POSTER VIEWING
Wednesday, June 8, 2022
5:00-7:00 PM

POSTERS

SINGLE CELL RNA-SEQUENCING REVEALS INFLAMMATORY RAT MODEL OF PULMONARY ARTERIAL HYPERTENSION WITH BMPR2 MUTATIONS IS CHARACTERIZED BY TRANSCRIPTOMIC SHIFT IN PULMONARY MONOCYTES AND MACROPHAGES. Christine M. Cunningham1,2*, Ting-Hsuan Wu1, Dongeon Kim1,2, Ryan Vihn1,2, Emilie Claire Schneider1,2, Gongyong Peng1,2, Alexander McQuiston1,2, Lan Zhao1,2, Peter Kao1, Xinguo Jiang1,2, Amy Tian1,2, and Mark R. Nicolls1,2, 1Stanford University School of Medicine, Stanford, CA; 2VA Palo Alto Health Care System, Palo Alto, CA.

SYNDECAN-1 ATTENUATES LUNG INJURY BY PROMOTING EFFEROCYTOSIS. Marilia Zuttion1*, Tanyalak Parimon1, Yapei Huang1, and Peter Chen1, 1Cedars-Sinai Medical Center; Women’s Guild Lung Institute; Department of Medicine, Los Angeles, CA.

IL-22 REGULATES LUNG IMMUNITY AND INJURY RESPONSE IN A MOUSE MODEL OF REPETITIVE ENVIRONMENTAL DUST EXPOSURE. Arzu Ulu1, Stefanie Sveiven1, Amanpreet Bilg1, Jalene V. Velazquez1, Marissa Dia2, Maheswari Mukherjee3, Ana G. Yuil-Valdes4, Santosh Kota5, Abigail Burr1, Aileen Najera1, and Tara M. Nordgren1,6*, 1Division of Biomedical Sciences, School of Medicine, University of California, Riverside. Riverside, CA; 2Riverside Community College, Riverside, CA; 3Department of Medical Sciences, College of Allied Health Professions, University of Nebraska Medical Center, Omaha, NE; 4Department of Pathology and Microbiology, University of Nebraska Medical Center, Omaha, NE; 5Department of Preprofessional Biology, University of Florida, Gainesville, FL; 6Department of Environmental and Radiological Health Sciences, Colorado State University, Fort Collins, CO.

SCRNA-SEQ EXPRESSION OF APOC2 AND IFI27 IDENTIFIES FOUR AM SUPERCLUSTERS IN CF AND HEALTHY BALF. Xin Li1*, Fred W. Kolling2, Daniel Aridgides3, Diane Mellinger3, Alix Ashare1,3, and Claudia V. 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; 3Department of Medicine, Dartmouth Hitchcock Medical Center, Lebanon, NH.

REAL-WORLD EFFECTIVENESS OF BENRALIZUMAB ON EXACERBATIONS AMONG SPECIALIST-TREATED PATIENTS WITH SEVERE ASTHMA IN THE US: DATA FROM CHRONICLE. Reynold A. Panettieri, Jr1, Njira Lugogo2, Wendy C. Moore3, Bradley E. Chipp5, Brett Jepson5, Wenjiong Zhou6, Christopher S. Ambrose7, Eduardo Genofre8, Donna Carstens8, 1Rutgers, The State University of New Jersey, New Brunswick, NJ; 2University of Michigan, Ann Arbor, MI; 3Wake Forest School of Medicine, Winston-Salem, NC; 4Capital Allergy & Respiratory Disease Center, Sacramento, CA; 5Cytel, Cambridge, MA; 6ClinChoice, Fort Washington, PA; 7AstraZeneca, Gaithersburg, MD; 8AstraZeneca, Wilmington, DE. (encore/presented by Sarah Moyle/AstraZeneca)

RESISTIN REGULATES NLRP3 INFLAMMASOME IN PULMONARY HYPERTENSION. Roger Johns*, Udeshika Karivyasam, John Skinner, Qing Lin, Department of Anesthesiology and Critical Care Medicine, Johns Hopkins University School of Medicine, Baltimore, MD.

CHROMATIN ACCESSIBILITY IDENTIFIES NOVEL REGULATORY PATHWAYS MEDIATING STEMNESS AND IMMUNOEDITING IN SMALL CELL LUNG CANCER. Vivek Shukla1, Lyuba Varticovski2, Songjoon Bae2, Haitao Wang1, Ruizhong Wang1, Yonghong Wang3, Sudheer K. Gara1, Mary R. Zhang1, Markku M. Miettinen2, Gordon L. Hager2, David S. Schrump4, 1Thoracic Epigenetics Section, Thoracic Surgery Branch; 2Laboratory of Receptor Biology and Gene Expression; 3Laboratory of Pathology, Center for Cancer Research, National Cancer Institute, Bethesda, MD.
DECAY ACCELERATING FACTOR (CD55) PROTECTS AGAINST COMPLEMENT-MEDIATED ALVEOLAR TYPE-2 (AT2) CELL INJURY DURING CIGARETTE SMOKE (CS) EXPOSURE. R. Kurniadi¹, A. Mikosz¹, D. Cao¹, I. Echelman¹, H. Steichen¹, I. Chelepis¹, J. Bridges¹, I. Petracek¹, Karina A. Serban¹,², ¹Division of Pulmonary, Critical Care, and Sleep Medicine at National Jewish Health, Denver, CO and ²Anschutz Medical Campus, University of Colorado, Aurora, CO.

GM-CSF ENHANCES MACROPHAGE KILLING OF NONTUBERCULOUS MYCOBACTERIA. Alma Ochoa, Krystin Skinner, Ari Simenauer, Jazalle McClendon, Thienthanh Trinh, William Janssen, Ken Malcolm, Katie Hisert*, Department of Medicine, National Jewish Health, Denver, CO.

TRANSCRIPTIONALLY UNIQUE PULMONARY INTERSTITIAL MACROPHAGES ARE PRESENT DURING HOMEOSTASIS AND LPS-INDUCED INFLAMMATION. Peter K. Moore*, Kelsey C. Anderson, Shannon A. Hott, Elizabeth F. Redente, Peter M. Henson, William J. Janssen, Alexandra L. McCubbrey, National Jewish Health and University of Colorado, Denver CO.

DIFFERENTIAL LUNG IMMUNE CELL INFLAMMASOME RESPONSES TO ENVIRONMENTAL NONTUBERCULOUS MYCOBACTERIA AND VOLCANIC ASH. Rachel N. Wilsey¹, Stephanie N. Dawrs¹, Charmie K. Vang¹, David E. Damby², Jennifer R. Honda¹*, ¹Department of Immunology and Genomic Medicine, Center for Genes, Environment and Health, National Jewish Health, Denver, CO; ²Volcano Science Center, United States Geological Survey, Menlo Park, CA.

PROTEOMIC ANALYSIS OF BRONCHOALVEOLAR LAVAGE CELLS IDENTIFIES BIOLOGICALLY DISTINCT MODULES IN CHRONIC BERYLLIUM DISEASE. Li Li*, Brian Vestal, Peggy M. Mroz, Sucai Liu, Kristyn MacPhail, Tim J. Griffin, Ivana V. Yang, Lisa A. Maier, Maneesh Bhargava, National Jewish Health, Denver, CO.

RELEASE OF EC-SOD INTO ALVEOLAR FLUID IS PROTECTIVE AGAINST NEUTROPHIL-MEDIATED LUNG INJURY AND INFLAMMATION IN MRSA PNEUMONIA. Christina Sul¹*, Caitlin Lewis¹, Nathan Dee¹, Nana Burns¹, Kaori Oshima², Laura Hernandez-Lagunas¹, Eric Schmidt², Christine Vohwinkel¹, Eva Nozik¹, Cardiovascular Pulmonary Research Laboratories and Pediatric Critical Care Medicine, Department of Pediatrics; ¹Pulmonary Sciences and Critical Care Medicine, Department of Medicine, University of Colorado School of Medicine, Aurora, CO.

CD4 TISSUE RESIDENT MEMORY T CELL STIMULATION ACTIVATES ASTHMA-RELEVANT INFLAMMATORY PATHWAYS. Nathan Schoettler¹*, Anne I Sperling², ¹Department of Medicine, University of Chicago, Chicago, IL; ²Department of Medicine, University of Virginia, Charlottesville, VA.

PULMONARY THROMBOSIS PROMOTES SEVERE FLU IN MICE EXPOSED TO CIGARETTE SMOKE. Tomasz W. Kaminski¹*, Tomasz Brzoska¹, Keven Robinson², Toru Nyunoya², Prithu Sundd¹,², Pittsburgh Heart, Lung and Blood Vascular Medicine Institute, University of Pittsburgh, Pittsburgh, PA; ¹Division of Pulmonary, Allergy and Critical Care Medicine, University of Pittsburgh, Pittsburgh, PA.

MALAT1 AND MIR-155 REGULATE INFLAMMATORY CYTOKINE SIGNALING IN HIV-INFECTED MACROPHAGES. Zhihong Yuan¹,²*, Yunlong Huang³, Ruxana T Sadikot¹,², ¹VA Nebraska Western Iowa Health Care System, Omaha, NE; ²Division of Pulmonary, Critical Care & Sleep, Department of Internal Medicine, University of Nebraska Medical Center, Omaha, NE; ³Department of Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, Omaha, NE.
NIVOLUMAB FOR THE PREVENTION OF BRONCHIAL DYSPLASIA PROGRESSION IN HIGH-RISK CURRENT AND FORMER SMOKERS. **Robert L. Keith**1,2*, Howard Li3, Moumita Ghosh1, Melissa New1, Michele Baloneque-Siqueira1, Brandi Kubala1, Junxia Hu1, Hui Yu1, Deandra Walker1, York Miller1,2, Dan Merrick1, 1University of Colorado Cancer Center, Aurora, CO; 2Rocky Mountain; Regional VAMC, Aurora, CO; 3Hunter Holmes McGuire VAMC, Richmond, VA.

EXTRACELLULAR SUPEROXIDE DISMUTASE AFFECTS INTERSTITIAL MACROPHAGE ACCUMULATION AND REPROGRAMMING DURING HYPOXIA. **Caitlin Lewis***, Christina Sul, Laura Hernandez, Cassidy Delaney, Claudia Mickael, Eva Nozik, Cardiovascular Pulmonary Research Labs, Department of Pediatrics, University of Colorado Anschutz Medical Campus, Aurora, CO.

CLASSICAL DENDRITIC CELLS DRIVE AND MAINTAIN HYPOXIA-INDUCED PULMONARY HYPERTENSION. **Claudia Mickael**1*, Linda A. Sanders1, Michael H. Lee4, Rahul Kumar4, Amy McKee3, David Irwin2, Delaney Swindle2, Kurt Stenmark2, Brian Graham3, Rubin Tuder1, 1Division of Pulmonary Sciences and Critical Care Medicine, University of Colorado Denver, Department of Medicine, Aurora, CO; 2Cardiovascular Pulmonary Research Laboratory, University of Colorado School of Medicine, Department of Pediatrics-Critical Care Medicine, Aurora, CO; 3Division of Allergy and Clinical Immunology, University of Colorado Denver, Department of Medicine, Aurora, CO; 4Division of Pulmonary Sciences, University of California San Francisco, Department of Medicine, San Francisco, CA.

IMMUNE DYSFUNCTION AFTER COPD EXACERBATIONS WITH RESPIRATORY FAILURE. **Kimberly R. Jordan**1*, Jonathan K. Zakrjsek2, Fernando Diaz del Valle2, Harold W. Bell2, Daniel N. Frank3, Sung-Joon Min4, Jihye Kim5, Hyunmin Kim6, Martin R. Zamora2, Moumita Ghosh2 and R. William Vandiver2. 1Department of Immunology and Microbiology; 2Division of Pulmonary Sciences and Critical Care Medicine; 3Division of Infectious Diseases; and 4Division of Health Care Policy and Research, University of Colorado, Aurora, CO; 5Cleveland Clinic Lerner Research Institute and 6Case Western Reserve University, Cleveland, OH.
POSTER VIEWING  
Friday, June 10, 2022  
5:00-7:00 PM

POSTERS

EFFECTS OF E-CIGARETTE WHOLE BODY AEROSOL EXPOSURE ON THE IMMUNE RESPONSE IN MICE TO AN ACUTE STREPTOCOCCUS PNEUMONIAE CHALLENGE. Nedim Durmus1, G. Grunig1,2, V. Goriaínova2, A. Abruzzo3, A. Raja2, H. Joung2, D. Chalupa4, A. C. Elder4, J. Weiser5, J. T. Zelikoff3. Depts of 1Medicine, 2Environmental Medicine, 3Microbiology, NYU Grossman School of Medicine, New York, NY; 4Dept of Environmental Med, Univ of Rochester Med Ctr, Rochester, NY.

CC16 DEFICIENCY IMPACTS PULMONARY EPITHELIAL-DRIVEN RESPONSES DURING MYCOPLASMA PNEUMONIAE INFECTION. Natalie Iannuzo1, Paul R. Langlais2, Stefano Guerra3,4, Julie G. Ledford1,3,4, 1Department of Cellular and Molecular Medicine, University of Arizona, Tucson, AZ; 2Department of Medicine, Division of Endocrinology, University of Arizona, Tucson, AZ; 3Department of Medicine, Division of Pulmonary, Allergy, Critical Care, and Sleep Medicine, University of Arizona, Tucson AZ; 4Asthma and Airway Disease Research Center, Tucson, AZ.

THE COMPLEX EFFECT OF OZONE ON ALLERGIC AIRWAY INFLAMMATION IN ASThma. Mehrdad Arjomandi1, Hofer Wong1, Rachel Tenney1, Nina Holland2, John R. Balmes1,2, 1University of California, San Francisco and 2Berkeley, CA.

CELL-FREE HEMOGLOBIN WORSENS THE OUTCOME OF INFECTION BY KLEBSIELLA PNEUMONIAE. Akruti Patel1,2, Sudipta Das1, Jie Chen1, Kathryn Dalton1, Anuradha Ray1,2, Prabir Ray1,2, 1Division of Pulmonary, Allergy, and Critical Care Medicine, Department of Medicine, University of Pittsburgh School of Medicine, Pittsburgh, PA; 2Department of Immunology, University of Pittsburgh, Pittsburgh, PA.

BIODEGRADABLE CYCLODEXTRIN-BASED NANOFORMULATION BARRIER FOR SARS-COV-2 INFECTION. Angela Lu1, Jeanmarie Bouteiller2, Gianluca Lazzi2, Mark Humayun3, Stan Louie1, Isaac Asante3, 1University of Southern California, School of Pharmacy; 2University of Southern California, Viterbi School of Engineering; 3University of Southern California, Keck School of Medicine, Los Angeles, CA.

MYCOBACTERIUM TUBERCULOSIS INFECTED HUMAN ALVEOLAR MACROPHAGES HAVE HIGHER TYPE I IFN RESPONSES COMPARED TO MONOCYTE-DERIVED MACROPHAGES. Monica Campo1, KA Dill-McFarland2, GJ Peterson2, SJ Skerrett2, TR Hawn2; 1Department of Medicine, Univ of Minnesota, Minneapolis, MN; 2Department of Medicine, Univ of Washington, Seattle, WA.

DISCOIDIN DOMAIN RECEPTOR 2 EXPRESSION BY BONE MARROW-DERIVED CELLS MAY BE PROTECTIVE IN EXPOSURE-INDUCED PULMONARY FIBROSIS. Lindsay T. McDonald*, Research Service, Ralph H. Johnson VA Medical Center and Department of Pathology and Laboratory Medicine, Medical University of South Carolina, Charleston, SC.

CALCIUM-DEPENDENT MACROPINOCYTOSIS OF CELL-FREE HEMOGLOBIN IMPAIRS MACROPHAGE RESPONSES TO PATHOGENS. Ciara M. Shaver*, Stuart R. Landstreet, Lorraine B. Ware, Julie A. Bastarache, Division of Allergy, Pulmonary, and Critical Care Medicine, Department of Medicine, Vanderbilt University Medical Center, Nashville, TN.
NEUTROPHIL ELASTASE ACTIVATES THE RELEASE OF EXTRACELLULAR TRAPS FROM COPD MONOCYTE-DERIVED MACROPHAGES. **Apparao B. Kummarapurugu***, Shuo Zheng¹, Adam Hawkridge², Aamer Syed³, Judith A. Voynow¹, ¹Children’s Hospital of Richmond at Virginia Commonwealth University; ²School of Pharmacy, Virginia Commonwealth University; ³Department of Internal Medicine, Virginia Commonwealth University, Richmond, VA.

CIRCULATING MONOCYTES CONTRIBUTE TO THE LUNG INTERSTITIAL MACROPHAGE POPULATION DURING HOMEOSTASIS AND INFLAMMATION. **Emily M. King***, Thienthanh Trinh², Jazalle McClendon², Alexandra L. McCubbrey²⁻³, Peter M. Henson²⁻⁴, and William J. Janssen²⁻³, ¹Medical Scientist Training Program, University of Colorado School of Medicine, Aurora, CO; ²Division of Pulmonary, Critical Care and Sleep Medicine, Department of Medicine, National Jewish Health, Denver, CO; ³Division of Pulmonary Sciences and Critical Care Medicine, Department of Medicine, University of Colorado School of Medicine, Aurora, CO; ⁴Program for Cell Biology, Department of Pediatrics, National Jewish Health, Denver, CO.

INFLAMMATORY AIRSPACE MACROPHAGE POPULATIONS FOLLOWING ENDOTOXIN EXPOSURE IN HUMANS. **Kara J. Mould**¹²*, Camille M. Moore³, Sean Jacobson³, Shannon A. McManus¹, William J. Janssen¹², ¹Division of Pulmonary, Critical Care, and Sleep Medicine, Department of Medicine, ²Center for Genes and Environment, Department of Biomedical Research, National Jewish Health, Denver Colorado; ³Division of Pulmonary Diseases and Critical Care Medicine, Department of Medicine, University of Colorado, Aurora, CO.

LACK OF FATTY ACID BINDING PROTEIN 5 (FABP5) PREVENTS THE ESTABLISHMENT OF RESIDENT MEMORY T CELLS IN THE LUNGS. Katja Aviszus¹, Aaron Giron¹, Manale El Kharbili DiLisio¹, Xiaoyun Zhao¹ and **Fabienne Gally***, National Jewish Health, Denver, CO.

PULMONARY SURFACTANT PHOSPHOLIPIDS INHIBIT SARS-CoV-2 AND ITS VARIANTS. **Mari Numata-Nakamura***, Richard Bowen², Jessica Loeffler¹ and Dennis. R. Voelker¹. ¹Department of Medicine, National Jewish Health, Denver, CO; ²Department of Biomedical Sciences, Colorado State University, Fort Collins, CO.

L-LACTATE INDUCED LACTYLATION- A NEW EPIGENETIC PLAYER IN ACUTE LUNG INJURY. Daniel Youmans, Nana Burns, René M. Roy, Kurt Stenmark, Eva Nozik, Rubin Tuder, **Christine Vohwinkel***, Cardiovascular Pulmonary Laboratories, Department of Pediatrics, University of Colorado Anschutz Medical Campus, Aurora, CO.

PLATELET CONTRIBUTION TO THE INNATE IMMUNE RESPONSE DURING INFLAMMATORY MEDIATED PULMONARY HYPERTENSION. **Cassidy Delaney**¹⁻³⁴*, Janelle Posey¹⁴, Mariah Jordan¹⁴, Claudia Mickael¹⁻⁷, Rahul Kumar⁵, Kim Jordan⁷, Aneta Gandjeva¹⁻³⁷, Kirk Hansen⁷, Jorge Di Paola⁶, Rubin M. Tuder²⁻⁷, Eva Nozik²⁻³⁴, Brian Graham³, Kurt Stenmark²⁻³⁴, ¹Section of Neonatology; ²Pediatric Critical Care Medicine; ³Cardiovascular Pulmonary Research Laboratories; ⁴Department of Pediatrics, University of Colorado, Aurora, CO; ⁵Division of Pulmonary and Critical Care Medicine, University of California San Francisco, CA; ⁶Pediatric Hematology Oncology, Department of Pediatrics, Washington University, St. Louis, MO; ⁷Department of Medicine, University of Colorado, Aurora, CO.

THE IMPACT OF AGING ON SEPSIS-RELATED ENDOTHELIAL GLYCOCALYX DEGRADATION. **Ryan Sullivan***, Eva Nozik, Eric Schmidt, Joseph Hippensteel, Division of Pulmonary Sciences and Critical Care Medicine, Department of Medicine, University of Colorado, Anschutz Medical Campus, Aurora, CO.
THE ROLE OF INNATE AND ADAPTIVE IMMUNITY AMONG GULLAH SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS IN ELUCIDATING PULMONARY OUTCOMES. Robert Campbell, Jr.*, NHLBI PRIDE AGOLD Scholar, University of Colorado, Anschutz Medical Campus, Aurora, CO; Julius Nyalwidhe and Leroy T. Canoles Jr., Cancer Research Center, Eastern Virginia Medical School, Norfolk, VA; Christopher Gignoux, Colorado Center for Personalized Medicine, University of Colorado, Anschutz Medical Campus, Aurora, CO.

AIRWAY PREVOTELLA ENHANCE PNEUMOCOCCAL CLEARANCE FROM THE LUNG. Kadi J. Horn, Melissa A. Schopper, Sarah E. Clark*, University of Colorado School of Medicine, Department of Otolaryngology, Aurora, CO.

USE OF CLINICAL ISOLATES TO ESTABLISH CRITERIA FOR A MOUSE MODEL OF LATENT CRYPTOCOCCUS NEOFORMANS INFECTION. Minna Ding1*, Kyle Smith1, Darin Wiesner2, Katrina Jackson1, and Kirsten Nielsen1, 1Department of Microbiology and Immunology, University of Minnesota Medical School, Minneapolis, MN; 2Department of Medicine, Center for Immunity & Inflammation, Rutgers New Jersey Medical School, Newark, New Jersey.

TLR4-DEPENDENT INHIBITION OF AIRWAY INFLAMMATION BY A PROBIOTIC-DERIVED EXOPOLYSACCHARIDE. Maile K. Hollinger1*, Tania E. Velez1, Jesus Zamora-Pineda2, Katherine L. Knight2, and Anne I. Sperling1,3, 1Committee on Immunology, Department of Medicine, University of Chicago, Chicago, IL; 2Department of Microbiology and Immunology, Loyola University Chicago, Chicago, IL; 3Division of Pulmonary and Critical Care Medicine, Department of Medicine, University of Virginia, Charlottesville, VA.