FRIDAY, FEBRUARY 5
Arrival and Registration

SATURDAY, FEBRUARY 6
Organizer Welcome and Keynote Session (Joint)
*Paul G. Thomas, St. Jude Children's Research Hospital, USA
*Carolina B. López, University of Pennsylvania, USA
Eva Harris, University of California, Berkeley, USA
Barney S. Graham, NIAID, National Institutes of Health, USA

Dengue and Zika Virus Pathogenesis and Immunity
*Paul G. Thomas, St. Jude Children's Research Hospital, USA
Carolina B. López, University of Pennsylvania, USA
Eva Harris, University of California, Berkeley, USA
Barney S. Graham, NIAID, National Institutes of Health, USA
Overview of Respiratory Virus Vaccines

Inflammation and Innate Immunity in Viral Infections (Q1)
Siddharth Balachandran, Fox Chase Cancer Center, USA
Mechanisms of Influenza Virus-Induced Cell Death
Lisa P. Daley-Bauer, Emory University, USA
Combined Deficiency in Caspase-8 and RIPK3
Catherine A. Blish, Stanford University School of Medicine, USA
Defining the Role of NK Cells in Viral Immunity
Ken H. Cadwell, New York University School of Medicine, USA
Virome and High Inference Immunity

Short Talks Chosen from Abstracts
Beyond Acute Disease: Consequences of Respiratory Virus Infections (Q2)
Katelyn M. Gostic, University of Chicago, USA
Imprinting - First Exposure to Influenza Marks You for Life
Tina Hartert, Vanderbilt University School of Medicine, USA
Infant Respiratory Viral Infection and Childhood Asthma
Andrew E. Vaughan, University of Pennsylvania, USA
Chronic Post-Viral Effects on Lung Structure

Short Talks Chosen from Abstracts
Workshop 1: Innate Immunity in Viral Infections (Q1)

Short Talks Chosen from Abstracts
Workshop 1: Zoonoses (Q2)

Short Talks Chosen from Abstracts
Sensing the Virus and Antigen Presentation (Q1)
Jonathan W. Yewdell, NIAID, National Institutes of Health, USA
Virion Trafficking and Antigen Presentation in ZIKA
Ana Fernandez-Sesma, Ichan School of Medicine at Mount Sinai, USA
Role of STING in Antiviral Immunity to Flaviviruses, Alphaviruses and Beyond

Determinants of Clinical Outcome: New Perspectives on Virus/Host Interactions (Q2)
Carolina B. López, University of Pennsylvania, USA
Defective Viral Genomes during Respiratory Syncytial Virus Infection
Nicholas W. Lukacs, University of Michigan, USA
Early Life Respiratory Syncytial Virus Infection and Trained Immunity

Short Talks Chosen from Abstracts

Poster Session 1

SUNDAY, FEBRUARY 7
Mucosal Immunity (Joint)
Peter J.M. Openshaw, Imperial College London, UK
Mucosal Immunity to Respiratory Viruses
Stacey Lynne Schultz-Cherry, St. Jude Children's Research Hospital, USA
Astrovirus Infections in the Gut
David B. Masopust, University of Minnesota, USA
Antiviral T Cell Immune Surveillance
Ali H. Ellebedy, Washington University School of Medicine, USA
Tracking Human Immune Responses to Influenza Vaccines across Anatomical Compartments

Short Talks Chosen from Abstracts
Human Immunity in Blood and Tissues (Q1)
Katherine Kedzierska, University of Melbourne, Australia
Human Influenza-Specific CD8+ T Cells in Blood and Tissues
Donna L. Farber, Columbia University Medical Center, USA
Anti-Viral Immunity in Human Tissues
Frances E. Lund, University of Alabama at Birmingham, USA
B Cells and Antibody Secrete Cells across Human Tissues

Short Talks Chosen from Abstracts
New Approaches to Studying Respiratory Viruses I (Q2)
Susanne Herold, University of Giessen Lung Center, Germany
Organoid Modeling to Study the Pathomechanisms of Viral Lung Infection
Seema Lakdawala, University of Pittsburgh School of Medicine, USA
Microscopy to Study Viral Transport within Infected Cells
Rebecca Dutch, University of Kentucky, USA
Cell-to-Cell Transmission of hMPV and RSV

Short Talks Chosen from Abstracts

* Session Chair † Invited but not yet accepted  Program current as of March 28, 2020. Program subject to change. Meal formats are based on meeting venue. For the most up-to-date details, visit https://www.keystonesymposia.org.
**Poster Session 2**

**MONDAY, FEBRUARY 8**

**T Cells, B Cells and their Receptors (Q1)**

Paul G. Thomas, St. Jude Children's Research Hospital, USA  
*Specificity of the CD8 T Cell Compartment in Viral Infections*

Bryan Briney, The Scripps Research Institute, USA  
*Diversity in the Human Antibody Repertoire*

Dirk Hans Busch, Technical University Munich, Germany  
*CD8+ T Cells in CMV Infection*

Sophie A. Valkenburg, University of Hong Kong, Hong Kong  
*The Coordinated B and T Cell Response in Influenza Vaccination*

**Short Talks Chosen from Abstracts**

**Novel Insights into Respiratory Virus Biology (Q2)**

Andrew B. Ward, The Scripps Research Institute, USA  
*Monitoring Antibody Responses to Influenza and Coronavirus using Electron Microscopy*

Speaker to be Announced

Rachel Fearns, Boston University, USA  
*Viral Transcription and Replication Mechanisms*

**Short Talks Chosen from Abstracts**

**Workshop 2: Adaptive Immunity in Viral Infections (Q1)**

**Pre-Existing Immunity and Co-Infections (Q1)**

Patricia T. Bozza, Instituto Oswaldo Cruz, Brazil  
*Yellow Fever, Dengue and HIV*

Tiffany A. Reese, University of Texas Southwestern Medical Center, USA  
*Herpesvirus and Helminth Co-Infections*

Speaker to be Announced

**Prevention and Treatment Strategies: Vaccines and Antivirals (Q2)**

Kanta Subbarao, WHO Collaborating Centre for Reference and Research on Influenza, Australia  
*Progress on Influenza Vaccines*

Pedro J. Cejas, Merck & Co., Inc., USA  
*RSV Therapies Designed from Human Disease Learnings: Vaccines and Antiviral Biologics*

Silke Stertz, University of Zürich, Switzerland  
*Host Factors as Antiviral Targets*

**Kena Swanson**, Pfizer Inc., USA  
*RSV Vaccines – Lessons Learned from Recent Experience*

**Poster Session 3**

**TUESDAY, FEBRUARY 9**

**Translational and Developmental Aspects of Antibodies (Joint)**

Galit Alter, MIT and Harvard University, USA  
*Systems Serology to Characterize Antibody Responses*

Nicole L. Kallewaard, MedImmune, USA  
*Antibodies as Vaccine Surrogates – Successes and Challenges*

Jesse D. Bloom, Fred Hutchinson Cancer Research Center, USA  
*Mapping Person-to-Person Variation in Viral Mutations that Escape Polyclonal Immunity*

**Short Talks Chosen from Abstracts**

**Workshop 2: Transmission (Q2)**

**New Approaches to Anti-Viral Vaccines (Q1)**

Florian Krammer, Icahn School of Medicine at Mount Sinai, USA  
*Novel Antigenic Targets for Influenza Vaccination*

Andrea J. Sant, University of Rochester Medical Center, USA  
*Influenza Specific CD4 T Cell Responses to Vaccination and Infection*

Gary J. Nabel, Sanofi, USA  
*Innovation in Antibody Structure and Design*

Boerries Brandenburg, Janssen Vaccine, Netherlands  
*Talk Title to be Announced*

**Short Talks Chosen from Abstracts**

**New Approaches to Studying Respiratory Viruses II (Q2)**

Speaker to be Announced

Ryan A. Langlois, University of Minnesota, USA  
*Single Cells*

Mark T. Heise, University of North Carolina at Chapel Hill, USA  
*Systems Genetics Tools for Studying Respiratory Virus Pathogenesis*

Christopher Chiu, Imperial College London, UK  
*Human Challenge Infection*

**Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (Q1)**

**Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (Q2)**
KEYSTONE SYMPOSIA on Molecular and Cellular Biology

Viral Immunity: Basic Mechanisms and Therapeutic Applications (Q1)
Scientific Organizers: Katherine Kedzierska and Paul G. Thomas
Part of the Keystone Symposia Global Health Series, supported by the Bill & Melinda Gates Foundation

Respiratory Viruses: New Frontiers (Q2)
Scientific Organizers: Kanta Subbarao, JoAnn A. Suzich and Carolina B. López
February 5-9, 2021 • Fairmont Banff Springs • Banff, AB, Canada
Part of the Keystone Symposia Global Health Series, supported by the Bill & Melinda Gates Foundation

Global Health Travel Award Deadline: September 1, 2020 / Scholarship Deadline: October 22, 2020 / Abstract Deadline: November 5, 2020 / Discounted Registration Deadline: December 4, 2020

WEDNESDAY, FEBRUARY 10
Departure