

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**

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**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 Veneti, 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 Brinson, 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 TIF1 $\gamma$  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**

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**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 GSK3 $\alpha$  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