Tuesday, June 3, 2014 -- Evening

5:00-7:00 PM  Evening Registration -- Wine and Cheese Reception  Gant Conference Center

Wednesday, June 4, 2014-- Morning

8:00-8:30 AM  Introduction  David W.H. Riches, Ph.D., Chair  Ellen L. Burnham, M.D., Co-Chair  Gregory P. Downey, M.D., Co-Chair  Marc Moss, M.D., Co-Chair  Eric P. Schmidt, M.D., Co-Chair

Acute Lung Injury

8:30-9:05 AM  STATE OF THE ART  V. Marco Ranieri, M.D.  University of Turin, Italy  “Mechanisms and Clinical Consequences of Acute Lung Injury”

9:05-9:30 AM  Discussion

9:30-9:45 AM  PULMONARY ATELECTRAUMA: BIOPHYSICAL INSIGHTS INTO MECHANISMS OF DAMAGE AND PREVENTION. Donald P. Gaver*, A.-M. Job, B.J. Smith, E. Yamaguchi, Department of Biomedical Engineering, Tulane University, New Orleans, LA.

9:45-10:00 AM  A COMPARATIVE GENOMICS ANALYSIS OF GENE EXPRESSION PROFILES DEMONSTRATES A DISTINCT AND REPLICABLE MOLECULAR SIGNATURE FOR ARDS. M. Moll1, T. Dolinay2, A.M.K. Choi3, R.M. Baron4, N.J. Thomas MD5, H.R. Wong6, R. Bascom7, Judie A. Howrylak7*, 1Department of Internal Medicine, Boston University, Boston, MA; 2Department of Medicine, Division of Pulmonary and Critical Care Medicine, Hospital of the University of Pennsylvania, Philadelphia, PA; 3Department of Medicine, Weill Cornell Medical College, New York, NY; 4Department of Medicine, Division of Pulmonary and Critical Care Medicine, Brigham and Women’s Hospital and Harvard Medical School, Boston, MA; 5Department of Pediatrics, Division of Pediatric Critical Care Medicine, Penn State, Milton S. Hershey Children’s Hospital, Hershey, PA; 6Department of Pediatrics, Division of Pediatric Critical Care Medicine, Cincinnati Children’s Hospital, Cincinnati, OH; 7Department of Medicine, Division of Pulmonary and Critical Care Medicine, Milton S. Hershey Medical Center, Hershey, PA.

10:00-10:30 AM  ......Coffee Break
Wednesday, June 4, 2014 -- Morning

10:30-11:05 AM  REUBEN M. CHERNIACK LECTURE
"CONCEPTUAL APPROACHES TO LUNG INJURY AND REPAIR"
Peter M. Henson, M.D., Ph.D., B.V.M.S.
Professor of Pediatrics
Program in Cell Biology
Integrated Department of Immunology
National Jewish Health
Denver, Colorado

11:05-11:30 AM  Discussion

11:30-11:45 AM  NRF2-REGULATED SIGNALING IS CRUCIAL FOR ALVEOLAR MACROPHAGE-MEDIATED EFFEROCYTOSIS DURING HYPEROXIC LUNG INJURY AND REPAIR. N. M. Reddy, C.R. Tamatam, Sekhar P. Reddy*, Division of Development Biology and Basic Research, Department of Pediatrics, University of Illinois College of Medicine, Chicago, IL.

11:45-12:00  TNF-α INDUCED MYOFIBROBLAST PLASTICITY AS A MECHANISM OF REPAIR AFTER FIBROTIC LUNG INJURY. Elizabeth F. Redente*, D.W.H. Riches, Department of Pediatrics, National Jewish Health, Denver, CO.

12:00-1:30 PM  ......Lunch (lunch not provided by conference)
Wednesday, June 4, 2014 -- Afternoon

Progressive Lung Injury, Repair and Fibrosis

1:30-2:05 PM  PARKER B. FRANCIS LECTURESHIP
"MECHANISMS OF ALVEOLAR EPITHELIAL INJURY, REPAIR AND FIBROSIS"
Professor Rachel Chambers, Ph.D.
Professor of Respiratory Cell and Molecular Biology
Internal Medicine
Division of Medicine
Faculty of Medical Sciences
Centre for Respiratory Research, Rayne Institute
London, England, United Kingdom

2:05-2:30 PM  Discussion

2:30-2:45 PM  MODULATION OF TRIM72 ALTERS THE REPAIR CAPACITY OF LUNG EPITHELIAL CELLS. S.C. Kim¹, T. Kellet¹, S. Wang², V.C. Shukla³, B. Zhou³, U.P. Flodby⁴, K. Shilo⁵, M. Takeshima⁶, H. Takeshima⁶, S.N. Ghadiali³, R.D. Hubmayr², Xiaoli Zhao¹*, ¹College of Pharmacy, The Ohio State University (OSU), Columbus, OH/US, ²Mayo Clinic Rochester, Rochester, MN/US, ³Biomedical Engineering, OSU, ⁴Will Rogers Institute, Pulmonary Research Center, University of Southern California, Los Angeles, CA/US, ⁵Pathology Department, OSU, ⁶Kyoto University, Kyoto/Japan.

2:45-3:00 PM  HIF DEPENDENT CXCR4/SDF1 SIGNALING PROMOTES ALVEOLAR TYPE II CELL SPREADING AND THE RESOLUTION OF EPITHELIAL PERMEABILITY AFTER LUNG INJURY. J. McClendon¹, E.F. Redente¹, Y. Ito¹, T. Eckle², H. Eltzschig², S.P. Colgan², A. Ahmad², A. Gandjeva², R. Tudor², R.J. Mason¹,², P.M. Henson¹,², Rachel L. Zemans¹,²*, ¹National Jewish Health, Denver, CO and ²University of Colorado Denver, Aurora, CO.

3:00-3:30 PM  ......Break

3:30-4:05 PM  STATE OF THE ART
Dean Sheppard, M.D.
University of California, San Francisco
“Epithelial-Mesenchymal Interactions in Repair and Fibrosis”

4:05-4:30 PM  Discussion

4:30-4:45 PM  FOXP3+ REGULATORY T CELL DNA DEMETHYLATION ACCELERATES RESOLUTION OF ACUTE LUNG INJURY. Benjamin D. Singer*, J.R. Mock, K.W. Gibbs, B.T. Garibaldi, N.R. Aggarwal, V. Sidhaye, L.S. King, F.R. D’Alessio, Johns Hopkins University, Division of Pulmonary and Critical Care Medicine, Baltimore, MD.

4:45-5:00 PM  ROLE OF SULF2 IN ALVEOLAR EPITHELIAL INJURY AND REPAIR. L. Auduong, E.A. Hogan, Xinping Yue*, Department of Physiology, Louisiana State University Health Sciences Center, New Orleans, LA.

5:00 PM  POSTER VIEWING --- SOCIAL HOUR
Thursday, June 5, 2014 -- Morning

Mesenchyme, Matrix and Mechanotransduction

8:00-8:35 AM  STATE OF THE ART  
Daniel J. Tschumperlin, Ph.D.  
Mayo Clinic, Rochester  
“Matrix, Mesenchyme and Mechanotransduction”

8:35-9:00 AM  Discussion

9:00-9:15 AM  ALTERED FIBROBLAST REPAIR FUNCTION IN COPD IS EPIGENETIC. Hesham Basma1, Y. Gunji1, S. Iwasawa1, A. Nelson1, M. Farid1, J. Ikari1, X. Liu1, X. Wang1, J. Michalski1, L. Smith2, J. Iqbal3, R. El Behery3, W. West3, S. Yelamanchili4, D. Rennard4, O. Holz5, K.-C. Mueller6, H. Magnusen6, K. Rabe6, P.J. Castaldi7,8, S.I. Rennard1, 1Division of Pulmonary, Critical Care, Sleep and Allergy Medicine, Department of Internal Medicine, University of Nebraska Medical Center, Omaha, Nebraska. 2College of Public Health, University of Nebraska Medical Center, Omaha, Nebraska. 3Department of Pathology and Microbiology, University of Nebraska Medical Center, Omaha, Nebraska. 4Division of Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, Omaha, Nebraska. 5Fraunhofer Institute for Toxicology and Experimental Medicine (ITEM). 1D-30625 Hannover, Germany. 6Research Institute at LungClinic Grosshansdorf, Airway Research Center North, Member of the German Center for Lung Research, Germany. 7Channing Division of Network Medicine. 8Department of Medicine, Brigham and Women’s Hospital, and Harvard Medical School, Boston, MA.

9:15-9:30 AM  ROLE OF INTEGRIN α8 IN BLEOMYCIN INDUCED LUNG INJURY. C.F. Hung1, N.M. Mark1, Y.H. Chow1, N. Nishimichi2, Y. Yokosaki2, Lynn M Schnapp*1,3, 1Center for Lung Biology, University of Washington, Seattle, WA 2Hiroshima University, Japan. 3Pulmonary and Critical Care Medicine, Medical University of South Carolina, Charleston, SC.

9:30-10:00 AM  ......Coffee Break

10:00-10:35 AM  ROGER S. MITCHELL LECTURE  
“LUNG MATRIX STIFFNESS AND FIBROBLAST FUNCTION”  
Eric S. White, M.D.  
Associate Professor of Medicine  
Pulmonary and Critical Care Medicine  
Graduate Program in Cellular & Molecular Biology  
University of Michigan Medical School  
Graduate Program in Biomedical Sciences  
Ann Arbor, Michigan

10:35-11:00 AM  Discussion

11:00-11:15 AM  TRPV4 ION CHANNEL MEDIATES MECHNOSENSING, MYOFIBROBLAST DIFFERENTIATION AND PULMONARY FIBROSIS IN MICE. S.O. Rahaman*, L.M. Grove1, B.D. Southern1, R.G. Scheraga1, S. Abraham1, K.A. Niese1, S. Ghosh1, D.J. Tschumperlin6, Mitchell A. Olman*, 1Cleveland Clinic, Department of Pathobiology, Cleveland, OH; 2Department of Physiology and Biomedical Engineering, Mayo Clinic, Rochester, MN.

11:15-11:30 AM  INTEGRIN-α2 CONTROLS TYPE I COLLAGEN EXPRESSION IN IPF BY REGULATING MICORRNA-29 EXPRESSION. Jeremy Herrera*, M. Parker, M. Peterson, K. Smith, C.A. Henke, P.B. Bitterman, University of Minnesota, Department of Medicine, Minneapolis, MN.

12:00 Noon  Picnic – T Lazy 7 - The Ranch
Challenges to Rebuilding the Injured Lung

8:00-8:35 AM  THOMAS A. NEFF LECTURE
"LUNG RECONSTRUCTION FOR TRANSPLANTATION: MULTIPLE STRATEGIES FOR CLINICAL APPLICATION"
Professor Oliver Eickelberg, M.D.
Chairman, Comprehensive Pneumology Center
Ludwig-Maximilians-Universität and Helmholtz Zentrum München
Director, Institute of Lung Biology and Disease (iLBD)
Helmholtz Zentrum München
Neuherberg / München, Germany

8:35-9:00 AM  Discussion

9:00-9:15 AM  TREATMENT WITH LYMPHANGIOGENIC BLOCKING ANTIBODIES ABROGATES INFLAMMATION IN A BLEOMYCIN MODEL OF PULMONARY FIBROSIS. Abigail R. Lara*, A. Rutebemberwa, M.J. Perez, L.P. Smith, R.M. Tudor, University of Colorado Anschutz Medical Campus, Aurora, CO, National Jewish Health, Denver, CO.


9:30-10:00 AM  ......Coffee Break

10:00-10:35 AM  STATE OF THE ART
Dan Dongeun Huh, Ph.D.
University of Pennsylvania, Philadelphia
“Microengineered Physiological Bio-Mimicry for Lung Research”

10:35-11:00 AM  Discussion

11:00-11:15 AM  ALVEOLAR BARRIER FUNCTION IN ALCOHOLIC LUNG SYNDROME IS IMPAIRED BY TIGHT JUNCTION DESTABILIZATION. B.L. Schlingmann, C. Ward, S.A. Molina, C.E. Overgaard, D.M. Guidot, Michael Koval*, Emory University School of Medicine, Division of Pulmonary Medicine and Department of Cell Biology, Atlanta, GA.

11:15-11:30 AM  E3 LIGASE SUBUNIT FBXO15 AND PINK1 KINASE IMPAIR CARDIOLIPIN SYNTHASE I STABILITY AND MITOCHONDRIAL FUNCTION IN EXPERIMENTAL LUNG INJURY. B.B. Chen, T.A. Coon, J.R. Glasser, C. Zou, B. Ellis, T. Das, A.C. McKelvey, S. Rajbhandari, T. Lear, C. Kamga¹, S. Shiva¹, C. Li², J.M. Pilewski, J. Callio³, C.T. Chu², A. Ray, P. Ray, Y.Y. Tyurina⁴, V.E. Kagan⁴, Rana K. Mallampalli⁵*, Department of Medicine, Acute Lung Injury Center of Excellence, Department of Cell Biology and Physiology, Vascular Medicine Institute¹ and the Departments of Pathology³ and Environmental and Occupational Health⁴, University of Pittsburgh, Pittsburgh, PA, and the Department of Neurology, Mt. Sinai School of Medicine², New York, NY, and the Medical Specialty Service Line, Veterans Affairs Pittsburgh Healthcare System⁵.

11:30-1:30 PM  ......Lunch  (lunch not provided by conference)
Friday, June 6, 2014 -- Afternoon

**Stem Cell Approaches to Rebuilding the Injured Lung**

1:30-2:05 PM  **STATE OF THE ART**  
Harald C. Ott, M.D., Ph.D.  
*Harvard Medical School, Boston*  
“Using Nature’s Platforms to Engineer Bioartificial Organs”

2:05-2:30 PM  **Discussion**

2:30-2:45 PM  **PRECLINICAL TESTING OF THERAPEUTIC WNT/β-CATENIN ACTIVATION IN HUMAN 3D LUNG TISSUE CULTURES.**  

2:45-3:00 PM  **INTEGRIN LINKED KINASE ACTS UPSTREAM OF THE HIPPO PATHWAY TO REGULATE AIRWAY EPITHELIAL STEM CELL QUIESCECE.**  

3:00-3:30 PM  ......Break

3:30-4:05 PM  **GILES F. FILLEY LECTURE**  
"APPLICATION OF EMBRYONIC INDUCED PLEURIPOTENT STEM CELLS IN LUNG REGENERATION”  
Darrell N. Kotton, M.D.  
*Associate Professor of Medicine and Pathology and Laboratory Medicine*  
*Director, Center for Regenerative Medicine (CReM)*  
*Boston University School of Medicine*  
*The Pulmonary Center*  
*Boston, Massachusetts*

4:05-4:30 PM  **Discussion**

4:30-4:45 PM  **ENHANCED LUNG EPITHELIAL SPECIFICATION OF HUMAN IPSCs ON DECELLULARIZED LUNG SCAFFOLDS.**  
Sarah E. Gilpin*, X. Ren, T. Okamoto, J.P. Guyette, H. Mou, J. Rajagopal, D.J. Mathisen¹, J.P. Vacanti, H.C. Ott, ¹Massachusetts General Hospital, Boston, MA, ²Harvard Medical School, Boston, MA.

4:45-5:00 PM  **HARNESSING THE MESENCHYMAL STEM CELL (hMSC) SECRETOME TO COUPLE THE RV/PA DURING PULMONARY FIBROSIS (PF).**  
J. Njah; M. Di Giuseppe; J. Hu, A. Mora; *Luis A. Ortiz*, Graduate School of Public Health and Department of Medicine, University of Pittsburgh, Pittsburgh, PA.

5:00 PM  **POSTER VIEWING -- Wine and Cheese Reception**
Saturday, June 7, 2014 -- Morning

Strategic Approaches to Improving Therapy

8:00-8:35 AM  THOMAS L. PETTY LECTURE

"THERAPEUTIC POTENTIAL OF MESENCHYMAL STEM CELLS"
Michael A. Matthey, M.D.
Professor in Residence/Department of Medicine
University of California San Francisco School of Medicine
San Francisco, California
[Sponsored by the National Lung Health Education Program]

8:35-9:00 AM  Discussion

9:00-9:15 AM  OXIDATIVE INJURY DUE TO CELL-FREE HEMOGLOBIN IN SEPSIS AND ARDS: RESULTS OF A RANDOMIZED CLINICAL TRIAL OF ACETAMINOPHEN. D.R. Janz, J.A. Bastarache, T.W. Rice, G.R. Bernard, J.A. Oates, L.J. Roberts II, Lorraine B. Ware*, Department of Medicine, Vanderbilt University, Nashville, TN.

9:15-9:30 AM  REGULATING THE INNATE IMMUNE SYSTEM TO DECREASE LUNG INJURY. D. Pilling, A. Maharjan, N. Cox, Richard H. Gomer*, Department of Biology, Texas A&M University, College Station, TX.

9:30-10:00 AM  ......Coffee Break

10:00-10:35 AM  STATE OF THE ART

Gordon D. Rubenfeld, M.D., M.Sc.
University of Toronto, Canada
“The Trials and Tribulations of Conducting Multicenter Clinical Trials”

10:35-11:00 AM  Discussion


11:15-11:30 AM  LATENT CLASS MODELS IDENTIFY TWO SUBPHENOTYPES IN ARDS WITH DIFFERENTIAL RESPONSE TO POSITIVE END-EXPIRATORY PRESSURE. Carolyn S. Calfee*, K. Delucchi1, P.E. Parsons2; B.T. Thompson1; L.B. Ware1; M.A. Matthey1, and the NHLBI ARDS Network, 1UCSF; 2University of Vermont; 3Massachusetts General Hospital; 4Vanderbilt University.

11:30-12:30 PM  CONFERENCE SUMMARY

Peter B. Bitterman, M.D.
Professor of Medicine
Division of Pulmonary, Allergy, Critical Care and Sleep Medicine
University of Minnesota Medical Center
Minneapolis, Minnesota

12:30 PM  Discussion and Adjourn
POSTER VIEWING - SOCIAL HOUR  
Wednesday, June 4, 2014  
5:00-7:00 PM

POSTERS – Lung Injury

PROTEIN PHOSPHATASE REGULATION OF APICAL-BASAL POLARITY AS A NEW MECHANISM FOR LUNG EPITHELIAL PROGENITOR CELL BEHAVIOR AND PROTECTION AGAINST LUNG FIBROSIS.  R. Reddy, D. Warburton, Ahmed El-Hashash*, Children’s Hospital Los Angeles, Keck School of Medicine and Ostrow School of Dentistry, University of Southern California, Los Angeles, CA.

MICRORNAS AS NOVEL REGULATORS OF MECHANOTRANSDUCTION AND LUNG INJURY INFLAMMATION.  Samir N. Ghadiali1,2,4*, K. Nelson1, C. Bobba1, P. Nana-Sinkam2,4, X. Zhao4,5, Bryan Whitson3,4, 1Biomedical Engineering, 2Internal Medicine and 3Surgery, 4Davis Heart and Lung Research Institute, 5College of Pharmacy, The Ohio State University, Columbus, OH.

GENETIC ABLATION OF CARM1 EXPRESSION ENHANCES SUSCEPTIBILITY TO ELASTASE-INDUCED EMPHYSEMA IN MICE.  R.S.J. Sarker1, A. Bohla1, O.V. Amarie1, O. Eickelberg1,2,3, Ali Önder Yıldırım1,3,*, 1Comprehensive Pneumology Center (CPC), Institute of Lung Biology and Disease, Helmholtz Zentrum München and 2University Hospital of the Ludwig Maximilians University (LMU), 3Member of the German Center for Lung Research (DZL), Munich, Germany.

DJ-1 PATHWAY IMPAIRMENT IN ALVEOLAR TYPE II CELLS IN EMPHYSEMA.  E. Messier1, K. Bahmed2, R. Mason1, R. Tudor2, W. Zhou2, M. Edwards2, R. Bowler1, C. Freed2, H.W. Chu1, Beata Kosmider1,*, 1Department of Medicine, National Jewish Health, Denver, CO; 2School of Medicine, University of Colorado Denver, Aurora, CO.


OXIDATIVE STRESS AND LUNG PERMEABILITY AFTER CHLORINE-INDUCED ACUTE LUNG INJURY IN MICE. Linda Elfsmark*, L. Ägren, C. Akfur, B. Ekstrand-Hammarström, A. Bucht, Division of CBRN Defence and Security, Swedish Defence Research Agency, and Department of Public Health and Clinical Medicine, Umeå University, Umeå, Sweden.

AUTOPHAGY IS MEDIATED BY OXIDATIVE SIGNALING IN LIPOPOLYSACCHARIDE INDUCED ACUTE LUNG INJURY MODEL.  Y.J. Lee1, Y.-J. Cho1, Sang-Min Lee2,*, 1Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, Seoul National University Bundang Hospital, Seoul National University College of Medicine 2Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, Seoul National University Hospital, Seoul National University College of Medicine, Seoul, Korea.

ASPIRIN-TRIGGERED ω-3 FATTY ACIDS REDUCES PULMONARY NF-κB ACTIVATION IN A MURINE MODEL OF VENTILATOR-INDUCED LUNG INJURY. Young-Jae Cho1,*, Y.J. Lee1, E.Y. Eo1, S.-M. Lee2, C.-T. Lee1, J.H. Lee1, 1Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, Seoul National University College of Medicine, Seoul National University Bundang Hospital; 2Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, Seoul National University College of Medicine, Seoul National University Hospital, Seoul, Korea.
TARGETING FcγR RECEPTOR SIGNALING AS A NOVEL THERAPY FOR ALI/ARDS. A. Krupa, J. Florence, Anna Kurdowska*, University of Texas Health Northeast / UTHSCT, Tyler, TX.

PERICYTE ACTIVATION AND EXPRESSION OF ADHESION MOLECULES IN STERILE LUNG INJURY. Bonnie L. Hastings*, K.L. Mittelsteadt, C.F. Hung, W.A. Altemeier, University of Washington, Pathology, Seattle, WA.

N-CADHERIN AND AMPKα1 CONTRIBUTE TO THE PULMONARY ENDOTHELIAL RESPONSE TO LPS. M.-Y. Jiang, T. Yu, P. Wolkowicz, Judy Creighton*, University of Alabama at Birmingham, Birmingham, AL.

CELL-FREE HEMOGLOBIN IN ARDS: NOT AN INNOCENT BYSTANDER. Lorraine B. Ware*, C.M. Shaver, C.P. Upchurch, H. Nagata, D.R. Janz, J.M. May, S.I. Dikalov, L.J. Roberts II, J.A. Bastarache, Department of Medicine, Vanderbilt University, Nashville, TN.

THE ADENYLATE CYCLASE-CYCLIC AMP PATHWAY ROLE IN THE pH-DEPENDENT REPAIR OF INJURED ALVEOLAR EPITHELIAL CELLS. Dante N. Schiavo*, B.D. Westerly, D.L. McCall, R.A. Oeckler, Division of Pulmonary and Critical Care, Mayo Clinic, Rochester, MN.

THERAPEUTIC EXERCISE LIMITS ACTIVATION AND RECRUITMENT OF NEUTROPHILS TO THE LUNG. D. Clark Files1,2,*, C. Liu1, A. Pereyrá3, M.C. Seeds1,2, O. Delbono3, P.E. Morris1,2, 1Internal Medicine-Pulmonary, Critical Care, Allergy and Immunology, Wake Forest School of Medicine, Winston-Salem, NC, 2Wake Forest Critical Care Translational Research Center, 3Internal Medicine-Gerontology, Wake Forest School of Medicine, Winston-Salem, NC.


ELEVATED SERUM IL-17A LEVELS DIFFERENTIATE SEPSIS-ASSOCIATED FROM TRAUMA-ASSOCIATED ARDS. Carmen Mikacenic*, F. Radella1, R. Stapleton2, M. Wurfel1. 1University of Washington and 2University of Vermont.

RECOVERY FROM SECRETORY A2 PHOSPHOLIPASE-MEDIATED SURFACTANT INJURY IN A MURINE MODEL OF ACUTE LUNG INJURY. Robert Duncan Hite1, D.C. Files2, M.J. Satusky2, L.N. Ireland2, M.B. Waite2, M.C. Seeds2, 1Cleveland Clinic Foundation; Cleveland, OH and 2Wake Forest School of Medicine; Winston-Salem, NC.

ENDOTHELIAL GLYCOCALYX RECONSTITUTION AS A THERAPEUTIC STRATEGY IN SEPSIS-INDUCED LUNG INJURY. Yimu Yang*, G. Li, L. Li, L. Fu, A. Nitsch, F. Zhang, R.J. Linhardt, E.P. Schmidt, University of Colorado Denver, Aurora CO; Rensselaer Polytechnic Institute, Troy NY.

AVERTING PULMONARY VASCULAR INJURY WITH AN OPTIMIZED HUMAN APYRASE (CD39 HOMOLOG). V. Reininovaite, R. Chen#, C. Cool, J. Parr, J. Sévigny##, M. Zamora, Laima Taraseviciene-Stewart*, University of Colorado Denver, School of Medicine, Department of Medicine, Aurora, CO; #APT-Therapeutics Inc, St. Louis, ##University of Laval, Quebec, Canada.

IL-4-IL-4R PATHWAY MODULATES MACROPHAGE DERIVED RESOLUTION OF EXPERIMENTAL ALI. Neil R. Aggarwal*, A. Tripathi, P. Mandke, B.T. Singer, V.K. Sidhaye, L.S. King, F.R. D’Alessio, Johns Hopkins University, Baltimore, MD.
POSTERS – Lung Repair and Remodeling

ENDOPLASMIC RETICULUM STRESS MEDIATES HOUSE DUST MITE-INDUCED AIRWAY EPITHELIAL APOPTOSIS AND FIBROSIS. S.M. Hoffman¹, J.E. Tully¹, J.D. Nolin¹, K.G. Lahuë¹, D.H. Goldman¹, N. Daphtary², M. Aliyeva², C.G. Irvin², A.E. Dixon², M.E. Poynter², Vikas Anathy¹*, ¹Department of Pathology, ²Department of Medicine and Vermont Lung Center University of Vermont College of Medicine, Burlington, VT.

MMP EXPRESSION PREDICTS PRIMARY SPONTANEOUS PNEUMOTHORAX. AN IN-VITRO AND IN VIVO STUDY. R. Morse¹, G. Langman², Rachel Elizabeth Norman³*, ¹Faculty of Health and Life Sciences, University of the West of England; ²Heart of England NHS Trust, Birmingham; ³Princess Elizabeth Hospital, Guernsey, Channel Islands.

A LARGE LUNG GENE EXPRESSION STUDY IDENTIFYING FIBULIN-5 AS A NOVEL PLAYER IN TISSUE REPAIR IN COPD. C.A. Brandsma¹, M. van den Berge², D.S. Postma², M.R. Jonker¹, S. Brouwer¹, P.D. Paré³, D.D. Sin¹, Y. Bossé⁴, M. Laviolette⁴, J. Karjalainen⁵, R.S.N. Fehrmann⁵, D.C. Nickle⁶, K. Hao⁷, A.I.R. Spanjer⁸, L. Franke⁸, Wim Timens⁸, ¹University of Groningen, Dept Pathology and Medical Biology, ²University of Groningen, Dept Pulmonary Diseases, ³Groningen Research Institute for Asthma and COPD, Groningen, the Netherlands; ⁴Univ British Columbia, Center for Heart Lung Innovation, St Paul’s Hospital, Vancouver, Canada, ⁵Univ British Columbia, Respiratory Division, ⁶Institut universitaire de cardiologie et de pneumologie de Québec, Québec, Canada, ⁷Dept Molecular Medicine, Laval University, Québec, Canada; ⁸University of Groningen, Dept Genetics, Groningen, the Netherlands, ⁹Merck Research Laboratories, Boston, MA, USA. ¹⁰University of Groningen, Dept Molec Pharmacology, Groningen, the Netherlands.

VITAMIN D MODULATES HUMAN LUNG FIRBOBLAST TISSUE REPAIR FUNCTION VIA REGULATING PGE₂ SYNTHESIS AND DEGRADATION. Xiangde Liu*, A. Nelson, J. Ikari, F. Makino, H. Basma, J. Obaid, S.I. Rennard, Pulmonary, Critical Care, Sleep and Allergy Medicine, Department of Internal Medicine, University of Nebraska Medical Center, Omaha, NE.

SEVERE PULMONARY ARTERIAL REMODELING AS A CONSEQUENCE OF REPAIR PROCESSES IN THE INJURED PERIPHERAL AIRSPACES. Gabriele Grunig*, B. Lucas, S.-H. Park, Departments of Environmental Medicine and Medicine (Pulmonary Medicine) New York University Medical Center, New York, NY.

DESIGN OF PROSTAGLANDIN INHIBITION FOR EMPHYSEMA (PIE): A PHASE 2 STUDY TO RESTORE LUNG REPAIR IN EMPHYSEMA. Stephen Rennard¹, B. Make², R. Casaburi³, G. Criner⁴, B. Celli³, D. Lynch⁵, T. LeVan⁵, C. Hersh⁶, Y. Alnouti⁶ and K. Schmid⁶, ¹University of Nebraska Medical Center; ²National Jewish Health; ³LA Biomed; ⁴Temple University; ⁵Brigham and Women’s Hospital.

TELOMERE SHORTENING AND LUNG TISSUE REMODELING. X. Zhao, C. Chen, Q. Meng, J.-P. Liu, Kexiong Zhang*, Institute of Aging Research, Hangzhou Normal University School of Medicine, Hangzhou, China.

REPAIR OF AIRWAY EPITHELIUM AFTER CHLORINE-INDUCED LUNG INJURY. Gary W. Hoyle*, S. Musah, J. Chen, D. Humphrey, C.F. Schlueter, Y. Mo, Department of Environmental and Occupational Health Sciences, School of Public Health and Information Sciences, University of Louisville, Louisville, KY.
ENDOGENOUS ENDOSTATIN LIMITS ENDOTHELIAL REPAIR IN LUNG VASCULAR INJURY. **Ming-Yuan Jian**, J. Creighton, Department of Anesthesiology and Cell Molecular Biology, the Center for Pulmonary Injury and Repair, University of Alabama, Birmingham, AL.

ANGIOGENESIS OCCURS DURING NORMAL LUNG REPAIR FOLLOWING ACUTE INFLAMMATORY INJURY AND IS DRIVEN BY RECRUITED MACROPHAGES. **Zulma X Yunt**, L. VanHuele, M. Mohning, M. Kearns, W.J. Janssen, National Jewish Health, Denver, CO.

**TGF-β, MECHANOSTIMULATION, AND MYOFIBROBLASTS: MECHANISMS OF FIBROSIS IN CF LUNG DISEASE. William T. Harris**, N. Ambalavanan, E.J. Sorscher, University of Alabama at Birmingham, Birmingham, AL.

SMALL MOLECULE INHIBITION OF GAS6-MER SIGNALING BY UNC1062 DECREASES CORD BLOOD ENDOTHELIAL COLONY-FORMING CELL GROWTH. **Christopher D. Baker**, B.L. Wisniewski, C.P. Black, D. Deryckere, J. Liu, S.V. Frye, S.H. Abman, X. Wang, D.K. Graham, 1Department of Pediatrics, University of Colorado School of Medicine, Aurora, CO; 2Center for Integrative Chemical Biology and Drug Discovery, University of North Carolina, Chapel Hill, NC.

TISSUE STEM CELLS PLAY A CRITICAL ROLE IN CIGARETTE SMOKE INDUCED AIRWAY INJURY THAT PRECEDES THE DEVELOPMENT OF SQUAMOUS CELL LUNG CANCER. **Mounita Ghosh**, J. Kwon, I. Nakachi, K. Helm, R. Keith, D. Merrick, W. Franklin, Y. Miller, Department of Pediatrics, National Jewish Health and University of Colorado Denver, Aurora, CO.

**SEROTONIN SIGNALS VIA ITS TRANSPORTER TO IMPAIR CLEARANCE OF APOPTOTIC CELLS BY MACROPHAGES AND ENHANCE INFLAMMATION: SETTING THE STAGE FOR DYSREGULATED INJURY REPAIR. T. Tanaka**, E.L. Burnham, S. Ahmad, A. Ahmad, S.-J. Min, S. Suram, J. Gaydos, R. William Vandivier, From the COPD Center, Division of Pulmonary Sciences and Critical Care Medicine, Pediatric Airway Research Center, Department of Pediatrics, Division of Health Care Policy and Research, University of Colorado Anschutz Medical Campus, Aurora, CO.

HER2/EGFR BLOCKADE ATTENUATES BLEOMYCIN INDUCED ACUTE LUNG INJURY IN MICE. **Andrew Waas**, R. Mishra, J. Kern, J. Finigan, D. Foster, Division Pulmonary and Critical Care Medicine, National Jewish Health, Denver, CO; Division Oncology, National Jewish Health, Denver, CO; Division of Pulmonary Sciences and Critical Care Medicine, University of Colorado, Aurora, CO.

BIOMECHANICS ANALYSIS AND NOVEL 3-DIMENSIONAL CULTURE MODEL OF AIRWAY-VESSEL REMODELING CAUSED BY CHRONIC INFLAMMATION. **R.P. Delaney**, K.L. Colvin, M.J. Dufya, S.M. Williams, K.R. Stenmark, Michael E. Yeager, University of Colorado Denver, Department of Pediatrics-Critical Care; Department of Bioengineering; Cardiovascular Pulmonary Labs, Aurora, CO.

**MUC1 MUCIN, AN ANTI-INFLAMMATORY PROTEIN IN THE LUNG, MODULATES THE PHAGOCYTIC ACTIVITY OF MACROPHAGES. K. Kato, R. Uchino, H. Gao, K. Chul Kim**, Center for Inflammation, Translational and Clinical Lung Research, Temple University School of Medicine, Philadelphia, PA.

**THE GATA FACTOR ELT-1 REGULATES C. ELEGANS DEVELOPMENTAL TIMING BY PROMOTING EXPRESSION OF THE LET-7 FAMILY MICRORNAS. Max L. Cohen**, K. Morita, S. Kim, M. Han, Howard Hughes Medical Institute and Department of Molecular, Cellular, and Developmental Biology, University of Colorado, Boulder, CO.