Tuesday, June 9, 2015 -- Evening

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

Gant Conference Center

Wednesday, June 10, 2015 -- Morning

8:00-8:30 AM  Introduction  
Monica Kraft, M.D., Chair
Anthony N. Gerber, M.D., Ph.D., Co-Chair
Stanley J. Szefler, M.D., Co-Chair
Michael E. Wechsler, M.D., MMSc., Co-Chair

New Concepts in Asthma: Beyond Adaptive Immunity:  Session Chairs

8:30-9:05 AM  STATE OF THE ART  
Andrew D. Luster, M.D., PhD.  
Harvard Medical School  
“The Multi-Faceted T Cell”

9:05-9:30 AM  Discussion

9:30-9:45 AM  MECHANISMS TO SUPPRESS ILC2s-INDUCED AIRWAY INFLAMMATION.  
Hiroki Kabata1,2*, K. Moro3, S. Koyasu2, K. Fukunaga1, K. Asano1, T. Betsuyaku1, 1Division of Pulmonary Medicine, Keio University School of Medicine, 2RIKEN Center for Integrative Medical Sciences, 3Division of Pulmonary Medicine, Tokai University School of Medicine, Japan.

9:45-10:00 AM  T CELL IMMUNOPHENOTYPING OF SECOND HAND SMOKE-RELATED ASTHMA.  
Rebecca N. Bauer*, R. Sharon Chinthrajah*, B. Hobson, G. Leu, K.C. Nadeau, S.N. Parker, Center for Allergy Research, Stanford University, Stanford, CA.

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

10:30-11:05 AM  STATE OF THE ART  
Carey Lumeng, M.D., Ph.D.  
University of Michigan  
“The Macrophage and Airway Biology”

11:05-11:30 AM  Discussion

11:30-11:45AM  IL-37 REQUIRES IL-18Ra AND SIGIRR/IL-1R8 TO AMELIORATE ALLERGIC AIRWAY INFLAMMATION IN MICE.  L. Lunding1, S. Webering2, C. Vock2, A. Schröder1, D. Raedler3, B. Schaub5, H. Fehrenbach2, Michael Wegmann1*, 1Division of Asthma Mouse Models, Priority Area Asthma & Allergy, Research Center Borstel, Airway Research Center North, Member of the German Center for Lung Research, Borstel, Germany; 2Division of Experimental Pneumology, Priority Area Asthma & Allergy, Research Center Borstel, Airway Research Center North, Member of the German Center for Lung Research, Borstel, Germany; 3Department of Pulmonary & Allergy, University Children’s Hospital Munich, LMU Munich, Comprehensive Pneumology Center-Munich, Member of the German Center for Lung Research, Munich, Germany.

11:45-12:00 Noon  SPUTUM GENE EXPRESSION OF IL-13Ra-2 CORRELATES WITH AIRWAY REMODELLING, MACROPHAGE ACTIVATION AND TH2 INFLAMMATION IN ASTHMA.  Vera Neggovorova1*, Q.Liu1, B.Hu1, J.L. Gomez Villalobos1, X.Yan1, N.Niu1, C. Holm1, N.P. Grant1, S. Marone1, L. Ravage-Mass1, C.G. Lee2, J.A. Elias2, L. Cohn2, G.L.Chupp1, 1Yale School of Medicine, New Haven, CT, 2Warren Alpert School of Medicine Brown University, Providence, RI.

12:00-1:30 PM  .....Lunch  (lunch not provided by conference)
Wednesday, June 10, 2015 – Afternoon

Mechanisms of Airway Injury and Repair: Session Chairs

1:30-2:10 PM THOMAS L. PETTY LECTURE
Introduction by Dennis E. Doherty, M.D., FCCP
Secretary/Treasurer-National Lung Health Education Program
Professor of Medicine
Lexington VAMC/University of Kentucky
Lexington, Kentucky

"NEW INSIGHTS IN OXIDANT BIOLOGY IN ASTHMA"
Serpil C. Erzurum, M.D.
Chair, Department of Pathobiology
Lerner Research Institute
The Cleveland Clinic Foundation
Cleveland, Ohio
[Sponsored by the National Lung Health Education Program]

2:10-2:30 PM Discussion


2:45-3:00 PM VITAMIN D REDUCES INFLAMMATION-INDUCED CONTRACTILITY AND REMODELING OF ASTHMATIC HUMAN AIRWAY SMOOTH MUSCLE. *Rodney D. Britt2, M.A. Thompson1, M.R. Freeman1, A.L. Stewart1, C.M. Pabelick1,2, Y.S. Prakash1,2, Departments of 1Anesthesiology, 2Physiology and BME, Mayo Clinic, Rochester, MN.

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

3:30-4:05 PM STATE OF THE ART
Augustine M.K. Choi, M.D.
Weill Cornell Medical College
“Autophagy: Friend or Foe in Lung Disease”

4:05-4:30 PM Discussion

4:30-4:45 PM IDENTIFYING MOLECULAR MECHANISMS OF THE ALLERGEN-INDUCED LATE PHASE ASTHMATIC RESPONSE BY INTEGRATING CELL COUNTS, GENE AND METABOLITE EXPRESSION IN WHOLE BLOOD. Amrit Singh1,*, C.P. Shannon1, Y.W. Kim1, M.L. DeMarco1, K.-A. Le Cao2, G.M. Gauvreau3, J.M. FitzGerald1, L.-P. Bouler4, P.M. O’Byrne3, S.J. Tebbutt1,1University of British Columbia, Vancouver, BC, Canada; 2University of Queensland, Brisbane, Australia; 3McMaster University, Hamilton, ON, Canada; 4Université Laval, Québec City, QC, Canada.

4:45-5:00 PM MUCINS AND THEIR SUGARS: CRITICAL MEDIATORS OF HYPERREACTIVITY AND INFLAMMATION. D.S. Raclawska1, F. Ttofali1, A.A. Fletcher1, D.N. Harper1, B.S. Bochner2, W.J. Janssen1,3, Christopher M. Evans1,*,1University of Colorado, Aurora, CO, 2Northwestern University, Evanston, IL and 3National Jewish Health, Denver, CO.

5:00-7:00 PM POSTER VIEWING --- SOCIAL HOUR
8:00-8:35 AM  
**GILES F. FILLEY LECTURE**

"EPIGENETIC MECHANISMS IN ASTHMA"

Donata Vercelli, M.D.  
Professor of Cellular and Molecular Medicine  
University of Arizona Health Science Center  
Tucson, Arizona

8:35-9:00 AM  
Discussion

9:00-9:15 AM  
AMISH AND HUTTERITE ENVIRONMENTAL FARM PRODUCTS HAVE OPPOSITE EFFECTS ON EXPERIMENTAL MODELS OF ASTHMA.  
1NIH Training Program in Environmental Toxicology and 2Graduate Program in Cellular and Molecular Medicine, University of Arizona, Tucson, AZ; 3The Allergy and Asthma Consultants, Indianapolis, IN; 4Department of Occupational and Environmental Health, University of Iowa, Iowa City, IA; 5Department of Medicine, Section of Pulmonary and Critical Care Medicine, University of Chicago, Chicago, IL; 6Arizona Respiratory Center and 7Bio5 Institute, University of Arizona, Tucson, AZ; 8Department of Human Genetics, University of Chicago, Chicago, IL; 9Children's Hospital, Ludwig Maximilians University Munich, Munich, Germany.

9:15-9:30 AM  
DNA METHYLATION CHANGES IN NASAL EPITHELIA ASSOCIATED WITH ALLERGIC ASTHMA THE INNER CITY.  
Ivana V. Yang1,2*, B.S. Pedersen1, A.H. Liu2, G.T. O'Connor3, S.J. Teach4, M. Kattan5, R.T. Misialo6, R. Gruchalla7, S.F. Steinbach7, S.J. Szeffer8, M.A. Gill8, A. Calatroni9, G. David9, C.E. Hennessy1, E.J. Davidson1, P. Gergen9, A. Togias9, W.W. Busse10, D.A. Schwartz1,2.  
1University of Colorado School of Medicine, Aurora, CO; 2National Jewish Health, Denver, CO; 3Boston University School of Medicine, Boston, MA; 4Children’s National Medical Center, Washington, D.C.; 5Columbia University Medical Center, New York, NY; 6Henry Ford Hospital, Detroit, MI; 7University of Texas, Southwestern Medical Center, Dallas, TX; 8Rho Federal Systems Division, Inc., Chapel Hill, NC; 9National Institute of Allergy and Infectious Diseases, Bethesda, MD; 10University of Wisconsin School of Medicine and Public Health, Madison, WI.

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

10:00-10:35 AM  
STATE OF THE ART  
Susan V. Lynch, Ph.D.  
University of California, San Francisco  
“Gut Microbiota and Allergic Disease: New Insights”

10:35-11:00 AM  
Discussion

11:00-11:15 AM  
NASAL MICROBIOME COMPOSITION IS ASSOCIATED WITH TOTAL SERUM IgE AND CHITOTRIOSIDASE (CHIT 1) ACTIVITY IN ADULT HUTTERITES.  
Catherine Igartua1*, E.R. Davenport1, G.L. Chupp1, J.A. Elias3, Y. Gilad1, C. Ober4, J.M. Pinto4, 1Department of Human Genetics and 2Section of Otolaryngology-Head and Neck Surgery, Department of Surgery, University of Chicago 3Section of Pulmonary and Critical Care Medicine, Department of Internal Medicine, Yale University, 4Division of Biology and Medicine and Alpert School of Medicine, Brown University, Providence, RI.

11:15-11:30 AM  
GENETIC VARIATION IN SURFACTANT PROTEIN-A2 RESULTS IN ALTERED REGULATION OF EOSINOPHIL ACTIVITIES AND ENHANCED EOSINOPHILIA IN ASTHMATICS.  
Julie G. Ledford1,3*, K.J. Addison1,3, D. Francisco1,3, M.W. Foster1, D.R. Voelker2, L.G. Que1, M. Kraft1,3, 1Department of Medicine, Duke University Medical Center, Durham, NC. 2Department of Medicine, National Jewish Health, Denver, CO. 3Department of Medicine, University of Arizona, Tucson, AZ.

12:00-3:00 PM  
Picnic – T Lazy 7 - The Ranch
Friday, June 12, 2015 -- Morning

Host Response and Consequences of Airway Injury: Session Chairs -

8:00-8:35 AM PARKER B. FRANCIS LECTURESHIP
"AIRWAY EPITHELIAL ORCHESTRATION OF INNATE IMMUNE FUNCTION"
Professor Sebastian L. Johnston, M.D., Ph.D.
Professor of Respiratory Medicine and Allergy
Imperial College London
St. Mary’s Campus
London, England

8:35-9:00 AM Discussion

9:00-9:15 AM TOLLIP SNP RS5743899 MODULATES HUMAN AIRWAY EPITHELIAL RESPONSES TO RHINOVIRUS INFECTION. C. Huang, D. Jiang, R. Berman, Q. Wu, Hong Wei Chu*, Department of Medicine, National Jewish Health, Denver, CO.

9:15-9:30 AM ANTISENSE MICRORNA THERAPY OF AIRWAY REMODELING IN HDM-SENSitized MICE. S. Ramelli, J. McLendon, A. Ferretti, O. Aragon, J. Fewell, R. Barrington, William T. Gerthoffer*. University of South Alabama College of Medicine, Mobile, AL and Celsion Corp Huntsville, AL.

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

10:00-10:35 AM STATE OF THE ART
Jeffrey J. Fredberg, M.D., Ph.D.
Harvard School of Public Health
“Mechanotransduction and Airway Remodeling”

10:35-11:00 AM Discussion

11:00-11:15AM REGULATION OF RHO ACTIVATION IN AIRWAY SMOOTH MUSCLE. Mallar Bhattacharya*, A. Sundaram, M. Kudo, J. Farmer, P. Ganesan, X. Huang, D. Sheppard, University of California, San Francisco.


11:30-1:30 PM ......Lunch (lunch not provided by conference)
Friday, June 12, 2015 -- Afternoon

**Asthma Heterogeneity: Session Chairs -**

1:30-2:05 PM **THOMAS A. NEFF LECTURE**

"SEVERE ASTHMA: HAVE WE MADE PROGRESS?"

Quayba Hamid, M.D., Ph.D.

Director, Meakins-Christie Laboratories

James McGill Professor

Strauss Chair in Respiratory Medicine

McGill University

Montreal, Quebec, Canada

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

2:30-2:45 PM **EXPLORING OMALIZUMAB IN ALLERGIC ASTHMA: AN ANALYSIS OF EFFICACY BY ASTHMA SEVERITY AND EOSINOPHILIC STATUS USING PIVOTAL TRIAL STUDIES.**

N.A. Hanania¹, B. Trzaskoma², Karin Rosén²*, V. Manga³, T.A. Omachi², ¹Section of Pulmonary and Critical Care Medicine, Baylor College of Medicine, Houston, TX; ²Genentech, Inc., South San Francisco, CA; ³Novartis Pharma AG, Basel, Switzerland.

2:45-3:00 PM **“IL-6 HIGH” ASTHMA, A NEW ASTHMA ENDOTYPE CHARACTERIZED BY SEVERE DISEASE AND NEUTROPHILIA.**

Michael C. Peters*, Z.K. Mekonnen, J.V. Fahy. Cardiovascular Research Institute and Department of Medicine, University of California San Francisco, CA.

3:00-3:30 PM **Discussion**

3:30-4:05 PM **ROGER S. MITCHELL LECTURE**

“Molecular Phenotyping in Asthma: Signal in the Noise”

John V. Fahy, M.Sc., M.D.

Professor of Medicine

University of California, San Francisco

School of Medicine

San Francisco, California

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

4:30-4:45 PM **BIOLOGICALLY INFORMATIVE, LONGITUDINALLY STABLE, CLINICALLY-DEFINED ASTHMA PATIENT CLUSTERS INDEPENDENTLY IDENTIFIED IN THE ADEPT STUDY AND REPLICATED IN THE U-BIOPRED ASTHMA COHORT.**

Matthew J. Loza¹*, I. Adcock², C. Auffray³, K.F. Chung³, R. Djukanovic³, P.J. Sterk³, V.S. Susulic¹, E.S. Barnathan¹, F. Baribaud¹, P.E. Silkoff¹ on behalf of the ADEPT and U-BIOPRED investigators. ¹Janssen Research & Development LLC, Spring House, PA, USA; ²National Heart & Lung Institute, Imperial College London, South Kensington Campus, London, UK; ³European Institute for Systems Biology and Medicine (EISBM), Centre National de la Recherche Scientifique (CNRS), Campus Charles Mérieux University of Lyon, France; ⁴Southampton University, University Road, Southampton, UK; ⁵Respiratory Medicine, Academic Medical Centre, University of Amsterdam, Amsterdam, NL.

4:45-5:00 PM **RNA SEQUENCING OF AIRWAY EPITHELIAL BRUSHINGS SUGGESTS AN INTERFERON-HIGH ASTHMA ENDOTYPE.**

Nirav R. Bhakta¹*, S.A. Christenson¹, S. Nerella¹, J.L. Pollack², R. Barbeau², A.J. Barczak², J.R. Arron³, D.J. Erlè², P.G. Woodruff³, ¹Division of Pulmonary and Critical Care Medicine, and ²Lung Biology Center, University of California, San Francisco, ³Genentech, South San Francisco.

5:00-7:00 PM **POSTER VIEWING -- Wine and Cheese Reception**
Saturday, June 13, 2015 – Morning

Translation to Therapeutics: Session Chairs -

8:00-8:35 AM  STATE OF THE ART  
Ramona L. Doyle, M.D.  
Genentech Pharmaceuticals  
“Drug Development in Airway Disease: Bench to Bedside”

8:35-9:00 AM  Discussion

9:00-9:15 AM  SYSTEMS ANALYSIS OF GLUCOCORTICOID RECEPTOR, P65 AND RNA POLYMERASE 2 CISTROMES IN BRONCHIAL EPITHELIAL CELLS UNCOVERS NOVEL ANTI-INFLAMMATORY MECHANISMS THAT UNDERPIN STEROID EFFICACY.  V. Kadiyala1*, Sarah K. Sasse1*, M.O. Altonsy1, T.L. Phang2, A.N. Gerber1,2, 1National Jewish Health and 2University of Colorado, Denver, CO.

9:15-9:30 AM  IMPACT OF AGE AND GENDER ON RESPONSE TO ASTHMA THERAPY.  Ryan M. Dunn1*, E. Lehman2, V.M. Chinchilli2, R.J. Martin1, H.A. Boushey3, E. Israel4, M. Kraft5, S.C. Lazarus5, R.F. Lemanske6, N.L. Lugogo7, S.P. Peters1, C.A. Sorkness5, S. Szeftler1, M.E. Wechsler1, on behalf of the NHLBI Asthma Clinical Research Network.  1National Jewish, Denver, Denver, CO; 2Penn State University, Hershey, PA; 3University of California San Francisco, San Francisco, CA; 4Brigham and Women’s Hospital, Boston, MA; 5Duke University, Durham, NC; 6University of Wisconsin, Madison, WI; 7Wake Forest University, Winston-Salem, NC.

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

10:00-10:35 AM  REUBEN M. CHERNIACK LECTURE  
“INTEGRATED – OMIC STUDIES IN ASTHMA”  
Carole Ober, M.D.  
Blum-Riese Professor and Chair  
Department of Human Genetics  
University of Chicago  
Chicago, Illinois

10:35-11:00 AM  Discussion

11:00-11:15 AM  MASSIVELY PARALLEL IDENTIFICATION OF REGULATORY VARIANTS IN ASTHMA.  A. Biton, D. Torgerson, O. Letonqueze, W. Zhao, N. Zaitlen, David J. Erle*. University of California, San Francisco, CA.


11:30-12:30 PM  CONFERENCE SUMMARY  
Fernando D. Martinez, M.D.  
Swift-McNear Professor of Pediatrics  
Director, Arizona Respiratory Center  
University of Arizona  
Tucson, Arizona

12:30-1:00 PM  Discussion and Adjourn
POSTER VIEWING - SOCIAL HOUR

Wednesday, June 10, 2015
5:00-7:00 PM

POSTERS – Airway Inflammation and Remodeling

SURFACTANT PROTEIN A INHIBITS IL-13-INDUCED INFLAMMATORY RESPONSE AND MUCIN PRODUCTION IN ASTHMA. Ying Wang\textsuperscript{1,3,*}, J. Ledford\textsuperscript{1,3}, M. Ghio\textsuperscript{1}, D. Francisco\textsuperscript{1,3}, K. Addison\textsuperscript{1,3}, L.G. Que\textsuperscript{1}, J.W. Hollingsworth\textsuperscript{1,2}, M. Kraft \textsuperscript{1,3}, \textsuperscript{1}Duke University Medical Center, Durham, NC; \textsuperscript{2}Ohio State University Wexner Medical Center, Columbus, OH; \textsuperscript{3}University of Arizona Health Sciences Center, Tucson, AZ.

ADJUVANT EFFECT OF AN EXTRACELLULAR PHOSPHOLIPASE A\textsubscript{2} INITIATES ALLERGIC INFLAMMATION. Teal S. Hallstrand\textsuperscript{*}, H.L. Ogden, Y. La, D. An, M. Pepper, M.H. Gelb, W.A. Altemeier, Division of Pulmonary and Critical Care, University of Washington, Seattle, WA.

TH2 AND YKL-40 PROFILES IN THE BLOOD AND SPUTUM OF SEVERE ASTHMATICS IN THE YALE CENTER FOR ASTHMA AND AIRWAYS DISEASE. Jose L Gomez-Villalobos\textsuperscript{*}, L. Cohn, G. Chupp, Yale School of Medicine, Section of Pulmonary, Critical Care and Sleep Medicine, New Haven, CT.

ESTROGEN RECEPTOR BETA MODULATES INFLAMMATION INDUCED HUMAN AIRWAY SMOOTH MUSCLE REMODELING. Sathish Venkatachalem\textsuperscript{1,2,*}, M.R. Freeman\textsuperscript{1}, M.A. Thompson\textsuperscript{1}, C.M. Pabelick\textsuperscript{1,2}, Y.S. Prakash\textsuperscript{1,2}, \textsuperscript{1}Department of Anesthesiology, \textsuperscript{2}Department of Physiology and Biomedical Engineering, Mayo Clinic, Rochester, MN.

MECHANICAL STRETCH INDUCES CANONICAL WNT MEDIATED REMODELING IN DEVELOPING HUMAN AIRWAY SMOOTH MUSCLE. Elizabeth R. Vogel\textsuperscript{1,2,*}, R.D. Britt\textsuperscript{2}, A. Faksh\textsuperscript{1}, Y.S. Prakash\textsuperscript{1,2}, R.J. Martin\textsuperscript{4}, P.M. MacFarlane\textsuperscript{4}, R. Gosen\textsuperscript{5}, C.M. Pabelick\textsuperscript{1,2}, Departments of Anesthesiology\textsuperscript{4}, Physiology and Biomedical Engineering\textsuperscript{5}, and Obstetrics and Gynecology (Division of Maternal Fetal Medicine)\textsuperscript{5}, Mayo Clinic, Rochester MN; Department of Pediatrics,\textsuperscript{4} Rainbow-Babies Children’s Hospital, Case Western Reserve University, Cleveland OH; Department of Molecular Pharmacology\textsuperscript{5}, University of Groningen, Groningen, The Netherlands.

IS BLOOD VESSEL REMODELING INTEGRAL TO ASTHMA PATHOGENESIS? Gabriele Grunig*\textsuperscript{1,2}, J. Reibman\textsuperscript{2,1}, N. Durmus\textsuperscript{1}, S.-H. Park\textsuperscript{1}, Department of Environmental Medicine\textsuperscript{1} and Medicine\textsuperscript{2}, New York University School of Medicine, New York, NY.

Biomarkers and Genetics

META-ANALYSIS OF PROGNOSTIC RELATIONSHIP BETWEEN TH2 BIOMARKERS, SEVERE ASTHMA EXACERBATIONS, AND EOSINOPHILIC AIRWAY INFLAMMATION. David F. Choy\textsuperscript{*}, J.G. Matthews\textsuperscript{4}, L.G. Heaney\textsuperscript{2}, J.R. Arron\textsuperscript{1}, \textsuperscript{1}Genentech, Inc., South San Francisco, CA, \textsuperscript{2}Centre for Infection and Immunity, Health Sciences Building, Queens University Belfast.

A GENETIC ASSOCIATION STUDY IN UK BIOBANK IDENTIFIES REGIONS ASSOCIATED WITH AIRWAY OBSTRUCTION AND ASTHMA. L.V. Wain, V. Jackson, R. Allen, M.S. Artigas, N. Shrine, I. Ntalla, J.P. Cook, I. Sayers, A.P. Morris, E. Zeggini, J. Marchini, P. Deloukas, A. Hansell, R. Hubbard, I. Pavord, N.C. Thomson, D.P. Strachan, M.D. Tobin, Ian P Hall\textsuperscript{*}, \textsuperscript{1}University of Nottingham on behalf of the UK BiLEVE consortium.
CLINICAL BIOMARKERS IDENTIFY T-HELPER 2 STATUS DEFINED BY MUCOSAL CCL26 IN ASTHMA. Philip E. Silkoff1*, I. Strambu2, M. Laviolette3, D. Singh4, J.M. FitzGerald5, S. Lam5, S. Kelsen6, A. Eich7, A. Ludwig-Sengpiel8, G. Chump9, V. Backer10, C. Porshbjerg11, P.O. Girodet11, P. Berger11, R. Leigh12, J. Kline13, M. Dransfield14, W.J. Calhoun15, A. Hussaini16, S. Khatri17, P. Chanez18, V.S. Susulic1, E.S. Barnathan1, F. Baribaud1, M.J. Loza1, For the Airways Disease Endotyping for Personalized Therapeutics (ADEPT) Study Investigators. 1Janssen Research & Development, LLC, Spring House, PA, USA; 2ARENSIA and University Medicine and Pharmacy Bucharest, Bucharest, Romania; 3Centre de recherche de l’IUCPQ, Université Laval, Québec, Canada, 4Medicines Evaluation Unit, University Hospital of South Manchester, Manchester, United Kingdom; 5Institute of Heart and Lung Health, University of British Columbia, Vancouver, Canada; 6Temple University, Philadelphia, PA, USA; 7Institut für klinische Forschung Frankfurt, Frankfurt, Germany; 8KLB Gesundheitsforschung Lübeck, Lübeck, Germany; 9Yale University, New Haven, CT, USA; 10Respiratory Research Unit, Bispebjerg University Hospital, Copenhagen, Denmark; 11University of Bordeaux, Bordeaux, France; 12University of Calgary, Calgary, Canada; 13Division of Pulmonary, Critical Care, and Occupational Medicine, University of Iowa, Iowa City, IA, USA; 14The University of Alabama at Birmingham, Birmingham, AL, USA; 15University of Texas Medical Branch, Galveston, TX, USA; 16Parexel International, Baltimore, MD, USA; 17Cleveland Clinic, Cleveland, OH, USA, and, 18Université de la Méditerranée, Marseille, France.

PREDICTIVE BIOMARKERS OF THE LATE PHASE ASTHMATIC RESPONSE DERIVED FROM PERIPHERAL BLOOD LEUKOCYTE RNA-SEQ TRANSCRIPTOMES OF ASTHMATIC INDIVIDUALS UNDERGOING ALLERGEN INHALATION CHALLENGE. Scott J. Tebbutt1*, A. Singh1, C.P. Shannon1, G.M. Gauvreau1, J.M. FitzGerald1, L.-P. Boulé1, P.M. O’Byrne1, 1University of British Columbia, Vancouver, BC, Canada; 2McMaster University, Hamilton, ON, Canada; 3Université Laval, Québec City, QC, Canada.


THE GENETICS OF ASTHMA SEVERITY AND PHENOTYPES (GASP) INITIATIVE. Michael A. Portelli1*, A. Henry1, A. Singapuri2, L. Heaney3, A.H. Mansur4, N.C. Thomson5, R. Chaudhuri5, J.W. Holloway6, G. Lockett6, P.H. Howarth6, J. Hankinson7, R. Niven7, A. Simpson7, L.V. Wain8, M.D. Tobin8, I.P. Hall1, C.E. Brightling2 & I. Sayers1, 1Division of Respiratory Medicine, University of Nottingham, 2Institute for Lung Health, University of Leicester, Glenfield Hospital, 3Centre for Infection and Immunity, Queen’s University of Belfast, 4Respiratory Medicine, Birmingham Heartlands Hospital, 5Institute of Infection, Immunity and Inflammation, University of Glasgow, 6Human Development & Health, Faculty of Medicine, University of Southampton, 7Manchester Academic Health Science Centre, University of Manchester, 8Department of Health Sciences, University of Leicester, United Kingdom.

ASSOCIATION OF CD14 GENETIC POLYMORPHISMS AND EPIGENETIC MODIFICATIONS WITH WORK-RELATED RESPIRATORY SYMPTOMS IN BAKERY WORKERS. Mi-Ae Kim1*, M.K. Yoon2, E.-M. Yang3, H.-S. Park3, 1Department of Allergy and Clinical Immunology, CHA Bundang Medical Center, CHA University, 2Department of Allergy and Clinical Immunology, Ajou University School of Medicine, 3Department of Biomedical Science, Ajou University Graduate School, Korea.

ASTHMA AND STATINS STUDY EXEMPLIFIES TRANSLATIONAL PERSONALIZED MEDICINE STRATEGIES AT VANDERBILT. Sarah C. Stallings*, P. Weeke, C. Ingram, C.M. Shaffer, J. Kirby, M.A. Basford, E.A. Bowton, J. Pulley, J.C. Denny, D. Roden, Vanderbilt University Medical Center, Nashville, TN.
INHALED BUDESONIDE ENHANCES THE EXPRESSION OF ANTI-INFLAMMATORY EFFECTOR GENES IN HUMANS: A RANDOMIZED CONTROLLED TRIAL. Richard Leigh1*, E.M. King1, C. Dumonceaux1, C.F. Rider1, C. Gwozd1, S.L. Traves1, M.M. Kelly1, A. Miller-Larsson2, R. Newton1. 1Snyder Institute for Chronic Diseases, University of Calgary, Canada and 2Inflammation, Neuroscience & Respiratory GMed Unit, AstraZeneca R&D Mölndal, Sweden.


EFFECTS OF BUDESONIDE/FORMOTEROL ON FIXED AIRFLOW OBSTRUCTION STATUS AND EARLY STUDY WITHDRAWAL DUE TO PREDEFINED ASTHMA EVENTS IN PATIENTS WITH MODERATE TO SEVERE ASTHMA. Bradley E. Chipps1*; D.P. Tashkin2; M. DePietro3; F. Trudo3, 1Capital Allergy and Respiratory Disease Center, Sacramento, CA; 2University of California, Los Angeles, CA; 3AstraZeneca LP, Wilmington, DE.

SELECTED PERINATAL OUTCOMES IN PREGNANT WOMEN EXPOSED TO OMLIZUMAB: INTERIM RESULTS FROM A PROSPECTIVE, OBSERVATIONAL STUDY. J. Namazy,1 Abdelkader Rahmaoui2*, M.D. Cabana3, A.E. Scheuerle4, J.M. Thorp, Jr.5, G. Carrigan3, E.B. Andrews5, 1Scripps Clinic, La Jolla, CA; 2Genentech, Inc., South San Francisco, CA; 3University of California, San Francisco, CA; 4Tesserae Genetics, Dallas, TX; 5University of North Carolina, Chapel Hill, NC; 6RTI International, Research Triangle Park, NC. Care, University of Washington, Seattle, WA.

LONG-TERM SAFETY OF FLUNISOLIDE HFA IN ADULT, ADOLESCENT AND PEDIATRIC ASTHMA PATIENTS WITH ASTHMA. Alison Martens1*, J. Karafilidis1, L. Graham2, 1Meda Pharmaceuticals, Somerset, NJ, 2Bridge Atlanta Medical Center, Atlanta, GA.

ROCKY MOUNTAIN HIGH: CANNABIS USE IN DENVER. Jason Biehl*, J. Davis, M. Baker, R. Booth, K. Corsi, E.L. Burnham, Division of Pulmonary Sciences and Critical Care Medicine, Department of Medicine, University of Colorado School of Medicine; Division of Substance Dependence, Division of Psychiatry, University of Colorado School of Medicine, Aurora, CO.

OLDER AGE IS INDEPENDENTLY ASSOCIATED WITH SEVERE ASTHMA. Joe Zein1*, S. Erzurum1-2, Respiratory Institute1 and the Department of Pathobiology2, Cleveland Clinic, Cleveland, OH.

ACTIVE RHINITIS AT AGE 6 PREDICTS SUBSEQUENT DEVELOPMENT OF ASTHMA INDEPENDENT OF ATOPY. Tara F. Carr*, D.A. Stern, M. Halonen, A. Wright, F.D. Martinez, All work was performed at the Arizona Respiratory Center, University of Arizona, Tucson, AZ.

RISK FACTORS FOR ASTHMA EXACERBATIONS IN A SCHOOL-CENTERED ASTHMA PROGRAM. Deborah R. Liptzin1*, M.C. Gleason1, B. Wagner2, S.J. Szefer1, University of Colorado School of Medicine, Department of Pediatrics, Section of Pulmonology; 2Department of Biostatistics and Informatics, Colorado School of Public Health, University of Colorado, Aurora, CO.
FACTORS AFFECTING ASTHMA CONTROL IN THE OUTPATIENT CLINIC SETTING. Jamaan M. Al-Zahrani1*, H.H. AL-Jahdali2. 1*College of Medicine, Salman Bin Abdulaziz University, Al-Kharj, Saudi Arabia, 2King Saud University for Health Sciences, Riyadh, Saudi Arabia.

VALIDATION OF PREDICTORS FOR FALL ASTHMA EXACERBATIONS IN INNER CITY CHILDREN. Heather E. Hoch1*, A. Calatroni2, S. Szefler1; 1University of Colorado School of Medicine, Aurora, CO, 2Rho Federal Systems Division, Chapel Hill, NC; NIAID Inner City Asthma Consortium.

Genetics

IDENTIFICATION OF AN IL-13 INDUCED EPIGENETIC SIGNATURE ENRICHED FOR PROFIBROTIC AND INFLAMMATORY PATHWAYS IN ASTHMATIC AIRWAYS. J. Nicodemus-Johnson1*, K.A. Naughton1, S.R. White2, C. Ober1, Department of Human Genetics1, Department of Medicine2, University of Chicago, Chicago, IL.

SEX-SPECIFIC EPIGENETIC RESPONSES OF PERIPHERAL BLOOD LEUKOCYES (PBLs) TO LIPOPOLYSACCHARIDE (LPS). Michelle M. Stein1*, J. Nicodemus-Johnson1, K.A. Naughton1, R.I. Nicolae1, C. Billstrand1, C. Ober1, 1Department of Human Genetics, University of Chicago, Chicago IL.

AIRWAY EPITHELIAL CELL IL-22R1 EXPRESSION IS DEPENDENT UPON CHRONOLOGIC AGE AND REGULATED BY EPIGENETIC MECHANISMS. D.T. Dugger, J.E. Gerriets, M.T. Jimenez, Lisa A. Miller*, Department of Anatomy, Physiology, and Cell Biology, School of Veterinary Medicine, and the California National Primate Research Center, University of California, Davis, California.

IN VIVO ANALYSIS OF HUMAN BRONCHIAL EPITHELIAL CELL AND DENDRITIC CELL GENE EXPRESSION IN ASTHMA. Bertram Bleck1*, A. Kazeros1, J. Egan III1, G. Grunig2, C. Wilkinson1, J. Reibman1, New York University Langone Medical Center, Department of Medicine1 and Environmental Medicine2, New York, NY.
Learning Objectives: The overarching objectives of the 2015 Thomas L. Petty Aspen Lung Conference are to:

1) To provide an international forum for leading clinicians and researchers to exchange ideas regarding fundamental concepts underlying asthma pathobiology, including airway immunology, genetics/genomics, pathology, molecular biology and the lung microbiome.

2) To stimulate interactions and facilitate integration between the concepts put forth in the often siloed scientific fields of immunology, pathology, and the microbiome with the goal of identifying and integrating emerging, shared interests such as innate immune dysregulation, autophagy and mechanotransduction.

3) To move forward the concept of molecular and clinical phenotyping to improve the efficiency and success of translating scientific advances into direct patient benefit as well as strategies to better implement scientific advances into patient care.

4) To challenge and thereby stimulate the scientific interests of trainees, attracting a new generation of junior investigators into the field of asthma pathobiology.

At the conclusion of this conference attendees will be able to:

1) Discuss state-of-the-art concepts regarding the (patho)physiological continuum between lung immunology and the heterogeneity of asthma phenotypes.

2) Appreciate the complex interactions between epithelial cells, inflammatory cells and matrix which modulate the processes of lung innate and adaptive immunity in asthma.

3) Incorporate concepts from the emerging fields of autophagy, the microbiome, epigenetics, macrophage function and mechanotransduction into experimental approaches to better understand asthma pathobiology.

4) To translate basic concepts into understand challenges in current clinical trial design, and to identify approaches to maximize the efficacy of basic science advances in lung injury and repair.

Intended Audience: Local/Regional/National/International Physicians/clinicians (adult and pediatric)/Research Physician-Scientists-Pulmonary Sciences, Critical Care and Sleep Medicine/Primary Care Physicians/General Medicine Physicians/Public Health

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