**SUNDAY, JANUARY 16**
Arrival and Registration

**MONDAY, JANUARY 17**
Welcome and Keynote Address (Joint)
Speaker to be Announced

Metabolic Regulation of the Anti-Cancer Immune Response (Joint)
Jeffrey C. Rathmell, Vanderbilt University, USA
*T Cell Metabolism and the Tumor Microenvironment*
Erika L. Pearce, Johns Hopkins University, USA
*Metabolic Regulation of Immune Cells in Cancer*
Lydia Lynch, Harvard Medical School, USA
*Interplay between Obesity, Immune Cells, and Cancer*
Marcia C. Haigis, Harvard Medical School, USA
*Nutrient Competition between Immune Cells and Cancer Cells*
Metabolic Regulation of Immune Cells in Cancer
Jeffrey C. Rathmell, Vanderbilt University, USA
T Cell Metabolism and the Tumor Microenvironment
Erika L. Pearce, Johns Hopkins University, USA
Metabolic Regulation of Immune Cells in Cancer
Lydia Lynch, Harvard Medical School, USA
Interplay between Obesity, Immune Cells, and Cancer
Marcia C. Haigis, Harvard Medical School, USA
Nutrient Competition between Immune Cells and Cancer Cells
Short Talk(s) Chosen from Abstracts

Workshop 1 (J2)
Short Talks Chosen from Abstracts

Workshop 1: Fundamentals of Immunometabolism (J1)
Short Talks Chosen from Abstracts

**TUESDAY, JANUARY 18**
Amino Acid Metabolism and Nutrient Balance (Joint)
Craig B. Thompson, Memorial Sloan Kettering Cancer Center, USA
*Identifying Metabolic Limitations in Cancer*
Karen H. Vousden, Francis Crick Institute, UK
*Serine Metabolism and Cancer Development*
Matthew G. Vander Heiden, Massachusetts Institute of Technology, USA
*Metabolic Interactions between Cancer and Host*
Hongbo Chi, St. Jude Children's Research Hospital, USA
*Nutrient Sensing and Signaling in Immune Function*
Short Talk(s) Chosen from Abstracts

Meet the Editors (Joint)
Metabolic Control of Differentiation and Immune Escape (J2)
Lydia Finley, Memorial Sloan Kettering Cancer Center, USA
*Metabolism, Epigenetics and Cancer*
Jared Rutter, University of Utah, USA
*Pyruvate Metabolism and Cellular Decisions*
Alec Kimmelman, New York University Langone Medical Center, USA
*Metabolic Control of Immune Tolerance in Cancer*
Short Talk(s) Chosen from Abstracts

Microbial Metabolites, Nutrients and Cancer (J1)
Dan R. Littman, HHMI/New York University School of Medicine, USA
*Host and Microbial Metabolites in Th17 Immunity*
Janelle S. Ayres, The Salk Institute for Biological Studies, USA
*Host and Microbial Metabolites in Health and Disease*
Mark A. Febbraio, Monash Institute of Pharmaceutical Sciences, Australia
*Role of the Gut Liver Axis in NASH Driven Cancer*
Short Talk(s) Chosen from Abstracts

**WEDNESDAY, JANUARY 19**
Redox Metabolism (J2)
Gina DeNicola, Moffitt Cancer Center, USA
*Cysteine Metabolism in Cancer*
Navdeep S. Chandel, Northwestern University, USA
*Mitochondrial Metabolism in Cancer*
Christina Towers, The Salk Institute for Biological Studies, USA
*Circumventing Autophagy Inhibition in Cancer Cells*
Thales Papagiannakopoulos, New York University School of Medicine, USA
*KEAP1/NRF2 Pathway in Cancer*
Short Talk(s) Chosen from Abstracts

Poster Session 1

**KEYSTONE SYMPOSIA**
on Molecular and Cellular Biology

**Tumor Metabolism (J2)**
Scientific Organizers: Eileen P. White, Joshua D. Rabinowitz and Marcia C. Haigis
Supported by the Directors' Fund

**Immunometabolism at the Crossroads of Obesity and Cancer (J1)**
Scientific Organizers: Lydia Lynch and Hongbo Chi
January 16-20, 2022 • Fairmont Banff Springs • Banff, AB, Canada
Supported by the Directors' Fund

Scholarship Deadline: October 5, 2021 / Abstract Deadline: October 12, 2021 / Discounted Registration Deadline: November 16, 2021

* Program current as of September 18, 2021. Meal formats are based on meeting venue.
* For the most up-to-date details, visit [https://www.keystonesymposia.org](https://www.keystonesymposia.org)
**Immune Interactions with Systemic and Tissue Metabolism (J1)**

**ChREBP, a Master Switch Linking Glucose and Lipid Metabolism and Diet**

Giuseppe Matarese, Università degli Studi di Napoli Federico II, Italy

**Systemic Metabolism, Leptin and Tregs**

Zuri Sullivan, Harvard University, USA

**Intestinal Response to Nutrient Sensing**

Ananda W. Goldrath, University of California, San Diego, USA

**Immunometabolism in Cancer**

Semir Beyaz, Cold Spring Harbor Laboratory, USA

**Short Talk(s) Chosen from Abstracts**

**Tumor Interaction with Host and Microbes (Joint)**

Yasmine Belkaid, NIAID, National Institutes of Health, USA

**Metabolic Control of Immunity**

Eileen P. White, Rutgers Cancer Institute of New Jersey, USA

**Immune Response Regulation by Autophagy in Cancer**

Joshua D. Rabinowitz, Princeton University, USA

**NADPH and Fat Sources in Tissues and Tumors**

Semir Beyaz, Cold Spring Harbor Laboratory, USA

**Short Talk(s) Chosen from Abstracts**

**Poster Session 3**

**THURSDAY, JANUARY 20**

**Targeting Metabolism (J2)**

Ralph J. DeBerardinis, University of Texas Southwestern Medical Center, USA

**Metabolic Dependencies in Tumors in Humans**

Maria Yuneva, Francis Crick Institute, UK

**Identifying Metabolic Vulnerabilities and Flexibilities of Tumours**

Ayelet Erez, Weizmann Institute, Israel

**Targeting the Urea Cycle**

Susan M. Molineaux†, Calithera Biosciences, USA

**GLS1 Inhibitor in Cancer**

Semir Beyaz, Cold Spring Harbor Laboratory, USA

**Short Talk(s) Chosen from Abstracts**

**High-Fat Diet, Lipids and Cancer (J1)**

Salvador Aznar Benitah, ICREA and Institute for Research in Biomedicine, Spain

**Targeting Metastasis through Lipid Metabolism**

Rachel J. Perry, Yale University, USA

**Breaking the Link between Obesity and Cancer**

Weiping Zou, University of Michigan, USA

**Improving Metabolic Responses to Immunotherapy**

Semir Beyaz, Cold Spring Harbor Laboratory, USA

**Dietary Control of Tumor Metabolism**

**Short Talk(s) Chosen from Abstracts**

**Workshop 2 (J2)**

**Short Talks Chosen from Abstracts**

**Workshop 2: Translational Immunometabolism in Disease (J1)**

**Short Talks Chosen from Abstracts**

**Metabolic Vulnerabilities (J2)**

Kivanc Birsoy, Rockefeller University, USA

**Metabolic Dependencies of Cancer Cells in vivo**

Heather Christofk, University of California, Los Angeles, USA

**Metabolic Transitions in Cancer**

Roberto Zoncu, University of California, Berkeley, USA

**Regulation of Cancer Metabolism by the Lysosome**

**Frontiers in Immunometabolism (J1)**

Donal Brennan, University College Dublin, Ireland

**Intentional Weight Loss to Treat Cancer**

Ido Amit, Weizmann Institute, Israel

**The Power of ONE: Immunology in the Age of Single Cell Genomics**

Luke A. J. O’Neill, Trinity Biomedical Sciences Institute, Ireland

**Warburg and Mitochondrial Metabolism in Inflammation**

**Short Talk(s) Chosen from Abstracts**

**Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (J2)**

**Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (J1)**

**FRIDAY, JANUARY 21**

**Departure**