-12:00 p.m. **Session 8: Metabolic Pathways**
Chairperson: Nickolas Papadopoulos, Johns Hopkins Kimmel Comprehensive Cancer Center, Baltimore, MD

Understanding and therapeutic targeting of cancer cell metabolism
Chi Van Dang, Abramson Cancer Center of the University of Pennsylvania, Philadelphia, PA

Cancer genomes and illumination of cellular processes involved in cancer development
Nickolas Papadopoulos

Metformin shifts cellular metabolism towards glucose fermentation and increases glutamine fueling of tricarboxylic acid cycle metabolites and fatty acids*
Sarah-Maria Fendt, Massachusetts Institute of Technology, Cambridge, MA

Investigation of the melanoma genetic landscape identifies the glutamate pathway as a major player in the disease*
Yardena Samuels, National Institutes of Health, Bethesda, MD

12:00 p.m.-12:15 p.m. **Closing Remarks/Departure**

*Short talks from proffered papers