

LungMAP at ATS 2019



LungMAP

Molecular Atlas of Lung
Development Program

On the following pages are presentations and posters by our members. We hope this helps guide you to opportunities to connect with other members of LungMAP while attending ATS.

We're looking forward to seeing many of you at this year's ATS conference!

Two special LungMAP events May 21 &

May 22

May 21, 2:15–4:15 PM

***[C86] LUNGMAP-ING CELL LINEAGES
IN HUMAN DEVELOPMENT AND DISEASE***

***Trinity Ballroom 4/8 (Level 3), Omni
Dallas Downtown***

May 22, 12:15–1:15 PM

***[L26] THE MOLECULAR ATLAS OF LUNG
DEVELOPMENT (LUNGMAP)***

Room D220/227 (Level 2), KBHCCD

LungMAP at ATS 2019

Friday May 17

8:00 a.m. - 4:00 p.m. [PG3] POST GRADUATE COURSE

A RESEARCHER'S GUIDE TO INTEGRATING THE PULMONARY 'OMICVERSE'

8:20 Harnessing the Power of RNA-seq to Study Lung Disease

LungMAP Member: Sina A. Gharib, MD

Session Info: Room D170/D172 (Level 1), KBHCCD

8:00 a.m. - 4:00 p.m. [PG6] POST GRADUATE COURSE

INTERSTITIAL LUNG DISEASE: CURRENT TRENDS IN DIAGNOSIS AND MANAGEMENT

9:30 Genetics of Interstitial Lung Disease: IPF and Beyond, What to Tell Your Patients and Their Family Members

LungMAP Member: Naftali Kaminski, MD

Session Info: Room C140/C142 (Level 1), KBHCCD

Post Graduate Course

LungMAP at ATS 2019

Saturday May 18

8:00 a.m. - 4:00 p.m. [PG20] POST GRADUATE COURSE

OPTIMIZING MANAGEMENT OF THE PATIENT WITH SEVERE BRONCHOPULMONARY DYSPLASIA

9:20 Advanced Imaging Modalities in the Assessment of BPD

LungMAP Member: Jason C. Woods, PhD

Session Info: Room C146 (Level 1), KBHCCD

8:00 a.m. - 4:00 p.m. [PG22] POST GRADUATE COURSE

HIGH-CONTENT SINGLE-CELL TECHNIQUES TO STUDY LUNG IN HEALTH AND DISEASE

11:10 Single Cell Proteomics in the Lung

LungMAP Member: Charles Ansong, PhD

Session Info: Room D166 (Level 1), KBHCCD

Post Graduate Course

LungMAP at ATS 2019

Presentations

Sunday May 19

9:15 a.m. - 11:15 a.m. [A16] MINI SYMPOSIUM

CHEMICAL THREATS AND INJURY: MECHANISMS AND TREATMENT

11:00 A1023—Exposure of Neonatal Mice to Bromine Gas Inhibits Lung Development: Heme Antagonist to the Rescue

LungMAP Member: Namasivayam Ambalavanan, MD

Session Info: Dallas Ballroom G (Level 3), Omni Dallas Downtown

9:15 a.m. - 11:15 a.m. [A17] MINI SYMPOSIUM

VIRAL INFECTION IN EARLY CHILDHOOD

11:00 A1027—Attenuation of Respiratory Syncytial Virus (RSV) Burden by MMP-9 Inhibition Via a Small Molecule Inhibitor

LungMAP Member: Namasivayam Ambalavanan, MD

Session Info: Ballroom A Two (Level 2), KBHCCD

9:15 a.m. - 11:15 a.m. [A19] MINI SYMPOSIUM

LESS IDIOPATHIC: STRUCTURAL AND FUNCTIONAL ABNORMALITIES IN IPF

10:00 A1045—Role of Terra on Telomeric and Mitochondrial Functions in IPF Pathogenesis

LungMAP Member: Naftali Kaminski, MD

Session Info: Room D220/D227 (Level 2), KBHCCD

9:15 a.m. - 11:15 a.m. [A29] POSTER DISCUSSION SESSION

EMERGING CONCEPTS IN LUNG FIBROSIS

LungMAP Member: James S. Hagood, MD—Moderator

Session Info: Ballroom D Four (Level 3), KBHCCD

9:15 a.m. - 11:15 a.m. [A29] POSTER DISCUSSION SESSION

EMERGING CONCEPTS IN LUNG FIBROSIS

A1228/704—Repurposing an Opioid Receptor Antagonist as a Treatment for Idiopathic Pulmonary Fibrosis

LungMAP Member: Anil Jegga, DVM, MRes

Session Info: Ballroom D Four (Level 3), KBHCCD

9:15 a.m. - 11:15 a.m. [A29] POSTER DISCUSSION SESSION

EMERGING CONCEPTS IN LUNG FIBROSIS

A1232/708—Enhanced Anti-Fibrotic Efficacy of Thy-1-Sorted Mesenchymal Stem Cell-Derived Extracellular Vesicles

LungMAP Member: James S. Hagood, MD

Session Info: Ballroom D Four (Level 3), KBHCCD

11:15 a.m. - 1:00 p.m. [A45] THEMATIC POSTER SESSION

CRITICAL CARE: OF MICE AND MEN—INSIGHTS FROM EXPERIMENTAL AND ANIMAL MODELS IN ARDS AND SEPSIS

A1706/P128—VEGF-121 Therapy Mitigates Halogen Inhalation-Induced Injury in Pregnant Mice

LungMAP Member: Namasivayam, Ambalavanan, MD

Session Info: Area A (Hall F, Level 2), KBHCCD

LungMAP at ATS 2019

Presentations

Sunday May 19

9:15 a.m. - 11:15 a.m. [A53] THEMATIC POSTER SESSION

CLINICAL STUDIES IN NEONATAL AND PEDIATRIC LUNG DISEASE AND CYSTIC FIBROSIS

11:15 A1872/PS71—Length of Stay and Readmission Frequency for Infants with Bronchopulmonary Dysplasia and Tracheomalacia

LungMAP Member: Jason C. Woods, PhD

Session Info: Area D (Hall F, Level 2), KBHCCD

11:15 a.m.—1:00 p.m. [A60] THEMATIC POSTER SESSION

LUNG INJURY, SEPSIS, AND ARDS

11:15 A2084/P269—Dimethyl Fumarate Potently Inhibits Thioredoxin Reductase 1 and Enhances Nrf2 Dependent Responses in Murine Club Cells

LungMAP Member: Namasivayam Ambalavanan, MD

Session Info: Area C (Hall F, Level 2), KBHCCD

11:15 a.m.—1:00 p.m. [A61] THEMATIC POSTER SESSION

EPITHELIAL BIOLOGY

11:15 A2130/p320—Respiratory Epithelial Cell Regulation of Pulmonary Immune Surveillance

LungMAP Members: Ravi Misa, PhD, Jeanne Holden-Wiltse, PhD, John Ashton, PhD, Thomas J. Mariani, PhD, Gloria S. Pryhuber, MD

Session Info: Area C (Hall F, Level 2), KBHCCD

12:15 p.m.—1:15 p.m. [L5] OUTSIDE ORGANIZATION SESSION

RESULTS FROM NHLBI-FUNDED GENOMIC RESEARCH IN ALPHA-1 ANTITRYPSIN DEFICIENCY AND SARCOIDOSIS (GRADS) PROGRAM

12:15 Bal Transcriptome in Sarcoidosis

LungMAP Member: Naftali Kaminski, MD

Session Info: Room D167/D174 (Level 1), KBHCCD

12:15 p.m.—1:15 p.m. [L8] OUTSIDE ORGANIZATION SESSION

MOLECULAR IMAGING OF THE LUNG (PHASE 2)

LungMAP Member: Sara Lin, PhD - Chair

Session Info: Room D221/D225/D226 (Level 2), KBHCCD

12:15 p.m.—1:15 p.m. [ME1] MEDICAL EDUCATION SEMINAR

HARNESSING THE POWER OF SOCIAL MEDIA AND FREE OPEN ACCESS MEDICAL EDUCATION (#FOAMED): AN INTERACTIVE WORKSHOP FOR MEDICAL EDUCATORS

LungMAP Member: Naftali Kaminski, MD—Faculty

Session Info: Katy Trail (Level 2), Omni Dallas Downtown

2:15 P.M.—4:15 p.m. [A101] RAPId: RAPID ABSTRACT POSTER DISCUSSION SESSION

TRANSLATIONAL STUDIES IN ILD, IPF AND SARCARDOSIS

2:15 A2430/518—Matrix Metalloproteinase-12 is Critical for Granuloma Formation in a Murine Model of Sarcoidosis

LungMAP Member: Sina A. Gharib, MD

Session Info: Room D222-D224 (Level 2), KBHCCD

2:15 P.M.—4:15 p.m. [A101] RAPId: RAPID ABSTRACT POSTER DISCUSSION SESSION

TRANSLATIONAL STUDIES IN ILD, IPF AND SARCARDOSIS

2:15 A7342/523—The Prognostic Value of Monocyte Count in Idiopathic Pulmonary Fibrosis: A Multi-Omic Cohort Study

LungMAP Member: Naftali Kaminski, MD

Session Info: Room D222-D224 (Level 2), KBHCCD

LungMAP at ATS 2019

Sunday May 19

2:15 P.M.—4:15 P.M. [A107] RAPID: RAPID ABSTRACT POSTER DISCUSSION SESSION
ENGINEERED AND REMODELED MATRIX COMPARTMENTS

2:15 A2550/607—Single Cell RNA Sequencing of Human Lung Explants Identifies the Cell-Specific Contributions of Extracellular Matrix-Related Gene Expression

LungMAP Member: Naftali Kaminski, MD

Session Info: Ballroom D Three (Level 3), KBHCCD

2:15 P.M.—4:15 P.M. [A108] POSTER DISCUSSION SESSION

PATHOPHYSIOLOGY IN DIFFUSE PARENCHYMAL LUNG DISEASES

2:15 A2568/707—Hyperpolarized ^{129}Xe Diffuse MRI in Cystic Fibrosis Lung Disease: Evidence for Pathological Alveolar Enlargement

LungMAP Member: Jason C. Woods, PhD

Session Info: Ballroom D Four (Level 3), KBHCCD

Presentations

LungMAP at ATS 2019

Presentations

Monday May 20

9:15 A.M.—11:15 A.M. [B6] SCIENTIFIC SYMPOSIUM
BORN TOO SOON: THE EFFECTS OF PREMATURITY ON THE NEONATAL/DEVELOPING LUNG

10:10 Neonatal Immunology: T-Cell CD31 Expression is a Biomarker for BPD

LungMAP Member: Gloria S. Pryhuber, MD

Session Info: Dallas Ballroom A-C (Level 3), Omni Dallas Downtown

9:15 A.M.— 11:15 A.M. [B13] ATS PRESIDENT'S SYMPOSIUM
50 YEARS OF PROGRESS IN PULMONARY SCIENCE

9:58 A2568/707—Respiratory Distress Syndrome

LungMAP Member: Jeffrey A. Whitsett, MD

Session Info: Room D221/D225/D226 (Level 2), KBHCCD

9:15 A.M.— 11:15 A.M. [B13] POSTER DISCUSSION SESSION
50 YEARS OF PROGRESS IN PULMONARY SCIENCE

10:18 Video Presentation: Lung Development

LungMAP Member: Denise Al Alam, PhD, MS

Session Info: Room D221/D225/D226 (Level 2), KBHCCD

9:15 A.M.— 11:15 A.M. [B14] LATE BREAKING MINI SYMPOSIUM
LATE BREAKING CLINICAL TRIALS

10:00 A7355—Targeted Bronchial Thermoplasty Guided by 129Xe MRI

LungMAP Member: Jason C. Woods, PhD

Session Info: Room D167/D174 (Level 1), KBHCCD

2:15 P.M.—4:15 P.M. [B94] MINI SYMPOSIUM
BEST OF PEDIATRICS

3:00 A4005—Lung Density and Disease Severity of Neonatal Bronchopulmonary Dysplasia: Objective Quantification via Ultrashort Echo-Time MRI and Comparison to Reader Scoring

LungMAP Member: Jason C. Woods, PhD

Session Info: Room Dallas Ballroom G (Level 3), Omni Dallas Downtown

2:15 P.M.—4:15 P.M. [B94] MINI SYMPOSIUM
BEST OF PEDIATRICS

3:30 A4007—Neutrophilic Exosomes as Pathogenic Entities in Bronchopulmonary Dysplasia

LungMAP Member: Namasivayam Ambalavanan, MD

Session Info: Dallas Ballroom G (Level 3), Omni Dallas Downtown

2:15 P.M.—4:15 P.M. [B95] MINI SYMPOSIUM
CELLULAR AND MOLECULAR LANDSCAPE OF THE LUNG

LungMAP Member: Thomas J. Mariani, PhD—Moderator

Session Info: Room D221/D225/D226 (Level 2), KBHCCD

2:15 P.M.—4:15 P.M. [B95] MINI SYMPOSIUM
CELLULAR AND MOLECULAR LANDSCAPE OF THE LUNG

2:30 A4010—Characterization of Neonatal Lung Cells Through Single Cell Genome Sequencing

LungMAP Members: Ravi Misra, PhD, Jennifer Dutra, Jeanne Holden-Wiltse, PhD, Jeffrey A. Whitsett, MD, John Ashton, PhD, Yan Xu, PhD, Gloria S. Pryhuber, MD, Thomas J. Mariani, PhD

Session Info: Room D221/D225/D226 (Level 2), KBHCCD

LungMAP at ATS 2019

Presentations

Monday May 20

2:15 P.M.—4:15 P.M. [B95] MINI SYMPOSIUM

CELLULAR AND MOLECULAR LANDSCAPE OF THE LUNG

2:45 A4011—Dynamic Single-Cell Chromatin Landscapes of Alveolar Type 1 Cell Populations in the Developing Lung

LungMAP Member: James S. Hagood, MD

Session Info: Room D221/D225/D226 (Level 2), KBHCCD

2:15 P.M.—4:15 P.M. [B95] MINI SYMPOSIUM

CELLULAR AND MOLECULAR LANDSCAPE OF THE LUNG

3:15 A4013—The Secondary Crest Myofibroblast PDGFR α Controls Multiple Signaling Networks Involved in Elastogenesis During Postnatal Alveolar Formation

LungMAP Member: Gloria S. Pryhuber, MD

Session Info: Room D221/D225/D226 (Level 2), KBHCCD

2:15 P.M.—4:15 P.M. [B96] MINI SYMPOSIUM

COMPLEX CELL BEHAVIORS IN PULMONARY FIBROSIS

2:15 A4017—Whole Lung Single Cell RNAseq Reveals a Unique IPF-Specific Epithelial Cell Population

LungMAP Members: Farida Ahangari, PhD, Naftali Kaminski, MD

Session Info: Room D220/D227 (Level 2), KBHCCD

2:15 P.M.—4:15 P.M. [B96] MINI SYMPOSIUM

COMPLEX CELL BEHAVIORS IN PULMONARY FIBROSIS

2:30 A4018—Archetype Analysis Reveals Distinct Disease-Specific Archetypes of Fibroblast and Myofibroblast Co-Occurring Within the IPF Lung

LungMAP Members: Farida Ahangari, Naftali Kaminski, MD

Session Info: Room D220/D227 (Level 2), KBHCCD

2:15 P.M.—4:15 P.M. [B96] MINI SYMPOSIUM

COMPLEX CELL BEHAVIORS IN PULMONARY FIBROSIS

2:45 A4019—Beneficial Interstitial Matrix Fibroblasts Are Lost with Age, a New Perspective on Idiopathic Pulmonary Fibrosis

LungMAP Members: Anne-Karina Perl, PhD, John Snowball, Yan Xu, PhD

Session Info: Room D220/D227 (Level 2), KBHCCD

2:15 P.M.—4:15 P.M. [B103] RAPId: RAPID ABSTRACT POSTER DISCUSSION SESSION

ILD: THERAPY

2:15 A4093/115—Evaluating the Role of Support Group Participation on Palliative Care Referral and Mortality in Idiopathic Pulmonary Fibrosis

LungMAP Member: Naftali Kaminski, MD

Session Info: Room C140/C142 (Level 1), KBHCCD

2:15 P.M.—4:15 P.M. [B107] RAPId: RAPID ABSTRACT POSTER DISCUSSION SESSION

EFFECTS OF E-CIGARETTES AND THEIR COMPONENTS ON RESPIRATORY DYSFUNCTION, INFLAMMATION, AND REPAIR

2:15 A4177/709—Airway Epithelial Progenitor Cell Dysfunction After Flavoring-Induced Vapor Exposure

LungMAP Member: Thomas J. Mariani, PhD

Session Info: Room Ballroom D Four (Level 3), KBHCCD

LungMAP at ATS 2019

Monday May 20

2:15 P.M.—4:15 P.M. [B109] RAPID: RAPID ABSTRACT POSTER DISCUSSION SESSION

WHAT'S NEW WITH CLINICAL LUNG INFECTIONS AND PNEUMONIA?

2:15 A4213/405—Viral Pneumonia Is an Independent Risk Factor for Pulmonary Fibrosis: Results of Large-Scale Longitudinal Population-Level Data

LungMAP Member: Naftali Kaminski, MD

Session Info: Arena (Level 2), KBHCCD

Presentations

LungMAP at ATS 2019

Presentations

Tuesday May 21

9:15 a.m. - 11:15 a.m. [C18] MINI SYMPOSIUM

RARE LUNG DISEASES

11:00 A4282—Osteogenesis and Osteolysis in Pulmonary Alveolar Microlithiasis

LungMAP Member: Jason C. Woods, PhD

Session Info: Room D220/D227 (Level 2), KBHCCD

9:15 a.m. - 11:15 a.m. [C22] POSTER DISCUSSION SESSION

ILD: DIAGNOSIS

9:15 A4318/111—Peripheral Blood Gene Expression Profiling in the Multicenter IPF-PRO Registry Cohort

LungMAP Member: Scott M. Palmer, MD, MHS

Session Info: Room C140/C142 (Level 1), KBHCCD

9:15 a.m. - 11:15 a.m. [C22] POSTER DISCUSSION SESSION

ILD: DIAGNOSIS

9:15 A4325/118—Peripheral Blood Proteomic Profiling to Distinguish Disease Biomarkers in the Multicenter IPF-PRO Registry Cohort

LungMAP Member: Scott M. Palmer, MD, MHS

Session Info: Room C140/C142 (Level 1), KBHCCD

9:15 a.m. - 11:15 a.m. [C25] POSTER DISCUSSION SESSION

CLINICAL AND TRANSLATIONAL STUDIES IN RARE LUNG DISEASE

9:15 A4372/902—Airway and Airspace Morphometry in Human Pediatric Lung by UltraHRCT and Thick Section Fluorescence Microscopy

LungMAP Members: Gloria S. Pryhuber, MD, Jennifer Dutra, Jeanne Holden-Wiltse, PhD, Ravi Misra, PhD, Thomas J. Mariani, PhD

Session Info: Trinity Ballroom 1-3 (Level 3), Omni Dallas Downtown

9:15 a.m. - 11:15 a.m. [C25] POSTER DISCUSSION SESSION

CLINICAL AND TRANSLATIONAL STUDIES IN RARE LUNG DISEASE

9:15 A4373/903—Pediatric Hematopoietic Stem Cell Transplant Patients' Six-Minute Walk Test Distance Declines at Day 100 but returns to Baseline by 1-Year Post Transplant

LungMAP Member: Jason C. Woods, PhD

Session Info: Trinity Ballroom 1-3 (Level 3), Omni Dallas Downtown

9:15 a.m. - 11:15 a.m. [C25] POSTER DISCUSSION SESSION

CLINICAL AND TRANSLATIONAL STUDIES IN RARE LUNG DISEASE

9:15 A4374/904—A Novel Interstitial Lung Disease Associated with Systemic Juvenile Idiopathic Arthritis : Characteristics and Risk Factors

LungMAP Members: Jason C. Woods, PhD, Kathryn A. Wikenheiser-Brokamp, MD, PhD

Session Info: Trinity Ballroom 1-3 (Level 3), Omni Dallas Downtown

9:15 a.m. - 11:15 a.m. [C25] POSTER DISCUSSION SESSION

CLINICAL AND TRANSLATIONAL STUDIES IN RARE LUNG DISEASE

9:15 A4385/915—¹²⁹Xe MRI and Six Minute Walk Test Correlations in Pediatric Patients After Hematopoietic Stem-Cell Transplantation

LungMAP Member: Jason C. Woods, PhD

Session Info: Trinity Ballroom 1-3 (Level 3), Omni Dallas Downtown

LungMAP at ATS 2019

Presentations

Tuesday May 21

9:15 a.m. - 11:15 a.m. [C25] POSTER DISCUSSION SESSION

CLINICAL AND TRANSLATIONAL STUDIES IN RARE LUNG DISEASE

9:15 A4386/916—Longitudinal Hyperpolarized ^{129}Xe MRI Detects Stabilization and Reversibility of Early Lung Ventilation Abnormalities in Pediatric HSCT

LungMAP Member: Jason C. Woods, PhD

Session Info: Trinity Ballroom 1-3 (Level 3), Omni Dallas Downtown

9:15 a.m. - 11:15 a.m. [C28] RAPID: RADID ABSTRACT POSTER DISCUSSION SESSION

PATHWAYS OF LUNG MORPHOGENESIS

9:15 A4437/607—Conserved Role of High CO₂ in Regulating Gene Expression of Wnt Signaling Pathway

LungMAP Member: Naftali Kaminski, MD

Session Info: Ballroom D Three (Level 3), KBHCCD

9:15 a.m. - 11:15 a.m. [C28] POSTER DISCUSSION SESSION

PATHWAYS OF LUNG MORPHOGENESIS

9:15 A4443/613—Kruppel-Like Factor 4(Klf4) Is a Stat3-Smad2 Regulator in ATII Cells Determining ATII Cell Fate During Lung Development and Hyperoxia-Induced Lung Injury

LungMAP Members: Soula Danopoulos, PhD, Denise Al Alam, PhD

Session Info: Ballroom D Three (Level 3), KBHCCD

11:15 a.m.—1:00 p.m. [C58] THEMATIC POSTER SESSION

MECHANISMS OF PULMONARY FIBROSIS

11:15 A5247/P288—Macrophage Programs in BAL and Lung Parenchyma of the Healthy and in IPF Patients

LungMAP Member: Naftali Kaminski, MD

Session Info: Area C (Hall F, Level 2), KBHCCD

11:15 a.m.—1:00 p.m. [C58] THEMATIC POSTER SESSION

MECHANISMS OF PULMONARY FIBROSIS

11:15 A5253/P294—Aurora Kinase B is a Positive Regulator of Proliferation and Survival of Lung-Resident Fibroblasts in Severe Fibrotic Lung Disease

LungMAP Member: Anil Jegga, DVM, MRes

Session Info: Area C (Hall F, Level 2), KBHCCD

11:15 a.m.—1:00 p.m. [C59] THEMATIC POSTER SESSION

GENETIC AND EPIGENETIC MECHANISMS IN PULMONARY FIBROSIS

11:15 A5262/P307—Alveolar and Fibroblast Foci Specific Genome-Wide Gene Expression Profiling Identifies Common Dysregulated Expression of CREB1, a Regulator Across Cell Types, in IPF

LungMAP Member: Naftali Kaminski, MD

Session Info: Area C (Hall F, Level 2), KBHCCD

11:15 a.m.—1:00 p.m. [C59] THEMATIC POSTER SESSION

GENETIC AND EPIGENETIC MECHANISMS IN PULMONARY FIBROSIS

11:15 A5265/P310—Epigenetic Age Acceleration in Idiopathic Pulmonary Fibrosis

LungMAP Members: Farida Ahangari, PhD, Naftali Kaminski, MD

Session Info: Area C (Hall F, Level 2), KBHCCD

11:15 a.m.—1:00 p.m. [C59] THEMATIC POSTER SESSION

GENETIC AND EPIGENETIC MECHANISMS IN PULMONARY FIBROSIS

11:15 A5274/P310—Loss of lncRNA FENDRR Induces Senescence in Adult Mouse Lungs

LungMAP Member: Naftali Kaminski, MD

Session Info: Area C (Hall F, Level 2), KBHCCD

LungMAP at ATS 2019

Presentations

Tuesday May 21

11:15 a.m.—1:00 p.m. [C60] THEMATIC POSTER SESSION

VASCULAR BIOLOGY IN LUNG DISEASE

11:15 A5300/P349—Multi-Transcriptome-Based Network Analysis to Identify Novel Genes and Candidate Small Molecules for Pulmonary Arterial Hypertension

LungMAP Member: Anil Jegga, DVM, MRes

Session Info: Area C (Hall F, Level 2), KBHCCD

11:15 a.m.—1:00 p.m. [C61] THEMATIC POSTER SESSION

LUNG DEVELOPMENT, BPD, AND STEM CELLS

LungMAP Member: Denise Al Alam, PhD, MS—Lead Facilitator

Session Info: Area E (Hall F, Level 2), KBHCCD

11:15 a.m.—1:00 p.m. [C61] THEMATIC POSTER SESSION

LUNG DEVELOPMENT, BPD, AND STEM CELLS

11:15 A7417/P782—Updates on Lung Gene Expression Analysis (LGEA Web Portal)

LungMAP Members: Yina Du, PhD, Joseph Kitzmiller, Jeffrey A. Whitsett, MD

Session Info: Area E (Hall F, Level 2), KBHCCD

11:15 a.m.—1:00 p.m. [C64] THEMATIC POSTER SESSION

PULMONARY FIBROSIS MODELS AND MECHANISTIC INSIGHTS

11:15 A5414/P423—Pirfenidone Therapy Attenuates Lung Function Decline in a Mouse Model of TGF α Induced Pulmonary Fibrosis

LungMAP Member: Anil Jegga, DVM, MRes

Session Info: Area C (Hall F, Level 2), KBHCCD

11:15 a.m.—1:00 p.m. [C65] THEMATIC POSTER SESSION

DIFFUSE PARENCHYMAL LUNG DISEASES: BASIC AND CLINICAL STUDIES

11:15 A5427/P947—Assessment of Microstructural Changes in Lung Parenchyma of Adolescent Idiopathic Scoliosis Patients Using Proton MRI and Hyperpolarized ^3He MRI

LungMAP Member: Jason C. Woods, PhD

Session Info: Area G (Hall F, Level 2), KBHCCD

11:15 a.m.—1:00 p.m. [C65] THEMATIC POSTER SESSION

DIFFUSE PARENCHYMAL LUNG DISEASES: BASIC AND CLINICAL STUDIES

11:15 A7440/P960—Assessment of Pulmonary Vascular Morphology in Cystic Fibrosis Patients

LungMAP Member: Jason C. Woods, PhD

Session Info: Area G (Hall F, Level 2), KBHCCD

11:15 a.m.—1:00 p.m. [C68] THEMATIC POSTER SESSION

SLEEP DISORDER

11:15 A5467/P1200—Quantitative Relationship Between Upper Airway Dynamics and Respiratory Support Modes in Neonates with Ultrashort Echo-Time MRI

LungMAP Members: Jason C. Woods, PhD

Session Info: Area K (Hall F, Level 2), KBHCCD

11:15 a.m.—1:00 p.m. [C70] THEMATIC POSTER SESSION

NEONATAL AND PEDIATRIC LUNG DISEASE

11:15 A5487/P791—Quantitative Analysis of Work of Breathing in Neonates with Bronchopulmonary Dysplasia Using Computational Fluid Dynamics

LungMAP Members: Jason C. Woods, PhD

Session Info: Area E (Hall F, Level 2), KBHCCD

LungMAP at ATS 2019

Presentations

Tuesday May 21

2:15 p.m.—4:15 p.m. [C86] SCIENTIFIC SYMPOSIUM

LUNGMAP-ING CELL LINEAGES IN HUMAN DEVELOPMENT AND DISEASE

LungMAP Members: Chairing—Denise Al Alam, PhD, MS, Thomas J. Mariani, PhD, Anne-Karina T. Perl, PhD, Namasivayam Ambalavanan, MD

Session Info: Trinity Ballroom 4/8 (Level 3), Omni Dallas Downtown

2:15 p.m.—4:15 p.m. [C86] SCIENTIFIC SYMPOSIUM

LUNGMAP-ING CELL LINEAGES IN HUMAN DEVELOPMENT AND DISEASE

2:15 Human Development and Congenital Lung Abnormalities

LungMAP Member: Gail Deutsch, MD

Session Info: Trinity Ballroom 4/8 (Level 3), Omni Dallas Downtown

2:15 p.m.—4:15 p.m. [C86] SCIENTIFIC SYMPOSIUM

LUNGMAP-ING CELL LINEAGES IN HUMAN DEVELOPMENT AND DISEASE

2:40 Epigenetic Regulation of Cell Lineages in Human Lung Development

LungMAP Member: James S. Hagood, MD

Session Info: Trinity Ballroom 4/8 (Level 3), Omni Dallas Downtown

2:15 p.m.—4:15 p.m. [C86] SCIENTIFIC SYMPOSIUM

LUNGMAP-ING CELL LINEAGES IN HUMAN DEVELOPMENT AND DISEASE

3:05 Transcriptomic Lineage Mapping of the Developing Human Lung

LungMAP Member: Minzhe Guo, PhD

Session Info: Trinity Ballroom 4/8 (Level 3), Omni Dallas Downtown

2:15 p.m.—4:15 p.m. [C86] SCIENTIFIC SYMPOSIUM

LUNGMAP-ING CELL LINEAGES IN HUMAN DEVELOPMENT AND DISEASE

3:25 Multi-Omic Characterization of the Lung During Development

LungMAP Member: Charles Ansong, PhD

Session Info: Trinity Ballroom 4/8 (Level 3), Omni Dallas Downtown

2:15 p.m.—4:15 p.m. [C86] SCIENTIFIC SYMPOSIUM

LUNGMAP-ING CELL LINEAGES IN HUMAN DEVELOPMENT AND DISEASE

3:50 Immune Cell Development in Children, Measured in Lung, Spleen and Blood

LungMAP Member: Gloria S. Pryhuber, MD

Session Info: Trinity Ballroom 4/8 (Level 3), Omni Dallas Downtown

2:15 p.m.—4:15 p.m. [C99] MINI SYMPOSIUM

SRN: CARDIOMETABOLIC CONSEQUENCES OF SLEEP DISORDERED BREATHING AND THE ROLE OF CPAP THERAPY

3:00 A5604—Lower Oxygen Saturation During Sleep is Associated with Reduced Expressions of CD1D and RAB20 That is Potentially Reversed in CPAP Therapy

LungMAP Member: Sina A. Gharib, MD

Session Info: Room D167/D174 (Level 1), KBHCCD

2:15 p.m.—4:15 p.m. [C101] POSTER DISCUSSION SESSION

NON-IDIOPATHIC INTERSTITIAL PNEUMONIA NATURAL HISTORY AND PROGNOSIS AND ILD THERAPY

2:15 A5622/115—Treatment Patterns in Patients with Idiopathic Pulmonary Fibrosis (IPF): Data from the IPF-PRO Registry

LungMAP Member: Scott M. Palmer, MD, MHS

Session Info: Room C140/C142 (Level 1), KBHCCD

LungMAP at ATS 2019

Presentations

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9:15 a.m.—11:15 a.m. [D12] MINI SYMPOSIUM

ILD: DIAGNOSIS AND PROGNOSIS

9:30 A5838—Association of Circulating Proteins with Disease Specific Measures in the Multicenter IPF-PRO Registry Cohort

LungMAP Member: Scott M. Palmer, MD, MHS

Session Info: Room C155-C156 (Level 1), KBHCCD

9:15 a.m.—11:15 a.m. [D18] MINI SYMPOSIUM

BEST OF NOVEL TECHNOLOGIES AND METHODOLOGIES

LungMAP Member: Jason C. Woods, PhD—Moderator

Session Info: Room D167/D174 (Level 1), KBHCCD

9:15 a.m.—11:15 a.m. [D21] RAPID: RAPID ABSTRACT POSTER DISCUSSION SESSION

HOST RESPONSE TO LUNG INFECTIONS

9:15 A5898/301—Insufficiency in Airway Interferon Activation Defines Clinically Severe Infant RSV Infection

LungMAP Members: Jeanne Holden-Wiltse, PhD, Thomas J. Mariani, PhD

Session Info: Ballroom A Four (Level 2), KBHCCD

9:15 a.m.—11:15 a.m. [D27] RAPID: RAPID ABSTRACT POSTER DISCUSSION SESSION

MECHANISTIC INSIGHTS INTO BRONCHOPULMONARY DYSPLASIA

9:15 A6030/901—S1P/S1P1 and STAT3 Signaling Axis Promotes Hypoxia-Induced Lysyl Oxidase in Lung Epithelium Leading to Bronchopulmonary Dysplasia

LungMAP Member: Gloria S. Pryhuber, MD

Session Info: Trinity Ballroom 1-3 (Level 3), Omni Dallas Downtown

9:15 a.m.—11:15 a.m. [D27] RAPID: RAPID ABSTRACT POSTER DISCUSSION SESSION

MECHANISTIC INSIGHTS INTO BRONCHOPULMONARY DYSPLASIA

9:15 A6032/903—Airway Microbial Dysbiosis Induced Neutrophilic Inflammation Leads to Bronchopulmonary Dysplasia-Like Phenotype in Mice

LungMAP Member: Namasivayam Ambalavanan, MD

Session Info: Trinity Ballroom 1-3 (Level 3), Omni Dallas Downtown

9:15 a.m.—11:15 a.m. [D27] RAPID: RAPID ABSTRACT POSTER DISCUSSION SESSION

MECHANISTIC INSIGHTS INTO BRONCHOPULMONARY DYSPLASIA

9:15 A6034/905—Adiponectin Ameliorates Hyperoxia-Induced Lung Epithelial Dysfunction and Promotes Angiogenesis in Neonatal Mice

LungMAP Member: Gloria S. Pryhuber, MD

Session Info: Trinity Ballroom 1-3 (Level 3), Omni Dallas Downtown

9:15 a.m.—11:15 a.m. [D27] RAPID: RAPID ABSTRACT POSTER DISCUSSION SESSION

MECHANISTIC INSIGHTS INTO BRONCHOPULMONARY DYSPLASIA

9:15 A6040/911—Transcriptional Characterization of Human Lung Cells Identifies Novel Markers of Mesenchymal Lineages

LungMAP Members: Soula Danopoulos, PhD, Thomas J. Mariani, PhD, Denise Al Alam, PhD, MS

Session Info: Trinity Ballroom 1-3 (Level 3), Omni Dallas Downtown

LungMAP at ATS 2019

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9:15 a.m.—11:15 a.m. [D27] RAPID: RAPID ABSTRACT POSTER DISCUSSION SESSION

MECHANISTIC INSIGHTS INTO BRONCHOPULMONARY DYSPLASIA

9:15 A6045/916—Identifying Sex-Dependent Changes in CD4+ T Cell Phenotype and Plasma Cytokine Levels from Infants Exposed to the In Utero Inflammatory Conditions of Clinical Chorioamnionitis

LungMAP Members: Ravi Misra, PhD, Gloria S. Pryhuber, MD

Session Info: Trinity Ballroom 1-3 (Level 3), Omni Dallas Downtown

9:15 a.m.—11:15 a.m. [D27] RAPID: RAPID ABSTRACT POSTER DISCUSSION SESSION

MECHANISTIC INSIGHTS INTO BRONCHOPULMONARY DYSPLASIA

9:15 A6046/917—Fetal Lung Development in Rhesus Macaques Using Quantitative Diffusion MRI and Histological Biomarkers

LungMAP Member: Jason C. Woods, PhD

Session Info: Trinity Ballroom 1-3 (Level 3), Omni Dallas Downtown

9:15 a.m.—11:15 a.m. [D29] POSTER DISCUSSION SESSION

LUNG MULTI-OMICS TO MECHANISM

9:15 A6073/503—Cross Species scRNAseq Systems Biology Analysis of Cell-Cell Signaling in Lung

LungMAP Member: Naftali Kaminski, MD

Session Info: Room D222-D224 (Level 2), KBHCCD

9:15 a.m.—11:15 a.m. [D29] POSTER DISCUSSION SESSION

LUNG MULTI-OMICS TO MECHANISM

9:15 A6074/504—Unsupervised and Supervised Analysis to Identify Novel Candidate Genes and Therapeutics for Idiopathic Pulmonary Fibrosis

LungMAP Member: Anil Jegga, DVM, MRes

Session Info: Room D222-D224 (Level 2), KBHCCD

9:15 a.m.—11:15 a.m. [D29] POSTER DISCUSSION SESSION

LUNG MULTI-OMICS TO MECHANISM

9:15 A6076/506—A Novel Interface for Sharing the Human Cell IPF Atlas

LungMAP Member: Naftali Kaminski, MD

Session Info: Room D222-D224 (Level 2), KBHCCD

9:15 a.m.—11:15 a.m. [D29] POSTER DISCUSSION SESSION

LUNG MULTI-OMICS TO MECHANISM

9:15 A6082/512—The Proteomics and Lipidomics Landscape of the Developing Human Lung During the Post-Natal Alveolarization Process

LungMAP Members: Jeremy Clair, PhD, Charles Ansong, PhD

Session Info: Room D222-D224 (Level 2), KBHCCD

9:15 a.m.—11:15 a.m. [D29] POSTER DISCUSSION SESSION

LUNG MULTI-OMICS TO MECHANISM

9:15 A7463/524—Integration of Transcriptomic and Proteomic Data Identifies Biological Functions in Lung Cell Populations

LungMAP Members: Yina Du, PhD, Jeremy Clair, PhD, Denise Al Alam PhD, MS, Soula Danopoulos, PhD, David Warburton, MD, Joseph Kitzmiller, Ravi Misra, PhD, Thomas J. Mariani, PhD, Gloria S. Pryhuber, MD, Jeffrey A. Whitsett, MD, Charles Ansong, PhD, Yan Xu, PhD

Session Info: Room D222-D224 (Level 2), KBHCCD

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9:15 a.m.—11:15 a.m. [D30] POSTER DISCUSSION SESSION

ASTHMA: WHAT'S NEW IN ASSESSMENT AND TREATMENT?

9:15 A6102/610—Ventilation Defect Percent from Hyperpolarized Helium-3 MRI is Predictive of Asthma Exacerbation Severity

LungMAP Member: Jason C. Woods, PhD

Session Info: Ballroom D Three (Level 3), KBHCCD

12:15 p.m.—1:15 p.m. [L26] OUTSIDE ORGANIZATION SESSION

THE MOLECULAR ATLAS OF LUNG DEVELOPMENT (LUNGMAP)

LungMAP Members: Robert Clark, PhD, Sara Lin, PhD—Chairs

Session Info: Room D220/D227 (Level 2), KBHCCD

12:15 p.m.—1:15 p.m. [L26] OUTSIDE ORGANIZATION SESSION

THE MOLECULAR ATLAS OF LUNG DEVELOPMENT (LUNGMAP)

12:15 LungMAP.net: A Public Online Resource for Lung Development Research and Education

LungMAP Member: Robert Clark, PhD

Session Info: Room D220/D227 (Level 2), KBHCCD

12:15 p.m.—1:15 p.m. [L26] OUTSIDE ORGANIZATION SESSION

THE MOLECULAR ATLAS OF LUNG DEVELOPMENT (LUNGMAP)

12:25 Adaptation of Pulmonary Cells to Air Breathing at Birth at Single Cell Level

LungMAP Member: Jeffrey A. Whitsett, MD

Session Info: Room D220/D227 (Level 2), KBHCCD

12:15 p.m.—1:15 p.m. [L26] OUTSIDE ORGANIZATION SESSION

THE MOLECULAR ATLAS OF LUNG DEVELOPMENT (LUNGMAP)

12:35 A Multi Scale View of Lung Alveolar and Airway Development from Anatomy to Cells to Molecules

LungMAP Member: David Warburton, MD, ATSF

Session Info: Room D220/D227 (Level 2), KBHCCD

12:15 p.m.—1:15 p.m. [L26] OUTSIDE ORGANIZATION SESSION

THE MOLECULAR ATLAS OF LUNG DEVELOPMENT (LUNGMAP)

12:45 Epigenetics in Normal Lung Development

LungMAP Member: James S. Hagood, MD

Session Info: Room D220/D227 (Level 2), KBHCCD

12:15 p.m.—1:15 p.m. [L26] OUTSIDE ORGANIZATION SESSION

THE MOLECULAR ATLAS OF LUNG DEVELOPMENT (LUNGMAP)

12:55 Multi-Scale Omics and Imaging Characterization of the Lung During Development on Behalf of PNNL/TACC Team

LungMAP Member: Jeremy Clair, PhD

Session Info: Room D220/D227 (Level 2), KBHCCD

12:15 p.m.—1:15 p.m. [L26] OUTSIDE ORGANIZATION SESSION

THE MOLECULAR ATLAS OF LUNG DEVELOPMENT (LUNGMAP)

1:05 Sharing the BRINDL LungMAP Biorepository

LungMAP Member: Gloria S. Pryhuber

Session Info: Room D220/D227 (Level 2), KBHCCD

LungMAP at ATS 2019

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Wednesday May 22

1:30 p.m.—3:30 p.m. [D98] MINI SYMPOSIUM

NEW MECHANISMS OF ACUTE LUNG INJURY

2:30 A7069—Pink1 Mediates the Protective Effects of Thyroid Hormone T3 in Hyperoxia-Induced Lung Injury

LungMAP Member: Naftali Kaminski, MD

Session Info: Ballroom D Two (Level 3), KBHCCD

1:30 p.m.—3:30 p.m. [D107] POSTER DISCUSSION SESSION

MITOCHONDRIA AND ER STRESS IN HOMEOSTASIS AND REPAIR

1:30 A7222/608—Profibrotic Effects of Mir-33—Role of Autophagy and Mitochondrial Homeostasis in Macrophages and Therapeutic Implications

LungMAP Members: Farida Ahangari, PhD, Naftali Kaminski, MD

Session Info: Ballroom D Three (Level 3), KBHCCD

1:30 p.m.—3:30 p.m. [D109] RAPID: RAPID ABSTRACT POSTER DISCUSSION SESSION

SRN: OUTCOMES AND IMPACT OF SLEEP AND RESPIRATORY DISORDERS

1:30 A7259/901—Shared Genetic Architecture Between Sleep and Blood Pressure Traits in Humans

LungMAP Member: Sina A. Gharib, MD

Session Info: Trinity Ballroom 1-3 (Level 3), Omni Dallas Downtown