An AACR Special Virtual Conference on

Epigenetics and Metabolism
October 15-16, 2020 | Virtual

Conference Cochairs:
Chi Van Dang, Ludwig Institute for Cancer Research, New York, New York, The Wistar Institute, Philadelphia, Pennsylvania
Kimberly Stegmaier, Dana-Farber Cancer Institute, Boston, Massachusetts
Craig B. Thompson, Memorial Sloan Kettering Cancer Center, New York, New York
Matthew G. Vander Heiden, David H. Koch Institute for Integrative Cancer Research at MIT, Cambridge, Massachusetts

Thursday, October 15, 2020
Opening Session
9:30 a.m.- 10:15 a.m.

Opening remarks
Kimberly Stegmaier, Dana-Farber Cancer Institute, Boston, Massachusetts

Keynote Address:
Metabolic regulation of tumor differentiation
Stephen B. Baylin, Johns Hopkins University School of Medicine, Baltimore, Maryland

Break
10:15 a.m.- 10:30 a.m.

Plenary Session 1: Cancer Immunometabolism
Session Chair: Navdeep S. Chandel, Northwestern University, Chicago, Illinois
10:30 a.m.-12:15 p.m.

Modulating amino-acid metabolism for cancer immunotherapy
Ayelet Erez, Weizmann Institute of Science, Rehovot, Israel

Targeting metabolism to enhance immunotherapy
Jonathan D. Powell, Johns Hopkins School of Medicine, Baltimore, Maryland

Mitochondria as signaling organelles
Navdeep S. Chandel

Mitochondrial lactate metabolism in M2 macrophage polarization and ACLY-dependent histone acetylation*
Jordan Noe, University of Louisville, Louisville, Kentucky

Break
12:15 p.m.- 12:30 p.m.
Plenary Session 2: Epigenetics and Tumor Metabolism 1
Session Chair: Kimberly Stegmaier, Dana-Farber Cancer Institute, Boston, Massachusetts
12:30 p.m. – 2:15 p.m.

Viral mimikry in stem cells and cancer
Andreas Trumpp, German Cancer Research Center (DKFZ), Heidelberg, Germany

Decoding the regulation and function of transcriptional master regulators in cancer metabolism
Johannes Zuber, Research Institute of Molecular Pathology, Vienna, Austria

Dissecting the role of STAG2 mutations in Ewing Sarcoma
Kimberly Stegmaier

Integrated metabolic and epigenomic reprogramming by H3K27M mutations in diffuse intrinsic pontine gliomas*
Sriram Venneti, University of Michigan Medical School, Ann Arbor, Michigan

Break
2:15 p.m.– 2:30 p.m.

Plenary Session 3: Epigenetics and Tumor Metabolism 2
Session Chair: Kathryn E. Wellen, University of Pennsylvania, Philadelphia, Pennsylvania
2:30 p.m.– 4:15 p.m.

Metabolic compartmentalization in the regulation of chromatin modification
Kathryn E. Wellen

Nuclear metabolic-epigenetic axis in learning and memory
Shelley L. Berger, University of Pennsylvania, Philadelphia, Pennsylvania

Deconvoluting variation: Epigenetic roots of disease heterogeneity
J. Andrew Pospisilik, Van Andel Institute, Grand Rapids, Michigan

Metabolic control of polycomb repressive complex 2 in lung disease and lung cancer*
Christine Brainson, University of Kentucky, Lexington, Kentucky

Break
4:15 p.m.–4:30 p.m.

Plenary Session 4: Differentiation and Metabolism
Session Chair: Olivier Pourquié, Harvard Medical School/Brigham and Women's Hospital, Boston, Massachusetts
4:30 p.m.–6:15 p.m.
Crosstalk between cell signaling and metabolism during vertebrate development
Olivier Pourquié

Dynamic metabolic regulation of epigenetic remodeling in macrophages
Jing Fan, University of Wisconsin-Madison, Madison, Wisconsin

Transcriptional regulation of mitochondrial metabolism by TIF1γ drives erythroid progenitor differentiation*
Marlies Rossmann, Harvard University, Cambridge, Massachusetts

Alterations in carbon and nitrogen metabolism in lung cancer*
Jiyeon Kim, University of Illinois at Chicago, Chicago, Illinois

Developing metabolic intervention strategies to reprogram neuroblastoma epigenome and overcome tumor resistance to differentiation therapy*
Jiangbin Ye, Stanford University, Stanford, California

Friday, October 16, 2020
Plenary Session 5: Cancer and Epigenetics
Session Chair: Lydia W.S. Finley, Memorial Sloan Kettering Cancer Center, New York, New York
9:30 a.m. – 11:15 a.m.

Impact of metabolic intervention on chromatin remodeling
Alexandre Puissant, Institut Universitaire d'Hématologie (IUH) Saint-Louis, Paris, France

Increasing viral mimicry with vitamin C
Peter A. Jones, Van Andel Institute, Grand Rapids, Michigan

Metabolic regulation of cancer cell fate decisions
Lydia W.S. Finley

Loss of PRC2 or KMT2D-COMPASS generates two quasi-mesenchymal cell states with distinct metastatic abilities*
Yun Zhang, Whitehead Institute for Biomedical Research, Cambridge, Massachusetts

Break
11:15 a.m.-11:30 a.m.

Plenary Session 6: Emerging Concepts
Session Chair: Matthew G. Vander Heiden, David H. Koch Institute for Integrative Cancer Research at MIT, Cambridge, Massachusetts
11:30 a.m.-1:15 p.m.

Metabolic zonation in glioblastoma dictates phenotypic diversification of tumour cells
Eli Keshet, Hebrew University of Jerusalem, Jerusalem, Israel
How nutrient metabolism can influence cell state
Matthew G. Vander Heiden

Clock control of HIF activity and tissue regeneration
Clara Bien Peek, Northwestern University, Chicago, Illinois

Spatial sequestration of GSK3α as a cellular response to amino acid starvation*
Laura Hinze, Boston Children's Hospital, Boston, Massachusetts

Break
1:15 p.m.-1:30 p.m.

Plenary Session 7: Stem Cell Maintenance
Session Chair: Omer Yilmaz, David H. Koch Institute for Integrative Cancer Research at MIT, Cambridge, Massachusetts
1:30 p.m.-2:45 p.m.

Dietary control of stem cells in physiology and disease
Omer Yilmaz

Lymph protects metastasizing melanoma cells from ferroptosis
Sean J. Morrison, UT Southwestern, Dallas, Texas

Connecting glutamine and citrate metabolism with epigenetic regulation of hematopoiesis*
Dalton Greenwood, Vanderbilt University, Nashville, Tennessee

Break
2:45 p.m.-3:00 p.m.

Plenary Session 8: In vivo Cancer Metabolism
Session Chair: Ralph J. DeBerardinis, UT Southwestern, Dallas, Texas
3:00 p.m.-5:15 p.m.

Metabolic phenotypes and liabilities in human cancer
Ralph J. DeBerardinis

Tracking metabolic compartmentation and epigenetic metabolism in human lung cancer
Teresa W. M. Fan, University of Kentucky, Lexington, Kentucky

Glycolytic compartmentalization within tissues and tumors
Joshua D. Rabinowitz, Princeton University, Princeton, New Jersey

Imaging cancer metabolism in patients: Beyond FDG PET
David A. Mankoff, University of Pennsylvania, Philadelphia, Pennsylvania
IL4 signaling increases acetyl-CoA metabolism and histone acetylation to promote breast cancer metastasis*
Demond Williams, Vanderbilt University, Nashville, Tennessee

Closing Remarks
Matthew G. Vander Heiden, David H. Koch Institute for Integrative Cancer Research at MIT, Cambridge, Massachusetts