Viral Immunity: Basic Mechanisms and Therapeutic Applications (J3)
Scientific Organizers: Katherine Kedzierska and Paul G. Thomas
Sponsored by Cell Research

Respiratory Viruses: New Frontiers (J4)
Scientific Organizers: Kanta Subbarao and Carolina B. López

January 17-20, 2022 • Keystone Resort • Keystone, CO, USA
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Monday, January 17
Arrival and Registration

Tuesday, January 18
Welcoming Remarks (J3)
Katherine Kedzierska, University of Melbourne, Australia

Welcoming Remarks (J4)
Kanta Subbarao, WHO Collaborating Centre for Reference and Research on Influenza, Australia

Inflammation and Innate Immunity in Viral Infections (J3)
*Daniel Blanco-Melo, Fred Hutchinson Cancer Research Center, USA
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
Innate Immune Dysfunction in COVID-19
Ferrin Antony, Auburn University, USA
Short Talk: IL-27 Modulates Macrophage Metabolism during HSV-1 Infection to Regulate Immunopathology
Justin J. Frere, NYU Langone, USA
Short Talk: SARS-CoV-2 Infection Results in Sustained Inflammation in the Brain Following Viral Clearance
Jamie M. Strampe, Boston University, USA
Short Talk: Biomarkers of Disease Outcome in Lassa Fever

Beyond Acute Disease: Consequences of Respiratory Virus Infections (J4)
*Pablo Penaloza-MacMaster, Northwestern University, USA
Jie Sun, University of Virginia, USA
Immune Mediated Lung Damage
Andrew E. Vaughan, University of Pennsylvania, USA
Chronic Post-Viral Effects on Lung Structure
Italo A. Castro, Washington University School of Medicine, USA
Short Talk: Reactivation of Persistent Paramyxovirus Infection Increases Chronic Lung Pathology in Mice
Sydney R. Stein, National Institutes of Health, USA
Short Talk: SARS-CoV-2 Infection and Persistence Across the Human Body and Brain
Carolina B. López, Washington University School of Medicine, USA
Impact of Defective Viral Genomes on Respiratory Syncytial Virus Clinical Outcomes
Jessica Rubens, Johns Hopkins Bloomberg School of Public Health, USA
Short Talk: Novel Recombinant Measles Virus Vaccine in Rhesus Macaques

Workshop 1: Innate Immunity in Viral Infections (J3)
*Sammy Bedoui, University of Melbourne, Australia
Adriana Forero, Ohio State University, USA
MEF2A is a Regulator of Interferon-Mediated Inflammation
Chiara E. Geyer, Amsterdam UMC, Netherlands
Anti-SARS-CoV-2 IgG of Severely Ill COVID-19 Patients Induces Hyper-Inflammation that can be Specifically Counteracted by FDA/EMA-Approved Small Molecule Inhibitors
Hannah Itell, Fred Hutch / University of Washington, USA
Defining the Cell-Intrinsic Effectors of the Antiviral Interferon Response against HIV in CD4+ T cells
Tianyang Mao, Yale University, USA
A Stem-Loop RNA RIG-I Agonist Protects against Acute and Chronic SARS-CoV-2 Infection in Mice
Christine Nelson, NIAID, National Institutes of Health, USA
Opposing Effects of IL-10 and IFNγ During SARS-CoV-2 Infection in Non-Human Primates
Fabian Pott, Charité Universitätsmedizin Berlin, Germany
Single-Cell Analysis of Arthritogenic Alphavirus-Infected Human Synovial Fibroblasts Uncovers a Switch from Induction to Repression of Innate Immunity in Infected Cells
Ashley Zani, Ohio State University, USA
Gasderrin D Deficiency Limits the Severity of Influenza in Mice

Workshop 1: SARS-CoV-2/COVID-19 (J4)
*Matthew Frieman, University of Maryland, USA
Matthew Gartner, Peter Doherty Institute for Infection and Immunity, Australia
Differential mechanisms of SARS-CoV-2 entry in stem cell derived lung and cardiac cells
Jacob S. Yount, Ohio State University, USA
Interferon Induced Transmembrane Protein 3 (IFITM3) Limits Lethality of SARS-CoV-2 in Mice
Margaret Mills, University of Washington, USA
Predicting Infectivity: Comparing Four PCR-based Assays to Detect Culturable SARS-CoV-2 in Clinical Specimens
Erica Normandin, Broad Institute, USA
SARS-CoV-2 tropism and compartmentalization in fatal COVID-19
Mireille Farjo, University of Illinois, Urbana-Champaign, USA
Within-Host Evolutionary Dynamics of SARS-CoV-2 in Humans Captured by Dense Longitudinal Sampling
Lauren B. Rodda, University of Washington, USA
Impact of Previous SARS-CoV-2 Infection on the Immune Response to COVID-19 Vaccination

* Session Chair † Invited but not yet accepted  Program current as of December 22, 2021. Meal formats are based on meeting venue.
For the most up-to-date details, visit https://www.keystonesymposia.org.
Caitlin Stoddard, Fred Hutchinson Cancer Research Center, USA
*Distinct High-Resolution SARS-CoV-2 Antibody Responses Among Infected Mother-Infant Pairs in Nairobi, Kenya*

Michael G. Joyce, Henry M. Jackson Foundation / Walter Reed Army Institute of Research, USA
*SARS-CoV-2 Ferritin Nanoparticle Vaccines Elicit Broad SARS Coronavirus Immunogenicity*

**Immunity and Respiratory Viruses: Good and Bad (Joint)**

*Ellen F. Foxman, Yale University, USA*
*Scott E. Evans, University of Texas MD Anderson Cancer Center, USA*

Katelyn M. Gostic, University of Chicago, USA
*Original Antigenic Sin Perpetually Distorts the Adaptive Immune Repertoire, but Only Occasionally Destroys Protection*

Peter J.M. Openshaw, Imperial College London, UK
*Mucosal Immunity to Respiratory Viruses*

Ali H. Ellebedy, Washington University School of Medicine, USA
*Tracking Human Immune Responses to Influenza Vaccines across Anatomical Compartments*

In Su Cheon, Mayo Clinic, USA
*Short Talk: Exuberant Pulmonary T cells Compromise Lung Function Post-Acute COVID-19*

Andreas Wack, Francis Crick Institute, UK
*Type I and Type III Interferons in Pathogenesis and Protection during Respiratory Viral Infections*

Keaton M. Crosse, New York University, USA
*Short Talk: The ELF1 Transcription Factor Mediates an Interferon-Independent Pan-Antiviral Immune Response*

**Poster Session 1**

**WEDNESDAY, JANUARY 19**

**Human Immunity in Blood and Tissues (J3)**

*Paul G. Thomas, St. Jude Children's Research Hospital, USA*
*Katherine Kedzierska, University of Melbourne, Australia*
*Katharine Kedzierska, University of Melbourne, Australia*
*CD8+ T Cell Immunity in Viral Infection and Vaccination*

Donna L. Farber, Columbia University Medical Center, USA
*Anti-Viral Immunity in Human Tissues*

Marion Pepper, University of Washington, USA
*Talk Title to be Announced*

Daniela Weiskopf, La Jolla Institute for Immunology, USA
*Short Talk: Low Dose mRNA-1273 COVID-19 Vaccine Generates Durable Memory Enhanced by Crossreactive T Cells*

Robert Mettelman, St Jude Children's Research Hospital, USA
*Short Talk: Defining Cellular Correlates of Protection to Influenza Virus Across Human Cohorts*

Julia Niessl, Karolinska Institutet, Sweden
*Short Talk: Functional Tissue-Resident Memory CD8+ T Cells Specific for SARS-CoV-2 Reside in Unexposed Oropharyngeal Lymphoid Tissue*

**NEW Approaches to Studying Respiratory Viruses I (J4)**

*Marta Maria Gaglia, Tufts University School of Medicine, USA*
*Seema Lakdawala, University of Pittsburgh School of Medicine, USA*
*Mallory M. Thomas, Montana State University, USA*
*Edward Hutchinson, University of Glasgow, UK*
*Susanne Herold, University of Giessen Lung Center, Germany*
*Daniel Lingwood, Havard Medical School, USA*
*William E. Matchett, University of Minnesota, USA*

**Workshop 2: Adaptive Immunity in Viral Infections (J3)**

*Oanh Nguyen, University of Melbourne, Australia*
*Anastasia Minervina, St. Jude Children's Research Hospital/IBCh RAS, Moscow, Russia, USA*
*J. Scott Hale, University of Utah, USA*
*Daniel F. Luque Duque, University of Giessen Lung Center, Germany*
*Edward Hutchinson, University of Glasgow, UK*

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**Workshop 2: Transmission (J4)**

*Anice Lowen*, Emory University School of Medicine, USA  
*Emily Bruce*, University of Vermont, USA  
*Frances K. Shepherd*, University of Minnesota, USA  
*Andrea French*, University of Pittsburgh, USA  
*Joshua D. Powell*, USDA-ARS, USA  
*Nicole C. Rockey*, University of Pittsburgh, USA  
*Vineet D. Menachery*, University of Texas Medical Branch, USA

**Poster Session 2**

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

*Ian A. Wilson*, The Scripps Research Institute, USA  
*Ali H. Ellebedy*, Washington University School of Medicine, USA  
*Galit Alter*, MIT and Harvard University, USA  
*Alina Baum*, Regeneron Pharmaceuticals, USA

**Antigen-Specific B Cells**

*Katherine Kedzierska*, University of Melbourne, Australia  
*Paul G. Thomas*, St. Jude Children's Research Hospital, USA  
*Bryan Briney*, The Scripps Research Institute, USA  
*Dirk Hans Busch*, Technical University Munich, Germany  
*Sophie A. Valkenburg*, University of Hong Kong, Hong Kong

**Novel Approaches to Anti-Viral Vaccines (J3)**

*Carolien van de Sandt*, University of Melbourne at the Peter Doherty Institute, Australia


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**Galit Alter**, MIT and Harvard University, USA  
**Florian Krammer**, Icahn School of Medicine at Mount Sinai, USA  
**Andrea J. Sant**, University of Rochester Medical Center, USA  
**Gary J. Nabel**, Sanofi, USA  
**Stacey Lynne Schultz-Cherry**, St. Jude Children’s Research Hospital, USA  
**Niranjan Kanesa-thasan**, Icosavax, Inc., USA  
**Nevan J. Krogan**, University of California, San Francisco, USA  
**Mary A. Marovich**, NIAID, National Institutes of Health, USA  
**Kanta Subbarao**, WHO Collaborating Centre for Reference and Research on Influenza, Australia  
**Kena Swanson**, Pfizer Inc., USA  
**Yaniv Erlich**, Eleven Therapeutics, UK  
**Carolina B. López**, Washington University School of Medicine, USA  
**Paul G. Thomas**, St. Jude Children’s Research Hospital, USA

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**Prevention and Treatment Strategies: Vaccines and Antivirals (J4)**

**Niranjana Kanesa-thasan**, Icosavax, Inc., USA  
**Nevan J. Krogan**, University of California, San Francisco, USA  
**Mary A. Marovich**, NIAID, National Institutes of Health, USA  
**Kanta Subbarao**, WHO Collaborating Centre for Reference and Research on Influenza, Australia  
**Kena Swanson**, Pfizer Inc., USA  
**Yaniv Erlich**, Eleven Therapeutics, UK  
**Carolina B. López**, Washington University School of Medicine, USA  
**Paul G. Thomas**, St. Jude Children’s Research Hospital, USA

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**FRIDAY, JANUARY 21**

**Meeting Wrap-Up: Outcomes and Future Directions (J4)**  
**Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (J3)**