Announcing the 2014 Keystone Symposia meeting on:

**Tissue-Resident Memory T Cells**

**January 12–16, 2014**

**Snowbird Resort, Snowbird, Utah, USA**

Scientific Organizers: Cornelia L. Trimble, Rachael A. Clark, Leo Lefrançois (in memoriam) and David Masopust

*The conference will:*

• Focus on the unique characteristics of tissue-resident memory T cells, aberrant activities of which can give rise to inflammatory and autoimmune conditions, including psoriasis, multiple sclerosis and inflammatory bowel disease;

• Explore how tissue-resident T cells are retained in peripheral locations where they can promote immunity, how they mediate their functions and how they might be elicited by vaccination;

• Stimulate collaborations and insights that would not otherwise have occurred to inform vaccination strategies for both infections and cancer, as well as novel therapies for inflammatory and autoimmune diseases.

For more information and to view the full program, visit [www.keystonesymposia.org/14A4](http://www.keystonesymposia.org/14A4)
SUNDAY, JANUARY 12
Arrival and Registration

MONDAY, JANUARY 13

Keynote Address
Peter C. Doherty, University of Melbourne, Australia
Thinking about Memory

Tissue-Resident T Cells: What Are the Questions?
*Philip D. Greenberg, University of Washington, USA
Wolf-Hervé Fridman, Cordeliers Research Centre, France
Role of Tumor-Related Tertiary LYmphoid Structures in the Generation and Shaping of Cancer-Controlling T Lymphocytes
Harlan Robins, Fred Hutchinson Cancer Research Center, USA
Immunosequencing Tumor-Infiltrating Lymphocytes in Ovarian and Colon Tumors

Nelson Glennie, University of Pennsylvania, USA
Short Talk: The Role of Skin-Localized Memory CD4 T Cells in Protection against Leishmania major

Jenny Thom, ETH Zürich, Switzerland
Short Talk: Cytomegalovirus Infection Results in the Formation of CD8+ and CD4+ Tissue Resident Memory T Cells in the Salivary Glands

Thomas S. Kupper, Brigham and Women’s Hospital, USA
Barrier Epithelial Tissues as Immune Organs

Navigating NIAID: Funding Priorities, Processes and Resources
*Cheryl Lapham†, NIAID, DHHS, National Institutes of Health, USA
*Halanna Kelly, Division of Allergy, Immunology, and Transplantation, National Institutes of Health, USA

Workshop 1
Joshua T. Schiffer, Fred Hutchinson Cancer Research Center, USA
Contribution of Decay and Movement to CD8+ T-Cell Decline from Genital Tract Micro-Regions following Clearance of HSV-2 Infected Cells: Predictions from a Mathematical Model

Georg Stary, Harvard Medical School, USA
Induction of Tissue-Resident Memory CD4+ T Cells in the Genital Tract by Intranasal Application of a Nanoparticle-Based Chlamydia Vaccine

Elizabeth L. Frost, Pennsylvania State University College of Medicine, USA
Requirements for the Development and Maintenance of Mouse Polyomavirus-Specific Brain Resident Memory CD8+ T Cells

Tyler A. Landrith, University of California, Riverside, USA
Characterization of CD103+ CD8+ T Cell Populations Present in the Brain during Chronic Toxoplasma gondii Infection

Jennifer M. Lund, Fred Hutchinson Cancer Research Center, USA
Regulatory T Cells Shape the Resident Memory T Cell Response to Virus Infection in the Tissues

Pablo A. Romagnoli, University of Connecticut Health Center, USA
Memory gammadelta T Cells Orchestrate Response to Secondary Oral Lm Infection

*Marion Pepper, University of Washington, USA
Visualizing Allergen-Specific Lung-Resident CD4+ Th2 Memory Cells in Asthma

Kristin Anderson, University of Washington, USA
Recirculation and Residence of Memory CD8 T Cells in the Murine Lung

Site-Specific: Reproductive Tract Mucosa
*Cornelia L. Trimble, Johns Hopkins University School of Medicine, USA
Tissue T Cells in Preinvasive HPV Disease

Nicolas Cuburu, NCI, National Institutes of Health, USA
Intravaginal Vaccination with Human Papillomavirus Vectors Against Herpes Simplex Virus 2 Infection

Norifumi Iijima, Yale University School of Medicine, USA
Short Talk: A Local Chemokine Network Sustains Tissue-Resident Memory T Cells Crucial for Antiviral Protection

Lawrence Corey, Fred Hutchinson Cancer Research Center, USA

Poster Session 1

TUESDAY, JANUARY 14

Imprinting and Plasticity
Kenneth M. Murphy, HHMI/Washington University School of Medicine, USA
Transcriptional Basis of Dendritic Cell Diversity in T Cell Priming

David B. Masopust, University of Minnesota, USA
Characterization of Tissue-Resident Memory CD8 T Cells in Mice: Distribution, Differentiation, and Function

Brian J. Laidlaw, University of California, San Francisco, USA
Short Talk: CD4 Help Is Critical for the Formation of Tissue Resident Memory T Cells following Influenza Infection

Naomi A. Yudanin, Weill Cornell Medical College, USA
Short Talk: Mechanisms of Lung-Resident Memory CD4 T Cell Migration and Retention

Stephen C. Jameson, University of Minnesota Medical School, USA
Putting T Cells in their Place

*Marc K. Jenkins, University of Minnesota Medical School, USA
Origins of CD4+ Memory T Cells

Site-Specific: GI Tract
*David B. Masopust, University of Minnesota, USA
Yasmine Belkaid, NIAID, National Institutes of Health, USA
Compartmentalized and Systemic Control of Tissue Immunity by Commensals

Hilde Cheroutre, La Jolla Institute for Allergy and Immunology, USA
From Transcription Factors to Defense Mechanisms: Different Rules Apply for Mucosal Effector Memory T Cells

* Session Chair † Invited but not yet accepted Program current as of May 17, 2018. Program subject to change. Meal formats are based on meeting venue. For the most up-to-date details, visit www.keystonesymposia.org/14A4.
Livija Deban, Oxford BioTherapeutics, UK
Short Talk: RGS1 Is a Major Regulator of Intestinal TRM Cell Responsiveness

Charisse Petersen, University of Utah, USA
Short Talk: Direct Recognition of Commensals by T Cells Promotes Microbiota Selection by IgA to Prevent Dysbiosis

Gregory F. Sonnenberg, University of Pennsylvania, USA
Regulation of Host-Commensal Bacteria Relationships in Human Health and Disease

Site-Specific: Skin

* Rachael A. Clark, Brigham and Women’s Hospital, Harvard Medical School, USA
Unique Features of Human Skin Resident T Cells

Wendy L. Havran, The Scripps Research Institute, USA
Crosstalk between Skin-Resident T Cells and their Neighbors

Shruti Naik, Rockefeller University, USA
Short Talk: Specific Commensal-Dendritic Cell Crosstalk Promotes Cutaneous IL-17A+ CD8 T Effectors

Erika J. Crosby, Duke University, USA
Short Talk: Bystander CD8 T Cells in the Skin Promote Increased Disease Severity during Leishmania Major Infection

Laura K. Mackay, University of Melbourne, Australia
Generation of Epithelial Resident Memory T Cells

Frank Oliver Nestle, Sanofi, USA
Regulation of Skin T Cells in Skin Homeostasis and Pathology

Workshop 2

* Donna L. Farber, Columbia University Medical Center, USA
Effect of Aging on Tissue-Resident Memory to Influenza Virus

Marcia A. Blackman, Trudeau Institute, USA
Effect of Aging on Tissue-Resident Memory to Influenza Virus

Shiki Takamura, Kinki University Faculty of Medicine, Japan
CD69 Enhances the Recruitment of Memory CD8+ T Cells to the Lung Airways by Inhibiting S1P-Mediated Lymphocyte Egression from the Lung Parenchyma

Shalini Sharma, St. Jude Children’s Research Hospital, USA
mCMV Alters the Airway Inflammatory Milieu Regulating Protective and Pathogenic Heterologous Immunity to Influenza A Virus Infection

Silvia Ariotti, Netherlands Cancer Institute, Netherlands
Induction of a Local Anti-Pathogen State by Tissue-Resident Memory CD8+ T Cells

Carmen Gerlach, Harvard Medical School, USA
Transitional Memory Cells (Ttm) – A Novel Subset of CD8+ Memory T Cells

Chang Hoon Lee, NIAID, National Institutes of Health, USA
Human CCR2+ MAIT Cells Demonstrate Efficient Transendothelial Migration that Depends on the Expression of Glycosyltransferases and Non-redundant Chemokine Receptors

Charles L. Dulberger, University of Chicago, USA
The Molecular Basis for MAIT Cell Recognition of Microbial Antigens Bound to MR1

Yujun Huang, La Jolla Institute for Allergy and Immunology, USA
Driving Pre-Existing Immunity at the Mucosal Borders of the Intestine

Site-Specific: Pulmonary

* David L. Woodland, Keystone Symposia on Molecular and Cellular Biology, USA
Protection by Tissue-Resident Memory CD8 T Cells in the Lungs

Jie Liu, NIAID, National Institutes of Health, USA
Short Talk: Pre-Existing Subdominant CD8 T Effectors Control Respiratory Syncytial Virus Lung Infection with Limited Immunopathology

Jacob E. Kohlmeier, Emory University, USA
Generation, Maintenance and Recall of Airway-Resident Memory T Cells

Closing Remarks

Peter C. Doherty, University of Melbourne, Australia
Closing Remarks with Acknowledgement of Leo Lefrançois

THURSDAY, JANUARY 16

Departure