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
Thirimula-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)
*Catharine 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

Patrick Johann Dörner, Department of Infectious Diseases and Respiratory Medicine, Charité, Germany
Clinically used Broad-spectrum Antibiotics Compromise Inflammatory Monocyte-dependent Antibacterial Defense in the Lung
Anny Xiaobo Zhou, Harvard Medical School, USA
Gasdermin B, the Asthma Genetic Susceptible Gene, Promotes Interferon Response and Airway Inflammation
Andrew Prigge, Northwestern University, USA
Juvenile Regulatory T Cells Exhibit Decreased Capacity to Suppress Inflammation during Severe Influenza Pneumonia
Lydia M. Roberts, NIAID, National Institutes of Health, USA
SARS-CoV-2 Infection Drives a Lipid Mediator Response that Contributes to Resolution of Pulmonary Pathology in an Insult-dependent Fashion
Simon Cleary, UCSF, USA
Intravital Imaging of Lymphatic Function in Acute Lung Inflammation

Workshop 1 (X8)
*Donna L. Farber, Columbia University Medical Center, USA
*Liberty Mthunzi, Columbia University, USA
Pablo C. Alarcon, Cincinnati Children's Hospital Medical Center, USA
Adipose Tissue Contribution to Influenza Disease Severity in Obesity
Hye Jin Shin, Chungnam National University School of Medicine, South Korea
SARS-CoV-2 Induces Abnormal Mitochondrial Biogenesis for Virus Propagation
Patricia Ogger, Max Planck Institute of Biochemistry, Germany
Type I Interferon Signaling Deficiency Results in Dysregulated Innate Immune Responses to SARS-CoV-2 in Mice
Valentina Poli, Boston Children's Hospital/Harvard Medical School, USA
Zinc-dependent Histone Deacetylases Drive Neutrophil Extracellular Trap Formation and Potentiate Local and Systemic Inflammation
Riem Gawish, Medical University of Vienna, Austria
Pathogen-specific Modulation of AM Responses during SARS-CoV-2 and Pneumococcal Pneumonia by ADAR2
Philippe A. Vollmer Barbosa, Fraunhofer ITEM, Germany
Human Parainfluenza 3 Induces Early Events of Infection in Distal Human Lung Tissue ex vivo
Samuel W. Kazer, Boston Children's Hospital, USA
Primary Nasal Viral Infection Rewires the Tissue-scale Memory Response

* Session Chair † Invited but not yet accepted     Program current as of March 16, 2024. Meal formats are based on meeting venue.
For the most up-to-date details, visit https://www.keystonesymposia.org.
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. Mizgerd, Boston University School of Medicine, USA
Integrated Immune Responses to Pneumonia

Jian Zheng, University of Louisville, USA
Short Talk: PLAT2G2D-PGD2/PTGR2 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
*Syvia 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

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Adeline Matschulat, Boston University Chobanian & Avedisian School of Medicine, USA
Short Talk: Roles for the Hippo Pathway Kinases LATS1/2 in Lung Epithelial-Immune Homeostasis

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 Inflammamosome 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 Chiocchini, Yale School of Medicine, USA
Spatiotemporal Coordination of Alveolar Type 2 Cells Behavior Following Alveolar Injury

Konstantinos Alysson, 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)
*S. 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

Shaan 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
Kelly Shepardson, 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
Mélie 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