SUNDAY, APRIL 23
Arrival and Registration

MONDAY, APRIL 24
Welcome and Keynote Session (Joint)

*Carla F. Kim, Boston Children's Hospital, USA
*Andreas Wack, Francis Crick Institute, UK
Edward E. Morrisey, University of Pennsylvania, USA
Building the Lung Gas Exchange Barrier
Ronald N. Germain, NIAID, National Institutes of Health, USA
Immunity in the Lung Studied Multidimensionally Through a Microscope

Through the First Breath: Lung Development and Formation (X7)

Xin Sun, University of California, San Diego, USA
The Lung as a Sensory Organ

*Enid R. Neptune, Johns Hopkins University, USA
Growth Factor Signaling in Airspace Homeostasis
Emma Rawlins, University of Cambridge, UK
The Molecular and Cellular Mechanisms Regulating Human Lung Development

Interfering with the Virus: Interferons at the Crossroads of Protection and Tissue Damage (X8)

*Urszula Radzikowska, Swiss Institute of Allergy and Asthma Research, Switzerland
*Ivan Zanoni, Harvard Medical School - Boston Children's Hospital, USA
Yin and Yang of Interferons in Lung Viral Infections
Thirumala-Devi Kanneganti, St. Jude Children's Research Hospital, USA
PANoptosis Driving Severity in Respiratory Viral Infections
Arnaud Didierlaurent, University of Geneva, Switzerland
Pediatric Lung Infections: The Power of Interferons

Workshop 1: Host Pathogen Interactions (X7)

*Cathearine M. Bosio, NIAID, National Institutes of Health, USA
Timothy A. Watkins, Yale University, USA
Duration and Mechanisms of Viral Interference in Differentiated Human Bronchial Epithelium
Ciaran Skerry, University of Maryland, USA
A Balance Between Peptidoglycan Recognition Proteins -1 and -4 Mediates Inflammatory Outcomes to B. Pertussis Infection
Suhas Bobba, Washington University School of Medicine, St. Louis, USA
An Unusual Protective Role for Type I Interferon Signaling during Drug-Resistant Mycobacterium Tuberculosis Infection

Program current as of April 2, 2024
Cecilia Ruscitti, University of Liege, Belgium
Spatially-restricted Atypical Ly6G+ Macrophages orchestrate Epithelial Repair by promoting AT2 Expansion Following Influenza Virus Infection

Cleaning Up: The Host Immune Response to Infection (Joint)
Herbert Schiller, Helmholtz Zentrum München, Germany
Cell Circuit Dynamics in Lung Inflammation and Fibrogenesis
Joseph P. Mizador, Boston University School of Medicine, USA
Integrated Immune Responses to Pneumonia
Jian Zheng, University of Louisville, USA
Short Talk: PLA2G2D-PGD2/PTGDR Signaling Pathway-mediated Immunoregulation in Lungs of Coronavirus-infected Mice
*Ruth A. Franklin, Harvard University, USA
Short Talk: Macrophages Regulate Inflammatory Responses Following Viral Infection
*Jie Sun, University of Virginia, USA
Short Talk: Simultaneously Mitigating Hyperinflammation and Hyperglycemia in COVID-19
Rania Dagher, AstraZeneca, USA
Short Talk: iPSC-based Model to Investigate COVID-19 Immunotherapy in Alveolar Niche

Poster Session 1
TUESDAY, APRIL 25

Pathways to Health and Disease through the Ages: Metabolism, Senescence and Epigenetics (X7)
Benjamin D. Singer, Northwestern University Feinberg School of Medicine, USA
Epigenetic and Metabolic Alterations in Reparative Cell Function during Aging
*Alexandra L. McCubbrey, National Jewish Health, USA
Metabolic Control of Lung Phagocyte Function
Jose Ordovas-Montanes, Boston Children’s Hospital and Harvard Medical School, USA
Single-Cell Biology of Barrier Tissues and COVID-19
Stefania Crotta, Francis Crick Institute, UK
Short Talk: Repair of Airway Epithelia Requires Metabolic Rewiring towards Fatty Acid Oxidation
Nancy Allen, University of California San Francisco, USA
Short Talk: Fibroblast NF-kB Activation Drives the Accumulation of Age-associated T Cells (Taa) in the Lung
Antony Rodriguez, Baylor College of Medicine, USA
Short Talk: Let-7 microRNA Promotes AT2 Cell Priming and Maladaptive Metabolic Reprogramming via Epigenetic Histone Modifications in Lung Injury and Fibrosis.

Samuel P. Rowbotham, Massachusetts General Hospital, USA
Short Talk: Age-associated Changes in Epigenetic Regulation Alter the Regenerative Equilibrium between Lung Alveolar and Bronchiolar Progenitor Cells

Location, Location, Location: Lung-Resident Immune Cells Shape the Response to Viral Infections (X8)
*Harish Narasimhan, University of Virginia, USA
*Sylvia Knapp, Medical Univ. Vienna, Austria
Cytokine-Driven Immunopathology in SARS-Cov-2 Infection
Donna L. Farber, Columbia University Medical Center, USA
Development of Adaptive Immunity in the Human Lung
Carrie M. Rosenberger, Genentech, Inc., USA
Short Talk: The Myeloid ENRAGE Transcriptional Program Associated with Severity is Decreased by Therapeutic Blockade of IL-6 signaling in COVID-19 Patients
Ying Tang, Boston Children's Hospital, USA
Short Talk: Single-cell RNA-sequencing Identifies RSV- and SARS-CoV-2-specific Cell States within the Nasal Mucosa of Young Children with Acute Respiratory Illness
Urszula Radzikowska, Swiss Institute of Allergy and Asthma Research, Switzerland
Short Talk: Rhinovirus-induced Epithelial RIG-I Inflammasome Activation Suppresses Antiviral Immunity and Promotes Inflammatory Responses in Virus-induced Asthma Exacerbations and COVID-19
Daniel Schnepf, Francis Crick Institute, UK
Short Talk: Impaired Immune Response Drives Age-dependent Disease Severity during Respiratory Virus Infections

Career Roundtable (Joint)
Ronald N. Germain, NIAID, National Institutes of Health, USA
Xin Sun, University of California, San Diego, USA
Herbert Schiller, Helmholtz Zentrum München, Germany
Carrie M. Rosenberger, Genentech, Inc., USA

Reaching Out: Cell-Cell Interactions and Cellular Stress Response (X7)
Nan Tang, National Institute of Biological Sciences, China
Mechanical Force in Alveolar Regeneration and Diseases
Mitsuru Morimoto, RIKEN, Center for Developmental Biology, Japan
Scrap and Rebuild of Lung Fibrosis using Alveolar Organoids
*Robert Dickson, University of Michigan Medical School, USA
Microbial Ecology of the Respiratory System
Tatiana Kalin, Cincinnati Children's Hospital Medical Center, USA
Short Talk: Endothelial Cells Regulate Lung Repair through FOXF1/R-Ras Signaling
Workshop 2 (X7)
*Workshop 2 (X7)*

Rebuilding after Damage: Repair and Regeneration (Joint)
- **WEDNESDAY, APRIL 26**
  - Inflammation in the Lung (X8)
    - Same Same, but Different: Macrophage Diversity Dictates Inflammation in the Lung (X8)
      - *Thomas Marichal*, University of Liège, Belgium
      - **Alexander V. Misharin**, Northwestern University, USA
      - How Aging and Inflammation Shape Alveolar Macrophage Function
      - *Sunny Shin*, University of Pennsylvania Perelman School of Medicine, USA
      - The Inflammasons Shapes Macrophage Responses in the Lung
    - *Andreas Wack*, Francis Crick Institute, UK
      - Lung Immunity and Alveolar Macrophages: Do Prior Infections Matter?
    - *Liberty Mthunzi*, Columbia University, USA
      - Short Talk: Connexin-43 Containing Gap Junctions in Sessile Alveolar Macrophages Determine Ventilator-induced Lung Injury
    - *Katharina Ronacher*, University of Queensland, Australia
      - Short Talk: Oxysterols Drive Macrophage Infiltration and Inflammation during Viral Respiratory Infections

**Poster Session 2**

**WEDNESDAY, APRIL 26**

**Rebuilding after Damage: Repair and Regeneration (Joint)**
- **Joo-Hyeon Lee**, Cambridge Stem Cell Institute, UK
  - Epithelial Reprogramming in Lung Regeneration and Chronic Wounds
- **Andrew E. Vaughan**, University of Pennsylvania, USA
  - Adaptive and Maladaptive Repair Pathways Post Influenza Injury
- **Rachel L. Zemans**, University of Michigan, USA
  - Epithelial Transdifferentiation after Injury
- **Ana Pardo-Saganta**, Justus Liebig University, Germany
  - Epithelial-Immune Interactions in Lung Injury and Repair
- **Anne Lynch**, UT MD Anderson Cancer Center, USA
  - Short Talk: AP-1 as a Transcriptional Regulator of AT2 Cell Reversible Activation during Lung Injury Repair
- **Harish Narasimhan**, University of Virginia, USA
  - Short Talk: Immune-Epithelial Progenitor Interactions Drive Dysplastic Lung Repair Post Viral Pneumonia

**Workshop 2 (X7)**
- **Xingbin Ai**, Massachusetts General Hospital, USA
- **Benjamin Ng**, National Heart Centre Singapore, Singapore
  - IL11 Drives AT2 Cell Dysfunction and Impairs Alveolar Epithelial Renewal after Lung Injury
- **Martin Ma**, Boston University School of Medicine, USA
  - Regeneration of Mouse Airway Epithelium Via Transplantation of Pluripotent Stem Cell-derived Basal Stem Cells
- **Ying Xi**, ShanghaiTech University, China
  - Stromal-immune Cell Crosstalk in Lung Fibrosis
- **Maurizio Chioccioli**, Yale School of Medicine, USA
  - Spatiotemporal Coordination of Alveolar Type 2 Cells Behavior Following Alveolar Injury
- **Konstantinos Alyantzadatos**, Boston University, USA
  - AMP-kinase as a Candidate Druggable Target for Pulmonary Fibrosis Therapies
- **Yuru Liu**, University of Illinois at Chicago, USA
  - STAT1 is Required for the Progenitor Function of Alveolar Type II Cell Subpopulations during Homeostasis and Repair
- **Ahmad N. Nabhan**, Genentech, Inc., USA
  - Targeted Alveolar Regeneration with Fzd-specific Agonists
- **Maria Basil**, University of Pennsylvania, USA
  - The Human Respiratory Airways – a Regenerative Niche in Lung Development, Injury, and Regeneration

**Workshop 2 (X8)**
- **Samuel W. Kazer**, Boston Children's Hospital, USA
- **Leif Erik Sander**, Universitätmedizin Berlin, Germany
- **Alex Yang**, Columbia University, USA
  - Lung Tissue-Resident Memory T Cells Enhance Early IL-10 Production in situ for Modulating Inflammation in the Secondary Response
- **Wayne Howard**, National Institute for Communicable Diseases, South Africa
  - Elevated Kynurenine to Tryptophan Ratio is a Common Feature of Respiratory Distress in Tuberculosis, COVID-19, PCP and Community-Acquired Pneumonia
- **Igor Santiago-Carvalho**, Mayo Clinic, USA
  - Sensing of Extracellular ATP via P2RX7 Induces the Establishment of Lung Tissue-resident Helper CD4 T Cells in Response to Influenza
- **Antonio Cembellin Prieto**, University of California Davis / Johns Hopkins Bloomberg School of Public Health, USA
  - B Cell-derived Acetylcholine Controls Early Virus Replication and Macrophage Activation after Influenza infection
- **Ki-Wook Kim**, University of Illinois, USA
  - IL10 Signal of Lung Intestinal Macrophage Prevents the Progressive Lung Fibrosis Induced by Commensal Dysbiosis
- **Shawn Sengupta**, Children's Hospital of Philadelphia/UPenn, USA
  - Circadian Regulation of Lung Injury and Repair
- **Kerry Hilligan**, Malaghan Institute of Medical Research, New Zealand
  - Pre-existing Interferon-y Responses Condition the Lung to Support Early Control of SARS-CoV-2 Infection

* Session Chair † Invited but not yet accepted     Program current as of *April 2, 2024*. Meal formats are based on meeting venue.
For the most up-to-date details, visit [https://www.keystonesymposia.org](https://www.keystonesymposia.org).
Kelly Sheppardson, University of California, Merced, USA
TNFa-Mediated Damaging Inflammation During Aspergillus Pulmonary Infection is regulated by Type I Interferon Receptor 2 (IFNAR2)

Deconstruction and Reconstruction: Building Models in Diseases and Cancer (X7)
Carla F. Kim, Boston Children's Hospital, USA
Organoid Platforms for Mechanisms of Lung Disease and Transplantation

*Darrell N. Kotton, Boston University, USA
Dissecting Disease with Pluripotent Cell-Derived Lung Cell Lineages

Tania Distler, EPFL, Switzerland
Short Talk: A Tissue-engineering Approach to Decode Host Immunity during P. Aeruginosa Airway Infections

Mélia Magnen, UCSF, USA
Short Talk: Immediate Myeloid Depot for SARS-CoV-2 in the Human Lung

Xingbin Ai, Massachusetts General Hospital, USA
Short Talk: A Tracheal Aspirate-derived Airway Basal Cell Model Reveals a Proinflammatory Epithelial Defect in Congenital Diaphragmatic Hernia

Every Cell is an Immune Cell: Lung Inflammation, a Play with Many Actors (X8)
Carolina B. López, Washington University School of Medicine, USA
Respiratory Viruses as a Community

*Cecilia Johansson, Imperial College London, UK
Initiation and Regulation of Immunity during Respiratory Viral Infections

Leif Erik Sander, Universitätsmedizin Berlin, Germany
Talk Title to be Announced

*John W. Schoggins, University of Texas Southwestern Medical Center, USA
Short Talk: LY6E Protects Mice from Pathogenic Effects of Murine Coronavirus and SARS-CoV-2

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (X7)
Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (X8)

THURSDAY, APRIL 27
Departure