Tuesday, June 7, 2022 -- Evening
5:00-7:00 PM  Evening Registration  Gant Conference Center

Wednesday, June 8, 2022 – Morning
8:00-8:20 AM  Welcome/Introduction  William Janssen, M.D., Chair
Andrew Fontenot, M.D., Co-Chair
Lisa Maier, M.D., Co-Chair

8:20-8:30 AM  The Thomas L. Petty Aspen Lung Conference: A Historical Perspective
Dennis E. Doherty, M.D., FCCP
Professor of Medicine, University of Kentucky
Secretary/Treasurer, National Lung Health Education Program

Innate Immunity: Mononuclear Phagocytes and Lung Disease: Moderators-William Janssen, M.D./Li Li, Ph.D.

8:30-9:05 AM  GILES F. FILLEY LECTURE
“MACROPHAGE HETEROGENEITY IN THE LUNG”
Miriam Merad, M.D., Ph.D.
Professor, Oncological Sciences and Medicine
(Hematology/Oncology)
Icahn School of Medicine at Mount Sinai
Hess Center for Science and Medicine
New York, New York

9:05-9:30 AM  Discussion

9:30-9:45 AM  SINGLE CELL RNA SEQUENCING OF HUMAN LUNG SUB-COMPARTMENTS DEFINES SPATIAL HETEROGENEITY OF LEUKOCYTES AND IDENTIFIES INTERSTITIAL MACROPHAGE SUBPOPULATIONS ENRICHED BY CHRONIC CIGARETTE SMOKE EXPOSURE. Patrick Hume1,3*, Sean Jacobson2, Camille Moore2,4, Kara Mould1,3, Peter Henson1,3, William Janssen1,3, 1Department of Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine; 2Department of Biomedical Research, National Jewish Health, Denver Colorado; 3Department of Medicine; 4Department of Biostatistics and Informatics, University of Colorado Denver Anschutz Medical Campus, Aurora, CO.

9:45-10:00 AM  ALLERGIC ASTHMA RESPONSES ARE DEPENDENT ON INTERSTITIAL MACROPHAGE ONTOGENY. Robert Tighe1*, Anastasiya Birukova1, Yuriy Malakhau1, Aaron Vose1, Vidya Chandramohan2, Jaime Cyphert-Daly1, R. Ian Cumming1, Alexander Misharin3, Yoshihiko Kobayashi4, Purushothama Tata4, Jennifer Ingram1, Michael Gunn1, Loretta Que1, Yen-Rei Yu1,5, 1Department of Medicine, Duke University, Durham, NC; 2Department of Surgery, Duke University, Durham, NC; 3Department of Medicine, Northwestern University, Chicago, IL; 4Department of Cell Biology, Duke University, Durham, NC; 5Department of Medicine, University of Colorado, Denver, CO.

10:00-10:30 AM  .....Coffee Break  MEET THE PROFESSORS (by Registration table)
(Refreshments for conference participants only)
Wednesday, June 8, 2022 -- Morning

Innate Immunity: Mononuclear Phagocytes and Lung Disease:
Moderators–Claudia Jakubzick, Ph.D./Ciara Shaver, M.D., Ph.D.

10:30-11:05 AM PARKER B. FRANCIS LECTURESHIP
“DENDRITIC CELLS IN THE LUNG AND IMPLICATIONS FOR AIRWAYS DISEASE”
Bart N. Lambrecht, M.D., Ph.D.
Professor of Pulmonary Medicine
Department Director, Center for Inflammation Research
University of Ghent, VIB
Ghent, Belgium

11:05-11:30 AM Discussion

11:30-11:45 AM AN IMPORTANT ROLE OF MITOCHONDIRAL H2O2 IN ALLERGEN-INDUCED TOLERANCE IN EARLY LIFE. Huijuan Yuan1*, Jie Chen1, Sanmei Hu1, Timothy B. Oriss1, Sagar L. Kale1, Sudipta Das1, Seyed M. Nouraie1, Prabir Ray1,2 and Anuradha Ray1,2, 1Division of Pulmonary, Allergy, and Critical Care Medicine, 2Department of Immunology, University of Pittsburgh School of Medicine, Pittsburgh, PA.

11:45-12:00 Noon A HUMAN MODEL OF ASTHMA EXACERBATION IDENTIFIES PATHOGENIC AIRWAY IMMUNE CIRCUITS SPECIFIC TO ASTHMA. Jehan Alladina1*, N.P. Smith1, K. Manakongtreecheep1, K. Slowikowski1, H.L. Keen2, T. Kooistra1, R.A. Rahimi1, F.L. Giacona1, A.D. Luster1, A.C. Villani1, J.L. Cho2 and B.D. Medoff1, 1Center for Immunology and Inflammatory Diseases, Massachusetts General Hospital, Boston, MA; 2Iowa Inflammation Program, University of Iowa Carver College of Medicine, Iowa City, IA.

12:00-1:30 PM ......Lunch (lunch not provided by conference)
Wednesday, June 8, 2022 -- Afternoon

Bridging the Gap Between Innate and Adaptive Immune Responses/Part 1: Moderators-Elizabeth Redente, Ph.D./Jennifer Honda, Ph.D.

1:30-2:05 PM  STATE OF THE ART
Robert P. Dickson, M.D.
University of Michigan Medical School, Ann Arbor, Michigan
“How Gut and Lung Microbiota Calibrate Lung Immunity in Health and Disease”

2:05-2:30 PM  Discussion

2:30-2:45 PM  PROINFLAMMATORY MONOCYTE IMMUNE REPROGRAMMING ENHANCES LPS-INDUCED LUNG INJURY IN SEPSIS SURVIVOR MICE. Scott J. Denstaedt*, Benjamin H. Singer, Michael W. Newstead, Theodore J. Standiford, Bethany B. Moore, Rachel L. Zemans, Pulmonary and Critical Care Medicine, Michigan Medicine, Ann Arbor, MI.

2:45-3:00 PM  AN INEFFECTIVE HYPERINFLAMMATORY NEUTROPHILIC IMMUNE RESPONSE INDUCED BY HYPERVIRULENT KLEBSIELLA PNEUMONIAE. Sudipta Das1,2, Akruti Patel1, Jie Chen1, Sanmei Hu1, Kathryn Dalton1, Michael Gorry1, Kong Chen1, Janet Lee1,2, Anuradha Ray1,3 and Prabir Ray1,3; 1Division of Pulmonary, Allergy, and Critical Care Medicine, Department of Medicine, University of Pittsburgh School of Medicine, Pittsburgh, PA; 2Acute Lung Injury Center of Excellence, Department of Medicine, University of Pittsburgh, Pittsburgh, PA; 3Department of Immunology, University of Pittsburgh School of Medicine, Pittsburgh, PA.

3:00-3:30 PM  ......Break (Refreshments for conference participants only)

Moderators-Robert Tighe, M.D/Kara Mould, Ph.D.

3:30-4:05 PM  MARVIN I. SCHWARZ LECTURE
“DEVELOPMENT AND REGULATON OF MACROPHAGE RESPONSES”
Christopher K. Glass, M.D., Ph.D.
Professor, Cellular and Molecular Medicine
University of California, San Diego
La Jolla, California

4:05-4:30 PM  Discussion

4:30-4:45 PM  ADOPTIVE TRANSFER OF IMMUNOMODULATORY MACROPHAGES MODIFIES LOCAL PULMONARY IMMUNITY AND ATTENUATES PULMONARY HYPERTENSION IN A MODEL OF CHRONIC HYPOXIA EXPOSURE. Angeles Fernandez-Gonzalez1,2*, Amit Mukhia1, Janhavi Nadkarni1, Kristjan Zhunka1, Sally Vitali2, Xianlan Liu1, S. Alex Mitsialis1, Stella Kourembanas1,1 Boston Children’s Hospital, Division of Newborn Medicine and 2Department of Pediatrics, Harvard Medical School, Boston, MA.

4:45-5:00 PM  A NOVEL TRPV4-NF-κB INHIBITORY INTERACTION IN MACROPHAGES PROTECT THE LUNG FROM INJURY. Y. Liu1, Y. Wang3, S. Abraham1, L.M. Grove1, B.D. Southern1,2, Amanda Reinhardt1, Erica M. Orsini1, M. A. Olman1,2, Rachel G. Scheraga1,2*, Departments of 1Inflammation and Immunity; 2Respiratory Institute, and 3Cancer Biology, Cleveland Clinic, Cleveland, OH.

5:00-7:00 PM  POSTER VIEWING (Refreshments for conference participants only)
Thursday, June 9, 2022 -- Morning

**Bridging the Gap Between Innate and Adaptive Immune Responses/Part 2:**
*Moderators*–*Irina Petrache, M.D./Julie Bastarache, M.D.*

**8:00-8:35 AM**  **STATE OF THE ART**
*G.R. Scott Budinger, M.D.*
Northwestern University Feinberg School of Medicine, Chicago, Illinois
“Innate and Adaptive Immune Responses in COVID-19 Pneumonia”

**8:35-9:00 AM**  **Discussion**

**9:00-9:15 AM**  **SARS-CoV-2-SPECIFIC T CELLS ASSOCIATE WITH REDUCED LUNG FUNCTION AND INFLAMMATION IN PULMONARY POST-ACUTE SEQUALAE OF SARS-CoV-2.** Katherine M. Littlefield\(^1\), Renée O. Watson\(^1\), Jennifer M. Schneider\(^1\), Charles P. Neff\(^1\), Eiko Yamada\(^1\), Min Zheng\(^1\), Thomas B. Campbell\(^1\), Michael T Falta\(^1\) Sarah E. Jolley\(^1\), Andrew P. Fontenot\(^1,2\), **Brent E. Palmer**\(^1\)*.  \(^1\)Department of Medicine, University of Colorado AMC, Aurora, CO;  \(^2\)Department of Immunology and Microbiology, University of Colorado AMC, Aurora, CO.

**9:15-9:30 AM**  **IL-13-INDUCED GOBLET CELL METAPLASIA BLOCKS SARS-COV-2 BINDING/ENTRY TO PRIMARY HUMAN AIRWAY EPITHELIA IN VITRO.** Shreya Ghimire\(*\), Biyun Xue, Kun Li, Chris Wohlford-Lenane, Ryan M. Gannon, Andrew L. Thurman, David K. Meyerholz, Stanley Perlman, Paul B. McCray, Jr., Alejandro A. Pezzulo, Department of Internal Medicine, Carver College of Medicine, The University of Iowa, Iowa City, IA.

**9:30-10:00 AM**  ****Coffee Break**  **MEET THE PROFESSORS** (by Registration table)
(Refreshments for conference participants only)

**Moderators**–Lisa Maier, M.D./Katie Hisert, M.D., Ph.D.

**10:00-10:35 AM**  **ROGER S. MITCHELL LECTURE**
*“GRANULOMA FORMATION IN THE LUNG”*  
Professor Lalita Ramakrishnan, Ph.D.  
Professor of Medicine, Immunology and Infectious Diseases  
Molecular Immunity Unit  
University of Cambridge  
Cambridge, United Kingdom

**10:35-11:00 AM**  **Discussion**

**11:00-11:15 AM**  **ASPERRIGILLUS NIDULANS-INDUCED GRANULOMATOUS INFLAMMATION IN A MURINE MODEL OF SARCOIDOSIS.** Shaikh M. Atif\(*\), Douglas G. Mack\(^1\), Allison Martin\(^1\), Michael Falta\(^1\), and Andrew Fontenot\(^{1,2}\),  \(^1\)Department of Medicine, University of Colorado Anschutz Medical Campus, Aurora, CO.  \(^2\)Department of Immunology and Microbiology, University of Colorado Anschutz Medical Campus, Aurora, CO.

**11:15-11:30 AM**  **NTM MUCOSAL-INDUCED IMMUNE RESPONSE ENHANCES THE PROTECTIVE EFFECT OF BCG AGAINST MYCOBACTERIUM TUBERCULOSIS INFECTION.** Taru S. Dutt, Burton R. Karger, Amy Fox, Nathan Youssef, Rhythm Dhadhwal, Sarah Cooper, Brendan Podell, Elisa Rampacci, Andres Obregon-Henao and **Marcela Henao-Tamayo**\(*\), Microbiology, Immunology, and Pathology, Colorado State University, Fort Collins, CO.

**12:00-3:00 PM**  **Picnic – T Lazy 7 - The Ranch** (for conference participants and their family)
Friday, June 10, 2022 -- Morning

Adaptive Immune Responses in Lung Disease:
Moderators-Chris Evans, Ph.D./Robert Campbell, Jr., Ph.D., M.S.

8:00-8:35 AM  STATE OF THE ART
Frances E. Lund, Ph.D.
University of Alabama at Birmingham, Birmingham, Alabama
“Role of B-Cells in Adaptive Immunity and Autoimmunity”

8:35-9:00 AM  Discussion

9:00-9:15 AM  B CELLS ARE REGULATED BY RELMα IN PULMONARY HYPERTENSION. Qing Lin*, Udeshika Kariyawasam, John Skinner, Roger Johns, Department of Anesthesiology and Critical Care Medicine, Johns Hopkins University School of Medicine, Baltimore, MD.

9:15-9:30 AM  INTERSTITIAL LUNG DISEASE PATIENTS EXHIBIT AUGMENTED GERMINAL CENTER RESPONSES IN LUNG LYMPH NODES AND INCREASED SERUM REACTIVITIES TO NOVEL AUTOANTIGENS. Young me Yoon¹, Tania Velez², Vaibhav Upadhyay³, Sara Vazquez³, Cathryn T Lee¹, Kelly Blaine¹, Donna Decker¹, Robert Guzy¹, Ayodeji Adegunsoy¹, Mary Strek¹, Imre Noth², Mark S Anderson³, Joseph DeRisi³, Anthony Shum³, and Anne I. Sperling¹,²*, ¹Dept of Medicine, Section of Pulmonary and Critical Care, University of Chicago, Chicago, IL; ²Dept of Medicine, Pulmonary and Critical Care Division, Carter Immunology Center, Dept of Microbiology, Immunology, and Cancer, University of Virginia, Charlottesville, VA; ³Dept of Medicine, University of California, San Francisco, CA.

9:30-10:00 AM  ......Coffee Break  (Refreshments for conference participants only)

Moderators--Tim Lahm, M.D., ATSF/Tara Nordgren, Ph.D.

10:00-10:35 AM  STATE OF THE ART
Montserrat C. Anguera, Ph.D.
University of Pennsylvania School of Veterinary Medicine, Philadelphia, Pennsylvania
“Sex as a Biologic Variable: Role of X Chromosome Inactivation in Immunity”

10:35-11:00 AM  Discussion

11:00-11:15AM  SEXUALLY DIMORPHIC EXPRESSION OF LUNG MIRNAS IN AN ASTHMA MOUSE MODEL. Nathalie Fuentes¹, Sarah Commodore²*, Ashley Weaver¹, Rachel Steckbeck¹, Lidys Rivera¹, Marvin Nicoleau¹, and Patricia Silveyra², ¹Department of Pediatrics, Pennsylvania State University College of Medicine, Hershey, PA; ²Department of Environmental and Occupational Health, School of Public Health, Indiana University Bloomington, IN.

11:15-11:30 AM  LUNG EPITHELIAL CELL-DERIVED C3 PROTECTS AGAINST PNEUMONIA-INDUCED LUNG INJURY. A. N. Ozanturk¹, S. K. Sahu¹, D. H. Kulkarni², L. Garnica¹, L. Dannull¹, L. Ma¹, J. McPhatter¹, J. Kunen¹, X. Wu¹, S. L. Brody¹, J. P. Atkinson³, Hrishikesh S. Kulkarni¹*, ¹Pulmonary and Critical Care Medicine, ²Gastroenterology, and ³Rheumatology, Washington University in St Louis, Saint Louis, MO.

11:30-1:30 PM  ......Lunch  (lunch not provided by conference)
Lessons from Cancer: Novel Treatments and Complications of Immunotherapies:  
Moderators-Sunita Sharma, M.D., MPH/Ben Medhoff, M.D.

1:30-2:05 PM  
THOMAS A. NEFF LECTURE  
“COMPLICATIONS OF IMMUNE MODIFYING THERAPIES”  
Karthik S. Suresh, M.D.  
Assistant Professor of Medicine and Oncology  
Johns Hopkins University School of Medicine  
Baltimore, Maryland

2:05-2:30 PM  
Discussion

2:30-2:45 PM  
BRONCHOALVEOLAR FLUID OF PATIENTS WITH CHECKPOINT INHIBITOR PNEUMONITIS DEMONSTRATE ELEVATED LEVELS OF CHEMOKINE LIGAND 18 WITH RELATION TO DISEASE SEVERITY. Mohammad I. Ghanbar1*, Andres Vilabona-Rueda1, Ara Wally1, Julie Brahmer2, Jarushka Naidoo2, Jeffrey Thiboutot1, Hans J. Lee1, Lonny B. Yarnus1, David J. Feller-Kopman1, Vasan Yegnasubramanian2, Franco R. D’Alessio1, Karthik Suresh1. 1Division of Pulmonary Critical Care Medicine, and 2Department of Oncology, Johns Hopkins University School of Medicine, Baltimore, MD.

2:45-3:00 PM  
CLINICAL RESPONSES TO TREATMENT WITH TEZEPELUMAB AMONG PATIENTS WITH SEVERE, UNCONTROLLED ASTHMA IN THE PHASE 3 NAVIGATOR STUDY. Njira Lugogo,1 Christopher S Ambrose,2 Gene Colice,2 Kamil Kmita,3 Bill Cook,2 Sandhya Ponnambal,4 Jean-Pierre Llanos-Ackert5 and Andrew Menzies-Gow6, 1University of Michigan, Ann Arbor, MI; 2AstraZeneca, Gaithersburg, MD; 3AstraZeneca, Warsaw, Poland; 4AstraZeneca, Cambridge, UK; 5Amgen, Thousand Oaks, CA; 6Royal Brompton and Harefield Hospitals, London, UK. (encore/presented by Sarah Moyle/AstraZeneca)

3:00-3:30 PM  
......Break (Refreshments for conference participants only)

Moderators–Ivana Yang, Ph.D./Moumita Ghosh, Ph.D.

3:30-4:05 PM  
STATE OF THE ART  
Matthew F. Krummel, Ph.D.  
University of California San Francisco, San Francisco, California  
“Curing Cancer Through Immunity”

4:05-4:30 PM  
Discussion

4:30-4:45 PM  
NEWLY DEFINED NEOANTIGEN MODELS DEMONSTRATE THAT NAbs RECOGNIZE AND ELIMINATE A BROAD-SPECTRUM OF TRANSFORMING CELLS. Kavita Rawat1*, Dhvanir Kansara1, Shannon Soucy2, Fred Kolling2, Kiara Diaz3, Claudia Jakubzick1, 1Department of Microbiology and Immunology, Dartmouth Geisel School of Medicine, Hanover, NH; 2Department of Biomedical Data Science, Dartmouth Geisel School of Medicine, Hanover, NH.

4:45-5:00 PM  
INDUCTION OF TERTIARY LYMPHOID STRUCTURES IN NON-SMALL CELL LUNG CANCER IMPROVES B AND T CELL ANTI-TUMOR IMMUNITY. Hye Mi Kim, Dongyan Liu, Ayana Ruffin, Alexandra McDonough, Caleb Lampenfeld, Sheryl Kunning, Ashwin Somasundaram, Laura Stabile, Tullia C. Bruno*, University of Pittsburgh, UPMC Hillman Cancer Center, Department of Immunology, Pittsburgh, PA.

5:00-7:00 PM  
POSTER VIEWING (Refreshments for conference participants only)
Saturday, June 11, 2022 -- Morning

*Future of Lung Immunology: Moderators-Gregory Downey, M.D./Patrick Hume, M.D., Ph.D.*

**8:00-8:35 AM**  
**REUBEN M. CHERNIACK LECTURE**  
“IMAGING OF IMMUNE CELLS IN THE LIVING LUNG”  
Paul Kubes, Ph.D.  
Professor, Department of Physiology and Pharmacology  
Snyder Institute for Chronic Diseases  
University of Calgary Cumming School of Medicine  
Calgary, Alberta, Canada

**8:35-9:00 AM**  
Discussion

**9:00-9:15 AM**  
**ROLE OF DHX58 (LGP2) DURING RESOLUTION OF PNEUMONIA-ARDS IN MICE AND HUMANS.**  
Andres Villabona-Rueda*, Ye Xiong¹, Nuala Meyer², Nicola Heller³, Rachel Damico¹, Franco D’Alessio⁵, ¹Department of Medicine, Johns Hopkins University, Baltimore, Maryland; ²Department of Medicine, Perelman School of Medicine, University of Pennsylvania; ³Department of Anesthesiology and Critical Care Medicine, Johns Hopkins University, Baltimore, MD.

**9:15-9:30 AM**  
**CRTH2 MEDIATES PRO-FIBROTIC MONOCYTE-DERIVED ALVEOLAR MACROPHAGE DIFFERENTIATION AND PROMOTES LUNG FIBROSIS.**  
Yueming Cao¹, Jahnani Rudrakshala¹, River Williams¹, Miles Mundy¹, Dongqin Yang¹, Amy Palmisciano², Thomas Walsh², Cesar Delcompare², Tanis Caine², Luca Tomasi², Barry S. Shea², Yang Zhou¹*, ¹Department of Molecular Microbiology and Immunology, Brown University, Providence, Rhode Island; ²Division of Pulmonary, Critical Care and Sleep Medicine, Alpert Medical School of Brown University and Rhode Island Hospital, Providence, RI.

**9:30-10:00 AM**  
...Coffee Break (Refreshments for conference participants only)
Saturday, June 11, 2022 -- Morning

Future of Lung Immunology: Moderators-Fernando Holguin, M.D., MPH/Karthik Suresh, M.D.

10:00-10:35 AM THOMAS L. PETTY LECTURE
"NOVEL THERAPIES FOR LUNG DISEASE”
Terry J. Fry, M.D.
Professor of Pediatrics, Hematology and Immunology
University of Colorado School of Medicine
Children’s Hospital Colorado
Anschutz Medical Campus
Aurora, Colorado

10:35-11:00 AM Discussion

11:00-11:15 AM MAINTENANCE DNA METHYLATION STABILIZES INDUCED TREGS. Anthony M. Joudi1,*, Kathryn A. Helmin1, Luisa Morales-Nebreda1, Manuel Torres Acosta1, Carla P. Reyes Flores1, Samuel E. Weinberg1, Benjamin D. Singer1, 1Dept. of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL.

11:15-11:30 AM PERIPHERALLY-INDUCED TREGS REGULATE IMMUNE CELL NUMBERS DURING RESOLUTION OF INFLUENZA IN MICE. Jason R. Mock1,2,*, Miriya K. Tune1,2, and Claire M. Doerschuk1,2,3, 1Division of Pulmonary Disease and Critical Care Medicine, Department of Medicine, 2Marsico Lung Institute, 3Center for Airways Disease, University of North Carolina, Chapel Hill, NC.

Introduction Conference Summarizer: William Janssen, M.D.

11:30-12:30 PM CONFERENCE SUMMARY
Anuradha Ray, Ph.D.
Professor of Medicine and Immunology
UPMC Endowed Chair in Lung Immunology
Division of Pulmonary, Allergy, and Critical Care Medicine
University of Pittsburgh School of Medicine
Pittsburgh, Pennsylvania

12:30-1:00 PM Discussion and Adjourn