

American Thoracic Society International Conference



Where today's science meets tomorrow's care™

Advance Program



ATS 2017
*Where today's science
meets tomorrow's care™*

May 19-May 24, 2017
Washington, DC
<http://conference.thoracic.org>

INVITATIONS FOR THE 2017 PROGRAM ARE NOW BEING SENT.
For details, please contact Vlada O'Hara at vohara@thoracic.org

American Thoracic Society

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ATS 2017 INTERNATIONAL CONFERENCE MAY 19-24 WASHINGTON, DC

This is the virtual Advance Program for the ATS 2017 International Conference, which is one of the largest gatherings of pulmonary, critical care and sleep medicine clinicians and researchers in the world. This publication contains the programs and speakers for the postgraduate courses, symposia, seminars and workshops to be held at the International Conference confirmed as of December 14, 2016.

For information on conference registration, hotel accommodations and other conference details, please visit the ATS International Conference website at <http://conference.thoracic.org>

1	Friday Postgraduate Courses
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ATS 2017 INTERNATIONAL CONFERENCE DISCLOSURES OF CONFERENCE PLANNERS

The following members of the Education Committee have disclosed no financial relationships with commercial interests:

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Alison S. Clay, MD	Carl A. Kaplan, MD	Jakob I. McSparron, MD	Carolyn H. Welsh, MD
Walter D. Conwell, MD	Jack Kelly	Paul E. Moore, MD	Lisa F. Wolfe, MD
Daniel R. Crouch, MD, MS	Denay P. Kirkpatrick, DNP	Marc Moss, MD	

The following members of the Education Committee have disclosed the following financial relationships with commercial interests:

Caralee E. Caplan-Shaw, MD: <i>AristaMD and Cohero Health (Consultant); Bard Peripheral Vascular, Inc. and Veran Medical Technologies (Food/Beverage Only); Cook Incorporated (Food/Beverage Only, Spouse-CME Speaker); MedImmune, Novartis Pharma and Teva Pharmaceuticals USA (Research</i>	<i>Support); Myriad Genetic Laboratories (Spouse-Consultant)</i>	Charles Dela Cruz, MD, PhD: <i>Cempra (Advisory Committee); Sanofi-Aventis U.S. (Consultant)</i>	Mary E. Streck, MD: <i>Boehringer Ingelheim Pharmaceuticals (Data and Safety Monitoring Board, Research Support); Gilead Sciences, InterMune, MedImmune, and Vertex Pharmaceuticals (Research Support)</i>
Colleen L. Channick, MD: <i>Actelion Pharmaceuticals US and Bayer HealthCare Pharmaceuticals (Spouse-Consultant); Medtronic and Olympus Corporation of the Americas (Consultant)</i>		Samaan Rafiq, MD: <i>Boston Scientific (Consultant, Speaker); Veran Medical (Consultant)</i>	Bishoy Zakhary, MD: <i>ELSO ECMO Training Courses and ACCP (Course Instructor)</i>
		Jordan S. Rettig: <i>Boston's Children Hospital (Intellectual Property Not Commercialized)</i>	

The following members of the International Conference Committee have disclosed no financial relationships with commercial interests:

Zea Borok, MD, Chair	David Gozal, MD, MBA	Paul E. Moore, MD	Anne I. Sperling, PhD
Jess Mandel, MD, Chair Appointee	Tillie-Louise Hackett, PhD	Marc Moss, MD	Renee D. Stapleton, PhD, MD
JiYeon Choi, PhD, RN	Anastassios C. Koumbourlis, MD, MPH	Marilyn Moy, MD, MSc	Lynn T. Tanoue, MD
Colin R. Cooke, MD	Patty Lee, MD	Robert L. Owens, MD	Esra Tasali, MD
Sonye K. Danoff, MD, PhD	Tricia D. LeVan, PhD	Karen M. Ridge, PhD	Judith Tate, PhD, RN
Laura C. Feemster, MSc, MD	Atul Malhotra, MD	Jussi J. Saukkonen, MD	
Andrew P. Fontenot, MD	William Man, MD, PhD	Gwen S. Skloot, MD	
Michelle N. Gong, MD, MS		Christopher G. Slatore, MD	

The following members of the International Conference Committee have disclosed the following financial relationships with commercial interests:

Anna Hemnes, MD: <i>Actelion Pharmaceuticals, US and United Therapeutics Corporation (Advisory Committee); Pfizer, Inc. (Expert Testimony)</i>	Augusto A. Litonjua, MD: <i>AstraZeneca Pharmaceuticals (Advisory Committee); Springer Humana Press and UpToDate (author)</i>	Mark L. Metersky, MD: <i>Aradigm and Bayer (Research Support); EBSCO (Consultant); Grifols (Advisory Committee)</i>	Frank C. Sciurba, MD: <i>Boehringer Ingelheim b.v. (Advisory Committee); BTG and Pulmonx Corporation (Research Support)</i>
Tim Lahm, MD: <i>Bayer HealthCare Pharmaceuticals (Speaker); Gilead Sciences and Pfizer AG (Research Support)</i>			

ATS: COMMITTED TO EXCELLENCE IN CONTINUING MEDICAL EDUCATION AND SCIENTIFIC EXCHANGE

The American Thoracic Society is committed to providing education and scientific exchange of the highest quality at our International Conference and other programs.

As an accredited provider of the Accreditation Council for Continuing Medical Education (ACCME), the ATS must ensure objectivity, scientific rigor, balance, and freedom from commercial bias in Conference presentations.

ATS relies on the assistance of Conference Session organizers, chairs and presenters, Assembly Program Committees, the ATS Education Committee, and the ATS International Conference Committee to accomplish this. In keeping with ACCME standards and ATS policies on management of conflict of interest, all moderators and speakers must complete conflict of interest review and resolution prior to the Conference.

ATS thanks Conference presenters for their cooperation in completing disclosure forms by announced deadlines, and thanks Conference session organizers and all those involved in this important process.

POSTGRADUATE COURSES



CLINICAL

POSTGRADUATE COURSE

PG1A CRITICAL CARE ULTRASOUND AND ECHOCARDIOGRAPHY I

This is part 1 of a two-part course which includes PG1B on Saturday, May 20. Those registering for PG1A will be registered for PG1A and PG1B.

Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.

Member: \$900 In-Training Member: \$675
Non-Member: \$1,200 In-Training Non-Member: \$775

 **Registrants must bring a laptop to the course to view the course material.**

Assembly on Critical Care

8:00 a.m. - 4:00 p.m.

Target Audience

Providers of critical care or emergency medicine

Objectives

At the conclusion of this session, the participant will be able to:

- apply ultrasound at bedside to assess critically ill patients;
- diagnose alternate etiologies of shock in the critically ill patient;
- apply ultrasound to guide common ICU procedures.

This is a 2-day postgraduate course that consists of didactic lectures and hands-on stations. The focus is primarily bedside transthoracic echocardiography, with some diagnostic ultrasound. The topics include basic and intermediate critical care echocardiography (including hemodynamic measures), assessment of fluid status, procedural guidance for vascular access and thoracentesis, venography. The hands-on stations will include both healthy models and simulators that can demonstrate abnormal pathology.

Chairing: M.J. Lanspa, MD, MS, Salt Lake City, UT
X. Monnet, MD, PhD, Paris, France

8:00 Welcome & Introduction to Critical Care Ultrasound: Training and Competency
M.J. Lanspa, MD, MS, Salt Lake City, UT

8:15 Basic Physics, Artifacts, Knobology
Z. Shaman, MD, Cleveland, OH

- 8:45 Transthoracic Windows and Views**
A. Leibowitz, MD, Boston, MA
- 9:15 Basic Evaluation of LV Systolic Function, Measurement of Cardiac Output**
S. Price, MBBS, PhD, EDICM, London, United Kingdom
- 9:45 Basic Evaluation of RV Size and Function, the RV in Pulmonary Disease**
D. Pradhan, MD, New York, NY
- 10:15 Break**
- 10:30 Practical Skills Sessions: Hands-On Station I**
- Apical Window**
X. Monnet, MD, PhD, Paris, France
T. Brakke, MD, Omaha, NE
Z. Shaman, MD, Cleveland, OH
L. Grecu, MD, Stony Brook, NY
- Parasternal Window**
P. Mohabir, MD, Stanford, CA
G.B. Allen, MD, Burlington, VT
J. Kasal, MD, St. Louis, MO
S. Price, MBBS, PhD, EDICM, London, United Kingdom
D. Pradhan, MD, New York, NY
- Subcostal Window**
M. Hunter-Behrend, MD, Tacoma, WA
L. Rapoport, MD, Santa Clara, CA
V.A. Dinh, MD, Loma Linda, CA
E. Teo, MD, Atlanta, GA
J. Pittman, MD, Salt Lake City, UT
- 12:00 LUNCH**
- 12:30 Lunch and Clinical Cases I**
L. Grecu, MD, Stony Brook, NY
- 12:45 Chest Ultrasound**
P. Mohabir, MD, Stanford, CA
- 1:15 Basic Valvulopathy**
T. Brakke, MD, Omaha, NE
- 1:45 Basic Assessment of Diastolic Function**
C.K. Grissom, MD, Murray, UT
- 2:15 Break**
- 2:30 Practical Skills Sessions: Hands-On Station II**

- 2:30 Lung Ultrasound (Model and Management)**
P. Mohabir, MD, Stanford, CA
L. Rapoport, MD, Santa Clara, CA
M. Hunter-Behrend, MD, Tacoma, WA
Z. Shaman, MD, Cleveland, OH
D. Pradhan, MD, New York, NY

Diastolic Measurements

- J. Pittman, MD, Salt Lake City, UT
T. Brakke, MD, Omaha, NE
S. Price, MBBS, PhD, EDICM, London, United Kingdom
X. Monnet, MD, PhD, Paris, France
A. Leibowitz, MD, Boston, MA


Cardiac Output

- L. Grecu, MD, Stony Brook, NY
V.A. Dinh, MD, Loma Linda, CA
J. Kasal, MD, St. Louis, MO
E. Teo, MD, Atlanta, GA
G.B. Allen, MD, Burlington, VT

BASIC • TRANSLATIONAL

POSTGRADUATE COURSE

PG2 HOW TO USE 'OMICS TO STUDY LUNG DISEASE

-  **Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.**

Member: \$350	In-Training Member: \$200
Non-Member: \$425	In-Training Non-Member: \$300

-  **Registrants must bring a laptop to the course to view the course material.**

Assemblies on Allergy, Immunology and Inflammation; Respiratory Cell and Molecular Biology; Respiratory Structure and Function; Thoracic Oncology; Genetics and Genomics Section

8:00 a.m. - 4:00 p.m.

Target Audience

Lung researchers interested in applying so called 'omics based approaches, which frequently rely on the deep sequencing revolution, to study all aspects of the lung including disease

Objectives

At the conclusion of this session, the participant will be able to:

- gain new findings about how genome wide studies of gene expression enhance the understanding of lung disease;
- learn practical approaches to using existing genome wide data sets to study lung disease and improve patient care.

The 'omics revolution continues full speed and is transforming the approach to basic and translational research on lung disease. However, it can be difficult to gain even a working familiarity with many of the key techniques in this rapidly changing field. This course will provide a practical overview of the latest in 'Omics-based techniques and how they can be applied to study lung disease. Topics will include genetics, transcriptomics, single-cell analysis, phenomics, deep sequencing-based methodologies to study gene regulation, including ChIP-seq and Atac-seq, and an overview of statistical approaches and mining of publicly available 'Omics data.


Chairing: B.E. Himes, PhD, Philadelphia, PA
A.N. Gerber, MD, PhD, Denver, CO
M.M. Wurfel, MD, PhD, Seattle, WA

- 8:00 Introduction**
M.M. Wurfel, MD, PhD, Seattle, WA
- 8:20 Common Themes of 'Omics Studies**
P.G. Woodruff, MD, MPH, San Francisco, CA
- 8:55 Analyzing RNA Using Omics**
B.A. Raby, MD, MPH, Boston, MA
- 9:30 Break**
- 9:45 Single Cell Transcriptomics**
T.J. Desai, MD, Stanford, CA
- 10:20 Integrating Genomics and Transcriptomics**
D. Meyers, PhD, Winston-Salem, NC
- 10:55 Methylomics and the Lung**
I. Yang, PhD, Aurora, CO
- 11:30 General Discussion**
- 11:45 LUNCH**
- 12:45 ChIP-Seq: Studying the Pulmonary Cistrome**
A.N. Gerber, MD, PhD, Denver, CO

- 1:20 Atac-Seq and Other Genome Wide Methods of Studying Chromatin**
R. Bauer, PhD, South San Francisco, CA
- 1:55 General Discussion**
- 2:10 Break**
- 2:25 The Public Domain: Exploiting Existing Datasets**
N. Bhakta, MD, PhD, San Francisco, CA
- 2:55 'Omics: A Statistical Overview**
B.E. Himes, PhD, Philadelphia, PA
- 3:30 Summary and General Discussion**
A.N. Gerber, MD, PhD, Denver, CO

BEHAVIORAL • CLINICAL**POSTGRADUATE COURSE**

PG3 LOOK BEFORE YOU LEAP: SKILLS FOR CRITICAL EVALUATION OF CLINICAL RESEARCH

 **Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.**

Member: \$400	In-Training Member: \$250
Non-Member: \$475	In-Training Non-Member: \$350

 Registrants must bring a laptop to the course to view the course material.

Assemblies on Behavioral Science and Health Services Research; Allergy, Immunology and Inflammation; Clinical Problems; Critical Care; Environmental, Occupational and Population Health; Nursing; Pediatrics; Pulmonary Circulation; Pulmonary Rehabilitation; Sleep and Respiratory Neurobiology and Thoracic Oncology

8:00 a.m. - 4:00 p.m.

Target Audience

All health care providers

Objectives

At the conclusion of this session, the participant will be able to:

- learn reasoning behind specific design and analytic approaches most commonly used in quantitative

interventional and observational studies, as well as qualitative research;

- better able to identify the strengths and limitations of design choices and subsequent results obtained from clinical studies;
- apply a systematic approach to evaluating and analyzing the quality of clinical studies in the medical literature to guide decisions for uptake of evidence into your practice.

Which studies should change your clinical practice?

This session will combine didactics with a workshop to provide a toolkit for clinicians to develop a systematic approach to evaluating the primary clinical research literature. Attendees will interact with clinical researchers and evidence based medicine experts during didactic sessions to learn the elements that characterize quality interventional, observational, and qualitative studies. During two afternoon small group workshops, participants will break out into three rotating small groups with 1-2 faculty members to 1) participate in mini-journal clubs for RCT, observational, and qualitative research “case studies”; and 2) develop a personal strategy to assess the quality of clinical research for adoption into practice.

Each participant should leave the session with a better understanding of both a rigorous approach to evaluating the literature, as well as the internal and external influences that result in their own decisions to change practice.

Chairing: A.J. Walkey, MD, MSc, Boston, MA
H.B. Gershengorn, MD, Bronx, NY

- 8:00 Introduction**
A.J. Walkey, MD, MSc, Boston, MA
- 8:05 RCT Basics: “Establishing the Gold Standard”**
R. Parke, RN, PhD, Auckland, New Zealand
- 8:35 RCTS: “All that Glitters”**
J.A. Krishnan, MD, PhD, Chicago, IL
- 9:05 General Discussion**
- 9:15 Break**
- 9:25 Observational Outcomes Research: “You Can Observe a Lot Just by Watching”**
H.B. Gershengorn, MD, Bronx, NY

- 9:50 Comparative Effectiveness: “Identifying Who’s Doing Things Right, so You Can Do the Right Things”**

A.J. Walkey, MD, MSc, Boston, MA

- 10:20 General Discussion**

- 10:30 Qualitative Research: “The Storytellers Rule Society”**

K.A. Riekert, PhD, Baltimore, MD

- 11:00 General Discussion**

- 11:10 LUNCH**

- 12:00 Meta-Analysis: “Greater than the Sum of Its Parts?”**

R. Zarychanski, MD, Winnipeg, Canada

- 12:25 PRO: Clinical Practice Guidelines, “Maybe Overrated But... Clinicians Still Ask for Guidance”**

J. Brozek, MD, PhD, Hamilton, Canada

- 12:50 CON: Clinical Practice Guidelines, “Genius Abhors a Consensus”**

B.P. Kavanagh, MD, Toronto, Canada

- 1:15 Small Group Discussion I**

A.J. Walkey, MD, MSc, Boston, MA

A.B. Mehta, MD, Denver, CO

M.Hua, MD, MSc, New York, NY

H.B. Gershengorn, MD, Bronx, NY

R. Parke, RN, PhD, Auckland, New Zealand

J.A. Krishnan, MD, PhD, Chicago, IL

J. Brozek, MD, PhD, Hamilton, Canada

B.P. Kavanagh, MD, Toronto, Canada

R. Zarychanski, MD, Winnipeg, Canada

K.A. Riekert, PhD, Baltimore, MD

- 3:15 Small Group Discussion II: Putting It All Together**

A.J. Walkey, MD, MSc, Boston, MA

A.B. Mehta, MD, Denver, CO

M. Hua, MD, MSc, New York, NY

H.B. Gershengorn, MD, Bronx, NY

R. Parke, RN, PhD, Auckland, New Zealand

J.A. Krishnan, MD, PhD, Chicago, IL

J. Brozek, MD, PhD, Hamilton, Canada

B.P. Kavanagh, MD, Toronto, Canada


R. Zarychanski, MD, Winnipeg, Canada

K.A. Riekert, PhD, Baltimore, MD

**BASIC • BEHAVIORAL
CLINICAL • TRANSLATIONAL**

POSTGRADUATE COURSE

**PG4 INTERSTITIAL LUNG DISEASE:
CURRENT TRENDS IN DIAGNOSIS AND
MANAGEMENT**

 **Pre-registration and additional fees required.
Continental breakfast and box lunch included.
Attendance is limited.**

Member: \$350 In-Training Member: \$200
Non-Member: \$425 In-Training Non-Member: \$300

 **Registrants must bring a laptop to the
course to view the course material.**

**Assemblies on Clinical Problems; Allergy, Immunology
and Inflammation; Behavioral Science and Health Services
Research; Environmental, Occupational and Population
Health; Nursing; Pulmonary Rehabilitation**

8:00 a.m. - 4:00 p.m.

Target Audience

Clinicians, nurses, other allied health staff, researchers,
investigators in basic and clinic science pertinent to
interstitial lung disease, and sponsors for research

Objectives

At the conclusion of this session, the participant will be able to:

- accurately diagnose patients with specific forms of ILD;
- gain improved understanding in current concepts in pathogenesis and genetic aspects of pulmonary fibrosis as well as knowledge of new therapeutic strategies to treat patients with ILD/pulmonary fibrosis.

This course will provide an introduction and update on the diagnosis and management of the heterogeneous group of interstitial lung diseases (ILDs) of unknown etiology as well ILD in the setting of connective tissue diseases, vasculitis, and environmental exposures. Idiopathic pulmonary fibrosis (IPF), alveolar proteinosis, and granulomatous ILD (hypersensitivity pneumonitis and sarcoidosis) are among the diseases that will be discussed. Genetic factors, precision

medicine for diagnosis and treatment as well as newer concepts in the pathogenesis of IPF and novel treatment strategies to modulate pulmonary fibrosis will be discussed. Attendees will be updated on evolving enhanced knowledge in the clinical management of patients with ILD. The importance of making an accurate diagnosis will be demonstrated by live interactions with a panel of experts from multiple disciplines confronted with 3-4 cases unknown to them. This will illustrate multidisciplinary diagnosis (MDD) in action. Additional talks will focus on the symptom management of patients with IPF and endpoints to assess treatment response beyond conventionally used pulmonary function tests.

Chairing: G. Raghu, MD, Seattle, WA
L. Richeldi, MD, PhD, Rome, Italy

- 8:00 Introduction**
G. Raghu, MD, Seattle, WA
- 8:05 Interstitial Lung Disease: An Overview and Approach to Diagnosis**
G. Raghu, MD, Seattle, WA
- 8:30 Imaging in ILD: Clues to Diagnosis**
E.A. Kazerooni, MD, Ann Arbor, MI
- 9:00 Histopathology Features of ILD, Does Tissue Sampling Matter?: Role of Transbronchial, Cryo, and Thorascopic Biopsies**
J.L. Myers, MD, Ann Arbor, MI
- 9:25 Precision Medicine for IPF Diagnosis: Time for Genetic Screening and Intervention?**
M. Armanios, MD, Baltimore, MD
- 9:50 Pulmonary Fibrosis: Concepts in Pathogenesis, Peripheral Biomarkers in the Circulating Venous Blood and New Targets for Treatment**
T.M. Maher, MD, MSc, PhD, London, United Kingdom
- 10:15 Break**
- 10:25 Connective Tissue Disease for the Pulmonologist Evaluating Interstitial Lung Disease: A Rheumatologist's View**
A. Fischer, MD, Aurora, CO

- 10:50 Panel Discussion**
L. Ho, MD, Seattle, WA
- 11:50 LUNCH**
- 12:20 Alveolar Hemorrhage and Pulmonary Vasculitides: What's New?**
U. Specks, MD, Rochester, MN
- 12:40 Cystic Lung Disease, Making the Correct Diagnosis: Discuss Challenges and Strategies in Diagnosis of Cystic Lung Disease Including LAM, Pulmonary LCH, LIP and Others**
M.K. Glassberg, MD, Miami, FL
- 1:05 Hypersensitivity Pneumonitis: Diagnosis and in Pursuit of the Cause: What and Where Is the Antigen and What Does the Antigen Do to Cause Disease?**
E. Fernandez Perez, MD, Denver, CO
- 1:30 Sarcoidosis: Treatment Beyond Prednisone and Methotrexate**
M. Judson, MD, Albany, NY
- 1:50 Early Detection and Subclinical ILD: Lessons Learned from the Multi-Ethnic Study of Atherosclerosis (MESA) Database**
A.J. Podolanczuk, MD, New York, NY
- 2:15 Co-Morbidities in Patients with IPF**
V. Cottin, MD, PhD, Lyon, France
- 2:40 Break**
- 2:50 Idiopathic Pulmonary Fibrosis: Precision Medicine and Endpoints for Assessing Treatment Response Beyond Forced Vital Capacity**
F.J. Martinez, MD, New York, NY
- 3:15 Reducing Cough and Other Symptoms and Improving Quality of Life for Patients with IPF: Therapeutic Needs and Palliative Care**
M. Wijsenbeek, MD, Rotterdam, Netherlands
- 3:35 Treatment of IPF: Current Landscape of Treatment and Ongoing/Upcoming Clinical Trials**
L. Richeldi, MD, PhD, Rome, Italy

CLINICAL

POSTGRADUATE COURSE

PG5 A PHYSIOLOGIC APPROACH TO THE TREATMENT OF SHOCK

R Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.

Member: \$400

In-Training Member: \$250

Non-Member: \$475

In-Training Non-Member: \$350

 Registrants must bring a laptop to the course to view the course material.

Assemblies on Critical Care; Clinical Problems; Respiratory Structure and Function

8:00 a.m. - 4:00 p.m.

Target Audience

Clinicians who treat patients with shock. In addition, physiologists and basic scientists who are interested in the scientific basis for medical practice

Objectives

At the conclusion of this session, the participant will be able to:

- apply basic principles in fluid management of shock;
- rationally develop strategy for vasopressor use;
- understand the principles behind and select patients for mechanical support.

This course will use a combination of didactic lectures and small group breakout sessions to describe a 'first-principles' approach to the individualized management of shock. The goal of the course is to enable participants to apply fundamental principles at the bedside. Topics include assessment of fluid responsiveness, physiology of right heart failure, choice of inotropes/vasopressors, blood pressure targets and assessment of oxygen delivery, as well as cardiogenic shock and the physiology of mechanical support. We will explore controversies in the physiologic literature concerning these issues and critically examine common clinical practice in light of the current physiologic literature.

Chairing: C.C. Hardin, MD, PhD, Boston, MA
K.A. Hibbert, MD, Boston, MA

8:00 Introduction: A Physiologic Approach to Shock
C.C. Hardin, MD, PhD, Boston, MA

8:20 Meaningful Clinical Targets in Patients with Shock
S. Magder, MD, Montreal, Canada

9:20 Assessing Fluid Responsiveness
Speaker To Be Announced

10:05 Break

10:25 Vasopressors and Inotropes
A.J. Goodwin, MD, MSCR, Charleston, SC

11:05 Physiology of Right Heart Failure
R. Naeije, MD, PhD, Brussels, Belgium

12:05 LUNCH

12:50 Mechanical Support for Cardiogenic Shock
G. Lewis, MD, Boston, MA

1:35 Physiology and Treatment of Hemorrhagic Shock
S. Henry, MD, Baltimore, MD


2:20 Break

2:40 Case Examples
K.A. Hibbert, MD, Boston, MA

BASIC • TRANSLATIONAL

POSTGRADUATE COURSE

PG6 LUNG INNATE IMMUNITY: FRONTLINES OF HOST DEFENSE

 **Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.**

Member: \$350 In-Training Member: \$200
Non-Member: \$425 In-Training Non-Member: \$300

 **Registrants must bring a laptop to the course to view the course material.**

Assemblies on Microbiology, Tuberculosis and Pulmonary Infections; Allergy, Immunology and Inflammation; Respiratory Cell and Molecular Biology

8:00 a.m. - 4:00 p.m.

Target Audience

Investigators and providers of lung health; postdoctoral fellows in training; students with particular interest in understanding the scientific basis for disease susceptibility to lung infections

Objectives

At the conclusion of this session, the participant will be able to:

- apply new findings and information regarding normal host responses to microbial infections in the lung;
- learn new findings about novel strategies and approaches to the management of lung infections;
- improve the life and health status of patients with lung infections.

The course will provide state of the art presentations by experts in the field, updating current knowledge and cutting-edge research in the area of lung innate immunity and host defense. Presentations will provide insights into current understanding of critical components of lung protective mechanisms, in addition to elucidating mechanisms of host susceptibility to serious lung infections.

Chairing: H. Koziel, MD, Boston, MA
J.P. Mizgerd, ScD, Boston, MA

8:00 Sensing and Signaling Infection Through Pattern Recognition Receptors
J. Imler, PhD, Strasbourg, France

8:30 Cytosolic Immune Receptors and the Inflammasome
Speaker To Be Announced

9:00 Alveolar Macrophage Plasticity and Interplay with Epithelial Cells
R.J. Snelgrove, PhD, London, United Kingdom

9:30 Epithelial Cells in Lung Host Defenses: More than a Barrier
A.S. Prince, MD, New York, NY

10:00 Break


10:15 Lung Dendritic Cells Link Innate and Adaptive Immunity
K. Vermaelen, MD, PhD, Ghent, Belgium

- 10:45 Systemic Responses to Lung Infection: What Happens in the Lung Does Not Stay in the Lung**
L.J. Quinton, PhD, Boston, MA
- 11:15 Lung Resident Memory Cells: Reshaping Mucosal Innate Immunity**
D. Farber, PhD, New York, NY
- 11:45 LUNCH**
- 12:45 Visualizing Integrated Immune Responses in the Lung**
P. Torabi-Parizi, MD, Bethesda, MD
- 1:15 Role of the Environment on Lung Infection Susceptibility and Pneumonia Pathogenesis**
L. Kobzik, MD, Boston, MA
- 1:45 Airway Microbiome and Innate Immunity**
S.V. Lynch, PhD, San Francisco, CA
- 2:15 Break**
- 2:30 Mutations as Windows into Immunity and Infection in the Lung**
S.M. Holland, MD, Bethesda, MD
- 3:00 Macrophages Determine Injury and Inflammation Resolution in the Infected Lung**
S.V. Herold, MD, PhD, Giessen, Germany
- 3:30 Innate Determinants of Vaccine Responses**
K. Mayer, MD, PhD, Bethesda, MD

BASIC • CLINICAL • TRANSLATIONAL

POSTGRADUATE COURSE

PG7 PEDIATRIC RESPIRATORY PHYSIOLOGY: WHEN IT'S NORMAL AND WHEN IT'S NOT

 **Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.**

Member: \$350 In-Training Member: \$200
Non-Member: \$425 In-Training Non-Member: \$300

 **Registrants must bring a laptop to the course to view the course material.**

Assemblies on Pediatrics; Clinical Problems; Critical Care; Pulmonary Circulation; Respiratory Cell and Molecular Biology; Respiratory Structure and Function; Sleep and Respiratory Neurobiology

8:00 a.m. - 4:00 p.m.

Target Audience

Fellows in training as well as established physicians in the practice of pediatric pulmonology, critical care or neonatal medicine who are interested in reviewing basic physiology principles as they apply to clinical care

Objectives

At the conclusion of this session, the participant will be able to:

- apply several basic respiratory principles to the diagnosis and management of common pediatric respiratory disorders;
- learn how physiologic measurements can be used to change interventions and enhance outcomes;
- identify the rationale for several measurement techniques and determine when these should be used.

The course will consist of a series of paired lectures covering several topics in pediatric respiratory physiology, reviewing first normal physiologic aspects of a topic and then the companion talk will review pathophysiology relating to a particular pediatric respiratory disease that highlights when the normal physiology goes awry. An interactive format, using questions from the speakers and audience touch pads to give answers will be used to enhance audience participation, and to allow the participant to understand key concepts or to identify areas requiring additional study.

Chairing: H.B. Panitch, MD, Philadelphia, PA
J.L. Allen, MD, Philadelphia, PA

8:00 Airways and Airway Smooth Muscle
T.H. Shaffer, MSE, PhD, Wilmington, DE

8:35 Wheezing in Infants
T. Guilbert, MD, MS, Cincinnati, OH

9:10 Mucociliary Clearance and Pharmacotherapy
J. Clancy, MD, Cincinnati, OH


9:45 Break

- 9:55 Primary Ciliary Dyskinesia**
M. Leigh, MD, Chapel Hill, NC
- 10:30 Pulmonary Circulation and Transitional Circulation**
S. Lakshminrusimha, MD, Buffalo, NY
- 11:05 BPD and Pulmonary Hypertension**
S.H. Abman, MD, Aurora, CO
- 11:40 LUNCH**
- 12:20 Neural Control of the Lung**
H.B. Panitch, MD, Philadelphia, PA
- 12:55 The Denervated Lung: Respiratory Responsiveness Following Transplantation**
G. Kurland, MD, Pittsburgh, PA
- 1:30 Chest Wall and Respiratory Muscle Mechanics**
J.L. Allen, MD, Philadelphia, PA
- 2:05 Break**
- 2:15 Weakness and Thoracic Insufficiency Syndrome**
G.J. Redding, MD, Seattle, WA
- 2:50 Control of Breathing**
S. Ward, MD, Los Angeles, CA
- 3:25 Abnormal Control of Breathing**
T.G. Keens, MD, Los Angeles, CA

BEHAVIORAL • CLINICAL

POSTGRADUATE COURSE

PG8 PRACTICAL OUTCOME TOOLS IN COPD: FROM CLINICAL CARE TO CLINICAL TRIALS

 **Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.**

Member: \$350 In-Training Member: \$200
Non-Member: \$425 In-Training Non-Member: \$300

 **Registrants must bring a laptop to the course to view the course material.**

Assemblies on Pulmonary Rehabilitation; Behavioral Science and Health Services Research; Clinical Problems; Nursing

8:00 a.m. - 4:00 p.m.

Target Audience

Clinicians involved in the management of patients with COPD; any clinical researcher in COPD

Objectives

At the conclusion of this session, the participant will be able to:

- gain new strategies to manage the care of patients with COPD by being aware of practical outcome tools that can be used to provide holistic assessment;
- assess the response of treatment by improving the means of assessing outcomes in patients with COPD;
- understand what is required for a practical outcome tool to be used in a clinical trial.

COPD is a heterogeneous, multi-system disease, and global assessment of the patient is required to optimize and personalize care in patients with COPD. There is a need to characterize and phenotype patient population in different settings - clinical and research.

The aims of this course are: To describe the psychometric and prognostic properties of outcome tools commonly used in patients with COPD in different clinical care settings, and whether these can be utilized in clinical trials; disseminate recent ATS/ERS statements on field walking tests, limb muscle dysfunction and pulmonary rehabilitation; disseminate work of the COPD Biomarker Qualification Consortium.

Chairing: W. Man, MD, PhD, Harefield, United Kingdom
S.J. Singh, PhD, Leicester, United Kingdom


- 8:00 Six Minute Walk Test**
M.A. Spruit, PhD, PT, Horn, Netherlands
- 8:20 Shuttle Walk Tests**
S.J. Singh, PhD, Leicester, United Kingdom
- 8:40 Cycle Ergometry and Cardiopulmonary Exercise**
H.B. Rossiter, PhD, Torrance, CA

- 9:00 Gerontology Physical Performance Tools and Frailty**
M. Maddocks, PhD, London, United Kingdom
- 9:20 General Discussion**
M. Polkey, MD, London, United Kingdom
- 9:50 Break**
- 10:10 Measuring Muscle Function and Mass in COPD**
F. Maltais, MD, Quebec, Canada
- 10:30 Balance Measures in COPD**
D. Brooks, PhD, Toronto, Canada
- 10:50 Assessing Activities of Daily Living in COPD**
S. Lareau, MS, RN, Aurora, CO
- 11:10 Outcomes Tools to Directly Measure Physical Activity in COPD**
M.L. Moy, MD, MSc, Boston, MA
- 11:30 Sleep Disturbance in COPD**
X. Soler, MD, PhD, San Diego, CA
- 11:50 LUNCH**
- 1:00 Measuring Dyspnea in COPD**
P.M. Meek, PhD, RN, Denver, CO
- 1:20 Practical Measures of Health Status in COPD**
S. Kon, MD, PhD, Harefield, United Kingdom
- 1:40 Anxiety, Depression and Pain in COPD**
A.M. Yohannes, PhD, Manchester, United Kingdom
- 2:00 COPD Biomarker Qualification Consortium**
R. Tal-Singer, PhD, King of Prussia, PA
- 2:20 Break**
- 2:40 EXACT-PRO and Measuring Exacerbations in COPD**
L. Murray, MPH, Bethesda, MD
- 3:00 Hospital Admissions in COPD: How Are They Measured in Clinical Trials of COPD**
J.A. Krishnan, MD, PhD, Chicago, IL
- 3:20 The Future? Genetics and Genomics in the Global Assessment of the Patient with COPD**
E.S. Wan, MD, Boston, MA
- 3:50 Summary and General Discussion**
W. Man, MD, PhD, Harefield, United Kingdom

CLINICAL

POSTGRADUATE COURSE

PG9 MASTER PHYSIOLOGY CLASS: HEMODYNAMICS

 **Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.**

Member: \$400

In-Training Member: \$250

Non-Member: \$475

In-Training Non-Member: \$350

 **Registrants must bring a laptop to the course to view the course material.**

Assemblies on Respiratory Structure and Function; Critical Care

8:00 a.m. - 4:00 p.m.

Target Audience

Practicing clinicians and resident-to-fellow level trainees whose primary clinical focus is critical care medicine

Objectives

At the conclusion of this session, the participant will be able to:

- describe the basic principles of cardiac and pulmonary circulatory physiology;
- understand and describe key features of the cerebral, splanchnic and renal vascular systems and their application to the care of critically ill patients;
- interpret hemodynamic data and describe the physiologic principles underlying the observed patterns and relationships.

Speakers will use a combination of didactic lectures and small group learning to review core principles of hemodynamics including cardiac physiology, the physiology of the major vascular beds, the hemodynamic effects of mechanical ventilation and the bedside assessment of a patient's hemodynamic status.

Chairing: A.M. Luks, MD, Seattle, WA
R.W. Glenny, MD, Seattle, WA

8:00 Introduction
A.M. Luks, MD, Seattle, WA

8:10 Physiology of the Pulmonary Circulation

R.W. Glenn, MD, Seattle, WA

8:50 Renovascular Physiology

M. Hoenig, MD, Boston, MA

9:30 Break**9:40 Cerebrovascular Physiology**

N. Badjatia, MD, Baltimore, MD

10:20 Small Group Case Review

A.M. Luks, MD, Seattle, WA

R.W. Glenn, MD, Seattle, WA

B. Coruh, MD, Seattle, WA

R. Schwartzstein, MD, Boston, MA

A.S. Clay, MD, Durham, NC

W.G. Carlos, MD, MSCR, Indianapolis, IN

P.G. Carvalho, MD, Boise, ID

J. Petersson, MD, PhD, Stockholm, Sweden

M.M. Hayes, MD, Boston, MA

J.T. Poston, MD, Chicago, IL

J.B. Richards, MD, Charleston, SC

11:35 LUNCH**12:35 Cardiac Physiology for the Intensivist**

S. Magder, MD, Montreal, Canada

1:15 The Splanchnic Circulation

A.M. Luks, MD, Seattle, WA

1:55 Break**2:05 Hemodynamics Effects of Mechanical Ventilation**

A.S. Clay, MD, Durham, NC

2:45 Small Group Case Review

A.M. Luks, MD, Seattle, WA

R.W. Glenn, MD, Seattle, WA

B. Coruh, MD, Seattle, WA

R. Schwartzstein, MD, Boston, MA

J.T. Poston, MD, Chicago, IL

A.S. Clay, MD, Durham, NC

W.G. Carlos, MD, MSCR, Indianapolis, IN

P.G. Carvalho, MD, Boise, ID

M.M. Hayes, MD, Boston, MA

J. Petersson, MD, PhD, Stockholm, Sweden

J.B. Richards, MD, Charleston, SC

CLINICAL**POSTGRADUATE COURSE****PG10 ORAL APPLIANCE THERAPY AND RELATED TOPICS IN DENTAL SLEEP MEDICINE**

R Pre-registration and additional fees required.
Continental breakfast and box lunch included.
Attendance is limited.

Member: \$350

In-Training Member: \$200

Non-Member: \$425

In-Training Non-Member: \$300

Assemblies on Sleep and Respiratory Neurobiology**8:00 a.m. - 4:00 p.m.****Target Audience**

Sleep, respiratory and neurobiology physicians, dental professionals, sleep laboratory, staff including respiratory therapists

Objectives

At the conclusion of this session, the participant will be able to:

- improve how health care providers assess the oral cavity and overall patient for the suspected presence of sleep-disordered breathing;
- apply appliance selection and titration strategies to optimize oral appliance therapy for OSA;
- improve the quality of health/life status of OSA patients by providing successful oral appliance therapy, as a stand-alone treatment or in combination with other modalities.

This course will cover the foundation of knowledge about obstructive sleep apnea and clinical signs in the oral cavity and relevant medical history. How to screen patients for oral appliance therapy, and evaluate effective mandibular advancement devices, including titration processes will be addressed as well as treating sleep apnea patients in an interdisciplinary fashion, with alternative treatment modalities.

Chairing: J.E. Metz, DDS, Columbus, OH

8:00 Introduction

J.E. Metz, DDS, Columbus, OH

- 8:10 Patient Selection for OAT, Clinical Signs, Screening, Dental Examination and Medical Co-Morbidities Relevant to the Dental Practice**
J. Blank, DDS, Springfield, OH
- 8:40 Case Studies of Orthodontics and Impact on Airway**
T. Wilcko, DMD, Erie, PA
- 9:25 Hypertension and Type 2 Diabetes Mellitus in OSA and Oral Appliance Therapy**
F. Gagnadoux, MD, Angers, France
- 10:10 Break**
- 10:20 A Current Update on Sleep Bruxism, Orofacial Pain and Research Topics**
G. Lavigne, DMD, MSc, PhD, Montreal, Canada
- 11:20 Drug-Induced Sleep Endoscopy for Evaluation of Oral Appliance Effectiveness and Hypoglossal Nerve Stimulation Surgery**
O. Vanderveken, MD, PhD, Antwerp, Belgium
- 12:20 LUNCH**
- 1:05 Evolving Meaningful Alternatives to CPAP Therapy**
D.P. White, MD, Denver, CO
- 1:55 Types of Oral Appliances for the Treatment of OSA, and How to Recognize a Successful Appliance**
F.R. Almeida, DDS, MSc, PhD, Vancouver, Canada
- 2:25 Break**
- 2:35 Titration Process for Oral Appliance Therapy in the Sleep Laboratory**
D. Shrivastava, MD, Sacramento, CA
K. Cheung, MD, Walnut Creek, CA
P. Mc Bride, BA, RDA, CCSH, Suffern, NY
- 3:25 Case Studies of Successful Oral Appliance Therapy Patients with Different Vertical Dimensions**
J.E. Metz, DDS, Columbus, OH

CLINICAL

POSTGRADUATE COURSE

PG11 LUNG CANCER STATE OF THE ART: 2017

R Pre-registration and additional fees required.
Continental breakfast and box lunch included.
Attendance is limited.

Member: \$350

In-Training Member: \$200

Non-Member: \$425

In-Training Non-Member: \$300

Assemblies on Thoracic Oncology; Clinical Problems**8:00 a.m. - 4:00 p.m.****Target Audience**

Clinicians of various specialties (pulmonary medicine, thoracic surgery, medical and radiation oncology, physician extenders) who are involved in the care of patients with lung cancer

Objectives

At the conclusion of this session, the participant will be able to:

- learn strategies for developing and improving screening programs including identifying persons eligible and most likely to benefit from screening, shared decision making aids, and best ways to provide tobacco treatment and cessation support;
- manage and to diagnose solid and ground glass pulmonary nodules;
- learn new findings about key developments in clinical research that have impacted lung cancer outcomes and be updated on evolving therapies in NSCLC.

A comprehensive and up to date review coupled with interactive tumor boards will cover screening and development of screening programs, tobacco interventions, prognostic factors, and approach to pulmonary nodules (solid and sub-solid) including nodule management guidelines and diagnostic interventions. In addition, we will discuss challenges in SBRT for Stage I: when is it clinically indicated without tissue confirmation and a pro con debate on whether all patients need to undergo EBUS for nodal staging, the epidemic of lung cancer in women, advances in personalized medicine

and immunotherapy, management of malignant pleural effusions and toxicities due to lung cancer therapies.

Chairing: M.P. Rivera, MD, Chapel Hill, NC
D.J. Feller-Kopman, MD, Baltimore, MD

- 8:00 Introduction**
M.P. Rivera, MD, Chapel Hill, NC
- 8:05 Smoke Gets in Your Eyes: Tobacco Control and Cessation**
A. Vachani, MD, MS, Philadelphia, PA
- 8:30 Beyond the NLST: An Update of LDCT Screening and Development of Screening Program**
R.S. Wiener, MD, MPH, Boston, MA
- 8:55 If You Have a Hammer Not Everything Is a Nail: Diagnostic Procedures in the Work Up of Lesions Concerning for Lung Cancer**
N.T. Tanner, MD, MSCR, Charleston, SC
- 9:20 The Solid Pulmonary Nodule: When Is It Cancer**
M.K. Gould, MD, MS, Pasadena, CA
- 9:45 Ground Glass Nodule: To Treat (or Not) a Fuzzy Spot**
J.D. Blasberg, MD, New Haven, CT
- 10:10 Break**
- 10:20 Interactive Tumor Board**
M.P. Rivera, MD, Chapel Hill, NC
N.T. Tanner, MD, MSCR, Charleston, SC
R.S. Wiener, MD, MPH, Boston, MA
M.K. Gould, MD, MS, Pasadena, CA
J.D. Blasberg, MD, New Haven, CT
- 10:55 The Holy Grail of Prognostic Factors in Lung Cancer: Searching for Omniscience**
F.C. Detterbeck, MD, New Haven, CT
- 11:20 The Specter of Gender: Lung Cancer in Women**
M.P. Rivera, MD, Chapel Hill, NC
- 11:45 LUNCH**
- 12:30 Don't MUSS with My EBUS (Pro-Con Debate): All Patients with Stage I NSCL Undergoing SBRT Need Staging EBUS**
J.A. Akulian, MD, MPH, Chapel Hill, NC
R. Osarogiagbon, MD, Memphis, TN

- 1:10 Is Tissue Always the Issue?: Treating Patients Without Tissue Diagnosis with SBRT**
R. Hales, MD, Baltimore, MD
- 1:35 How Not to Die Short of Breath: Management of Malignant Pleural Effusions**
D.J. Feller-Kopman, MD, Baltimore, MD
- 2:00 Break**
- 2:10 Immunotherapy's Rook to Lung Cancer's King: CHECKMATE: Novel Therapies in NSCLC**
J. Brahmer, MD, Baltimore, MD
- 2:35 Palliative Care in Lung Cancer: It Really Works**
G.C. Michaud, MD, New York, NY
- 3:00 Pulmonary Complications Associated with Lung Cancer Therapies**
P.B. Camus, MD, Dijon, France
- 3:25 Interactive Tumor Board**
D.J. Feller-Kopman, MD, Baltimore, MD
F.C. Detterbeck, MD, New Haven, CT
R. Hales, MD, Baltimore, MD
J. Brahmer, MD, Baltimore, MD
G.C. Michaud, MD, New York, NY



CLINICAL

POSTGRADUATE COURSE

PG1B CRITICAL CARE ULTRASOUND AND ECHOCARDIOGRAPHY II

This is part 2 of a two-part course which includes PG1A on Friday, May 19.

R Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.

See PG1A for course fees.

 Registrants must bring a laptop to the course to view the course material.

Assembly on Critical Care

8:00 a.m. - 4:00 p.m.

Target Audience

Providers of critical care or emergency medicine

Objectives

At the conclusion of this session, the participant will be able to:

- apply ultrasound at bedside to assess critically ill patients;
- diagnose alternate etiologies of shock in the critically ill patient;
- apply ultrasound to guide common ICU procedures.

This is a 2-day postgraduate course that consists of didactic lectures and hands-on stations. The focus is primarily bedside transthoracic echocardiography, with some diagnostic ultrasound. The topics include basic and intermediate critical care echocardiography (including hemodynamic measures), assessment of fluid status, procedural guidance for vascular access and thoracentesis, venography. The hands-on stations will include both healthy models and simulators that can demonstrate abnormal pathology.

Chairing: M.J. Lanspa, MD, MS, Salt Lake City, UT
X. Monnet, MD, PhD, Paris, France

8:00 Vascular Ultrasound: DVT Evaluation
L. Rapoport, MD, Santa Clara, CA

8:25 Vascular Access
M. Hunter-Behrend, MD, Tacoma, WA

8:50 Tamponade
G.B. Allen, MD, Burlington, VT

9:20 Using Ultrasound to Assess Intravascular Volume and Fluid Responsiveness
X. Monnet, MD, PhD, Paris, France

9:50 Ultrasound for Diuresis and Dialysis
E. Hirshberg, MD, MS, Salt Lake City, UT

10:15 Break

10:30 Practical Skills Sessions: Hands-On Station III

Volume Status

X. Monnet, MD, PhD, Paris, France
P. Mohabir, MD, Stanford, CA
J. Kasal, MD, St. Louis, MO
E. Teo, MD, Atlanta, GA
D. Pradhan, MD, New York, NY

Tamponade Evaluation

V.A. Dinh, MD, Loma Linda, CA
G.B. Allen, MD, Burlington, VT
A. Leibowitz, MD, Boston, MA
S. Price, MBBS, PhD, EDICM, London, United Kingdom
T. Brakke, MD, Omaha, NE

Vascular Ultrasound

L. Rapoport, MD, Santa Clara, CA
 M. Hunter-Behrend, MD, Tacoma, WA
 Z. Shaman, MD, Cleveland, OH
 L. Grecu, MD, Stony Brook, NY
 J. Pittman, MD, Salt Lake City, UT

12:00 *LUNCH*

12:30 **Lunch and Clinical Cases II**

E. Teo, MD, Atlanta, GA

12:45 **Abdominal Ultrasonography**

V.A. Dinh, MD, Loma Linda, CA

1:15 **Goal Directed Management of Shock Using Echocardiography**

J. Kasal, MD, St. Louis, MO

1:45 **Incorporating Echocardiography into CPR**

M.J. Lanspa, MD, MS, Salt Lake City, UT

2:15 *Break*

2:30 **Practical Skills Sessions: Hands-On Station IV**

Echo in Shock and CPR

P. Mohabir, MD, Stanford, CA
 D. Pradhan, MD, New York, NY
 T. Brakke, MD, Omaha, NE
 S. Price, MBBS, PhD, EDICM, London, United Kingdom
 L. Grecu, MD, Stony Brook, NY

Abdominal Ultrasound

L. Rapoport, MD, Santa Clara, CA
 Z. Shaman, MD, Cleveland, OH
 J. Pittman, MD, Salt Lake City, UT
 G.B. Allen, MD, Burlington, VT
 M. Hunter-Behrend, MD, Tacoma, WA

Ask the Expert

A. Leibowitz, MD, Boston, MA
 J. Kasal, MD, St. Louis, MO
 X. Monnet, MD, PhD, Paris, France
 V.A. Dinh, MD, Loma Linda, CA
 E. Teo, MD, Atlanta, GA

CLINICAL

POSTGRADUATE COURSE

PG12 BRONCH DAY: A COMPREHENSIVE, HANDS-ON GUIDE TO BASIC BRONCHOSCOPY AND EBUS

R Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.

Member: \$475	In-Training Member: \$300
Non-Member: \$550	In-Training Non-Member: \$400

 Registrants must bring a laptop to the course to view the course material.

Assemblies on Clinical Problems; Critical Care; Pediatrics; Thoracic Oncology

8:00 a.m. - 4:00 p.m.

Target Audience

Adult and pediatric pulmonologists and intensivists, thoracic surgeons, physicians in training, allied health professionals, and anesthesiologists interested in improving their skills in diagnostic and therapeutic flexible bronchoscopy and EBUS

Objectives

At the conclusion of this session, the participant will be able to:

- diagnose and manage adults and children with benign and malignant respiratory diseases;
- improve knowledge of basic flexible bronchoscopy and strengthen procedural skills;
- understand the indications for linear and radial endobronchial ultrasound and the skills necessary to perform these procedures.

This course is designed to provide a comprehensive introduction to diagnostic and therapeutic flexible bronchoscopy. Participants will acquire the knowledge and skills to improve their proficiency in basic bronchoscopic techniques and be introduced to more advanced diagnostic bronchoscopy, including linear and radial endobronchial ultrasound. A series of didactic lectures will be followed by intensive, hands-on training, through the use of physical and virtual reality

simulators which will help participants strengthen their procedural skills. This course will be of particular interest to provider seeking to refine their flexible bronchoscopy skills and wish to review the data behind the various bronchoscopic techniques. Audience Response System to be used during lectures.

Chairing: C.L. Channick, MD, Boston, MA
S. Oh, MD, Los Angeles, CA

8:00 A Quick and Comprehensive Review of Airway Anatomy: The Larynx and Tracheobronchial Tree
L. Frye, MD, Chicago, IL

8:15 Optimizing Basic Bronchoscopy Skills: Bronchoalveolar Lavage, Endobronchial Brushings, and Endobronchial Biopsies
C. Kinsey, MD, MPH, Burlington, VT

8:40 Improving Your Technique and Yield for Transbronchial and Needle Aspiration Biopsies
S. Oh, MD, Los Angeles, CA

9:05 Pediatric Flexible Bronchoscopy for the Adult and Pediatric Bronchoscopists
J. Puchalski, MD, New Haven, CT

9:30 Break

9:40 The Role of Flexible Bronchoscopy in the Management of Hemoptysis
C.R. Lamb, MD, Burlington, MA

10:05 Performing Flexible Bronchoscopy in High-Risk Patients: How to Maximize Outcomes
A. Majid, MD, Boston, MA

10:30 The Fundamental of Linear EBUS: Overview of the Basic Technique and the Data
C.L. Channick, MD, Boston, MA

10:55 Introduction to Radial EBUS: Review of the Evidence
G.C. Michaud, MD, New York, NY

11:20 Bronchial Thermoplasty: Practice and Principles
A. Mahajan, MD, Falls Church, VA

11:45 LUNCH

12:45 Practical Skills Sessions

Bronchoscopy with Brushing, Biopsy, and Needle Aspiration of Endobronchial Lesion

C. Kinsey, MD, MPH, Burlington, VT
A. Mahajan, MD, Falls Church, VA
S. Goldfarb, MD, Philadelphia, PA

Bronchoscopic Management of Hemoptysis

A. Majid, MD, Boston, MA
J. Puchalski, MD, New Haven, CT

Management of the Difficult Airway

S. Oh, MD, Los Angeles, CA
I. Susanto, MD, Los Angeles, CA
A. Vicencio, MD, New York, NY

Techniques for Foreign Body Removal Using Flexible Bronchoscopy

C.L. Channick, MD, Boston, MA
B. Husta, MD, New York, NY
C.Y. Spencer, MD, New York, NY

Radial Endobronchial Ultrasound

L. Frye, MD, Chicago, IL
J. Cardenas-Garcia, MD, Hershey, PA


Endobronchial Ultrasound-TBNA

C.R. Lamb, MD, Burlington, MA
G.C. Michaud, MD, New York, NY

BASIC

POSTGRADUATE COURSE

PG13 FLOW CYTOMETRY IN HUMAN AND MOUSE LUNGS: FROM EXPERIMENTAL DESIGN TO ANALYSIS

 Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.

Member: \$400

In-Training Member: \$250

Non-Member: \$475

In-Training Non-Member: \$350

 Registrants must bring a laptop to the course to view the course material.

Assemblies on Allergy, Immunology and Inflammation; Respiratory Cell and Molecular Biology

8:00 a.m. - 4:00 p.m.

Target Audience

Basic and clinical researchers interested in learning about the techniques to perform high quality flow cytometry in lung samples

Objectives

At the conclusion of this session, the participant will be able to:

- identify the critical components of performing high quality flow cytometry including tissue digestion and handling, performance and data analysis;
- learn about methodologies to identify structural and immune cell populations in the lung and how to link these to bioinformatics and next generation sequencing;
- practically apply the skills learned in this session on cases designed to address routine problems with flow cytometry performance and data analysis.

Flow cytometry is a vital tool to understand the cellular basis and pathological processes in multiple organ systems. However, the implementation of multicolor flow cytometry and cell sorting is technically challenging. This challenge hampers overall reproducibility and cell type generalization across scientific laboratories in the field. This session will assemble a group of experts with the capacity to comprehensively review the technical and interpretive aspects of pulmonary cell isolation and flow cytometric analysis of both non-hematopoietic and hematopoietic cells. Specifically, lectures will focus on strategies for flow cytometric panel design, sample preparation/staining, data analysis, interpretation and presentation.

Chairing: R.M. Tighe, MD, Durham, NC
A.V. Misharin, MD, PhD, Chicago, IL
C. Jakubzick, PhD, Denver, CO

8:00 Introduction, Review of Format for the Day
R.M. Tighe, MD, Durham, NC

8:10 Programmatic Perspective on Modern Flow Cytometry in Clinical and Basic Research
P.K. Chattopadhyay, PhD, Bethesda, MD

8:50 Key Steps in Conducting a High Quality Flow Cytometry Study in Research and Clinical Settings

R.M. Tighe, MD, Durham, NC

9:20 Use of Mass Cytometry (CyTOF) for Analysis of Lung Tissue

N. McGovern, PhD, Singapore, Singapore

9:50 Break

10:05 Flow Cytometry of Myeloid Cells in the Murine and Human Lung

C. Jakubzick, PhD, Denver, CO

10:45 Flow Cytometry of Epithelial, Endothelial and Stromal Cells in the Lung

E.F. Redente, PhD, Denver, CO

11:15 Flow Cytometry Analysis of Experimental Lung Cancers

K. Politi, PhD, New Haven, CT

11:45 LUNCH

12:30 Flow Cytometry Analysis of Lymphoid Cells in the Lung

C.M. Lloyd, PhD, London, United Kingdom

1:00 Cell Sorting and Downstream -Omics Applications

A.V. Misharin, MD, PhD, Chicago, IL

1:30 Bioinformatic Approaches in Flow Cytometry

R. Brinkman, PhD, Vancouver, Canada

2:00 Break

2:15 Practical Aspects of Compensation in Flow Cytometry

Y.R. Yu, MD, PhD, Durham, NC

2:35 Errors Commonly Found in Flow Cytometry

A.V. Misharin, MD, PhD, Chicago, IL

3:00 Practical Workshop on the Performance of Flow Cytometry

R.M. Tighe, MD, Durham, NC

A.V. Misharin, MD, PhD, Chicago, IL


C. Jakubzick, PhD, Denver, CO

E.F. Redente, PhD, Denver, CO

BEHAVIORAL • CLINICAL

POSTGRADUATE COURSE

PG14 RACING TO EXCELLENCE: THE ART AND SCIENCE OF CRITICAL CARE QUALITY IMPROVEMENT

 **Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.**

Member: \$400 In-Training Member: \$250
Non-Member: \$475 In-Training Non-Member: \$350

 **Registrants must bring a laptop to the course to view the course material.**

Assemblies on Behavioral Science and Health Services Research; Critical Care; Nursing; Quality Improvement and Implementation Committee

8:00 a.m. - 4:00 p.m.

Target Audience

Physicians, nurses, respiratory therapists, practice managers, hospital administrators and researchers interested in quality improvement

Objectives

At the conclusion of this session, the participant will be able to:

- understand the techniques and tools required to lead efforts in quality measurement and improvement in health care;
- identify enablers, barriers, and solutions to facilitate effective implementation;
- improve quality at the local level, engaging administrators, mid-level managers, and bedside clinicians to effectively overcome barriers, utilize enablers, and implement programs.

Due to changes in the health care landscape, there is intense pressure to improve the quality of care delivered. The pressure is especially intense in critical care, a venue associated with significant mortality, morbidity, and disproportionate cost. At the same time, despite an ever increasing number of guidelines and an emerging evidence base, knowledge translation is slow and incomplete. The objectives of the session are to

provide the conceptual framework that serves as the foundation of the quality movement, and the practical skills to design, implement, and refine a successful, multi-disciplinary quality improvement initiative. Didactic content will include a combination of high level quality overview sessions and a pragmatic set of talks intended for immediate application during the three skills building sessions.

Chairing: D.W. Ford, MD, MSCR, Charleston, SC
A. Amaral, MD, Toronto, Canada
M. Mikkelsen, MD, MSCE, Philadelphia, PA

8:00 Introduction

D.W. Ford, MD, MSCR, Charleston, SC

8:20 Making a Difference: The Science of Quality Improvement

V. Liu, MD, MS, Oakland, CA

8:40 Money Talks: How Financial Incentives (and Disincentives) Impact QI

A. Weinacker, MD, Stanford, CA

9:00 QI Planning: Where Do I Start? Identifying the Problem That Requires a Solution

M. Howell, MD, MPH, Chicago, IL

9:20 QI Planning: Fishbone Diagrams and the Pareto Principle: Identifying and Prioritizing Potential Solutions

W.D. Schweickert, MD, Philadelphia, PA

9:40 Break

10:00 QI Implementation: Plan, Do, Study, Act (PDSA) Cycles

C.L. Hough, MD, Seattle, WA

10:20 Breakout Session I

Implementing the ABCDE Bundle
W.D. Schweickert, MD, Philadelphia, PA
D.K. Costa, PhD, RN, Ann Arbor, MI
C.L. Hough, MD, Seattle, WA
A. Amaral, MD, Toronto, Canada

Palliative and End of Life Care

E.K. Kross, MD, Seattle, WA
S.S. Carson, MD, Chapel Hill, NC
D.W. Ford, MD, MSCR, Charleston, SC

Sepsis

V. Liu, MD, MS, Oakland, CA
 I.S. Douglas, MD, Denver, CO
 M. Howell, MD, MPH, Chicago, IL
 M. Mikkelsen, MD, MSCE, Philadelphia, PA

- 11:00 QI Implementation: No One Is an Island: Designing the Initiative with Key Stakeholders (Including Patients and Families) in Mind**
 D.K. Costa, PhD, RN, Ann Arbor, MI

- 11:20 QI Evaluation: Show Me the Data! How to Measure Implementation and Patient-Centered Outcomes**
 A. Amaral, MD, Toronto, Canada

11:40 LUNCH

- 12:20 QI Implementation: Building a Team and Delivering a Message**
 I.S. Douglas, MD, Denver, CO

12:40 Breakout Session II**Implementing the ABCDE Bundle**

W.D. Schweickert, MD, Philadelphia, PA
 D.K. Costa, PhD, RN, Ann Arbor, MI
 C.L. Hough, MD, Seattle, WA
 A. Amaral, MD, Toronto, Canada

Palliative and End of Life Care

E.K. Kross, MD, Seattle, WA
 S.S. Carson, MD, Chapel Hill, NC
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Sepsis

V. Liu, MD, MS, Oakland, CA
 I.S. Douglas, MD, Denver, CO
 M. Howell, MD, MPH, Chicago, IL
 M. Mikkelsen, MD, MSCE, Philadelphia, PA

- 1:20 QI Implementation: Creating a Communication Plan and Roll Out Strategy that Motivates**
 M. Mikkelsen, MD, MSCE, Philadelphia, PA

1:40 Break

- 2:00 QI Implementation: My Mistakes in Trying to Implement and How to Avoid Repeating Them**
 G.D. Rubinfeld, MD, MSc, Toronto, Canada

2:20 Breakout Session III**Implementing the ABCDE Bundle**

W.D. Schweickert, MD, Philadelphia, PA
 D.K. Costa, PhD, RN, Ann Arbor, MI
 C.L. Hough, MD, Seattle, WA
 A. Amaral, MD, Toronto, Canada

Palliative and End of Life Care

E.K. Kross, MD, Seattle, WA
 S.S. Carson, MD, Chapel Hill, NC
 D.W. Ford, MD, MSCR, Charleston, SC


Sepsis

V. Liu, MD, MS, Oakland, CA
 I.S. Douglas, MD, Denver, CO
 M. Howell, MD, MPH, Chicago, IL
 M. Mikkelsen, MD, MSCE, Philadelphia, PA

QI Team Reports and Debrief

A. Amaral, MD, Toronto, Canada
 D.W. Ford, MD, MSCR, Charleston, SC
 M. Mikkelsen, MD, MSCE, Philadelphia, PA

CLINICAL**POSTGRADUATE COURSE****PG15 ADVANCES IN THE DIAGNOSIS AND MANAGEMENT OF SARCOIDOSIS**

 **Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.**

Member: \$350	In-Training Member: \$200
Non-Member: \$425	In-Training Non-Member: \$300

 **Registrants must bring a laptop to the course to view the course material.**

Assemblies on Clinical Problems; Allergy, Immunology and Inflammation

8:00 a.m. - 4:00 p.m.

Target Audience

Clinicians who see sarcoidosis patients; especially on trainees, recent graduates, and individuals interested to establish a sarcoidosis clinic

Objectives

At the conclusion of this session, the participant will be able to:

- understand the changing epidemiology of sarcoidosis and current concepts in the pathogenesis of sarcoidosis;
- diagnose patients with sarcoidosis and identify specific organ involvement, incorporating newer tools;
- provide improved care to patients with sarcoidosis through comprehensive management strategies and an understanding of current and novel therapeutic strategies.

This is an overview of the most recent advances in the diagnosis and management of the whole patient for sarcoidosis. It would be of particular interest to individuals who are establishing a multidisciplinary sarcoidosis clinic, or as a refresher to those trained in some aspects of sarcoidosis. Two panel-based, case-based discussions will summarize and incorporate the decision-making and choices of treating patients with sarcoidosis, with practical information about difficult diagnosis, mimickers, initiating therapy, stopping therapy, how to manage toxicities, how to combine medications, and assessment of other problems like pulmonary hypertension. It is meant to tie together the concepts from the prior speakers.

Chairing: D.A. Culver, DO, Cleveland, OH
M. Drent, MD, Utrecht, Netherlands


- 8:00 Advances in Untangling the Pathobiology of Sarcoidosis**
D.R. Moller, MD, Baltimore, MD
- 8:30 Evolution of Bronchoscopy for the Diagnosis of Sarcoidosis**
R. Trisolini, MD, Bolgna, Italy
- 8:55 Pitfalls, Challenges, and New Modalities for Diagnosis of Sarcoidosis**
L.A. Maier, MD, MSPH, Denver, CO
- 9:20 Changing Epidemiology of Sarcoidosis**
Y. Cozier, DSc, MPH, Boston, MA
- 9:40 Break**
- 10:00 Assessing Sarcoidosis**
J.C. Grutters, MD, PhD, Nieuwegein, Netherlands

- 10:25 Consequences of Sarcoidosis**
M. Drent, MD, Utrecht, Netherlands
- 10:50 Natural History, Prognosis and the Decision to Treat**
A.U. Wells, MD, London, United Kingdom
- 11:15 Case-Based Panel Discussion: Challenging Diagnostic Situations**
D.A. Culver, DO, Cleveland, OH
J.P. Kanne, MD, Madison, WI
C. Farver, MD, Cleveland, OH
M. Judson, MD, Albany, NY
L.A. Maier, MD, MSPH, Denver, CO
R. Trisolini, MD, Bolgna, Italy
- 12:00 LUNCH**
- 12:50 Treatment Options from Steroids to the Newest Agents**
R.P. Baughman, MD, Cincinnati, OH
- 1:20 Practical Use of Immunosuppressants**
D.A. Culver, DO, Cleveland, OH
- 1:40 Identifying Health Disparities & How to Adjust Your Management Style to Fit Your Patient**
M. Judson, MD, Albany, NY
- 2:00 How to Set up A Successful Sarcoidosis Clinic**
L. O'Hare, CRNP, Birmingham, AL
- 2:20 Break**
- 2:40 Critical Organ Involvement**
K.C. Patterson, MD, Philadelphia, PA
- 3:00 Diagnosis and Management of Other Organ Involvement**
W.E. James, MD, Charleston, SC
- 3:20 Panel Discussion: Challenging Treatment Situations**
R.P. Baughman, MD, Cincinnati, OH
J.C. Grutters, MD, PhD, Nieuwegein, Netherlands
K.C. Patterson, MD, Philadelphia, PA
A.U. Wells, MD, London, United Kingdom

CLINICAL

POSTGRADUATE COURSE

PG16 CASED-BASED REVIEW OF THORACIC IMAGING FOR THE PULMONOLOGIST AND CRITICAL CARE PHYSICIAN

 **Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.**

Member: \$350 In-Training Member: \$200
Non-Member: \$425 In-Training Non-Member: \$300

 **Registrants must bring a laptop to the course to view the course material.**

Assemblies on Clinical Problems; Microbiology, Tuberculosis and Pulmonary Infections; Pulmonary Circulation; Thoracic Oncology

8:00 a.m. - 4:00 p.m.

Target Audience

Pulmonologists, critical care physicians, thoracic surgeons, midlevel providers, respiratory therapists, residents, fellows, and students

Objectives

At the conclusion of this session, the participant will be able to:

- formulate a differential diagnosis of respiratory diseases based on diagnostic imaging findings;
- improve strategies for the evaluation of solitary pulmonary nodules and for staging lung cancer;
- state the value of a multidisciplinary approach to diagnosis and management of patients with diffuse lung disease.

This course will review major aspects of thoracic imaging with presentations targeted toward the pulmonologist and critical care physician using a case-based approach and audience participation. Subspecialized thoracic radiologists will give case-based presentations focusing on the practical aspects of chest imaging. Presentations will be image rich and focus on key imaging findings, differential diagnoses, and potential pitfalls. Topics will cover a broad range of chest disease and will be relevant to

trainees, generalists, and specialists, alike. At the conclusion of the course, learners will have increased knowledge about thoracic imaging and be able to apply this knowledge to their respective practices.

Chairing: J.P. Kanne, MD, Madison, WI
C.C. Wu, MD, Houston, TX

- 8:00 Imaging Diseases of the Small Airways**
T.S. Henry, MD, San Francisco, CA
- 8:30 Imaging Diseases of the Large Airways**
S. Rossi, MD, Buenos Aires, Argentina
- 9:00 Imaging of Pulmonary Vascular Diseases**
J.P. Kanne, MD, Madison, WI
- 9:30 Critical Care Thoracic Imaging**
C. Schaefer-Prokop, MD, Nijmegen, Netherlands
- 10:00 Break**
- 10:15 Imaging of Pleural Diseases**
C.C. Wu, MD, Houston, TX
- 10:45 Imaging of the Solitary Pulmonary Nodule**
J.H. Chung, MD, Chicago, IL
- 11:15 Lung Cancer Imaging**
A. Leung, MD, Stanford, CA
- 11:45 LUNCH**
- 12:45 Imaging of Pulmonary Infections**
L. Ketai, MD, Albuquerque, NM
- 1:15 HRCT of Diffuse Lung Disease**
D.A. Lynch, MD, Denver, CO
- 1:45 Break**
- 2:00 Multidisciplinary Approach to Diffuse Lung Diseases**
K.K. Brown, MD, Denver, CO
D.A. Lynch, MD, Denver, CO
S. Groshong, MD, Denver, CO

BEHAVIORAL • CLINICAL • TRANSLATIONAL

POSTGRADUATE COURSE

PG17 BEST PRACTICES AND CLINICAL RESEARCH SKILLS DEVELOPMENT FOR CLINICAL RESEARCH COORDINATORS

R Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.

Member: \$100 In-Training Member: \$50
Non-Member: \$150 In-Training Non-Member: \$75

 Registrants must bring a laptop to the course to view the course material.

Assemblies on Nursing; Behavioral Science and Health Services Research; Clinical Problems; Pulmonary Rehabilitation

8:00 a.m. - 4:00 p.m.

Target Audience

This course will offer clinical research coordinators, nurses, respiratory therapists and investigators a practical skills-based course to develop best practices for skills essential to conduct high quality clinical research

Objectives

At the conclusion of this session, the participant will be able to:

- gain knowledge and skills necessary to contribute to the successful execution of pulmonary clinical trials;
- acquire relevant knowledge of proper technique for commonly performed procedures;
- learn the scientific background of state of the science commonly performed procedures conducted in pulmonary trials.

This is a practical, clinical research skills development course involving topics chosen by CRCs across the country following a needs assessment survey completed by over 100 CRCs. To complement the didactic portion of the workshop, we have incorporated breakout sessions for discussion and networking among attendees; both of which were requested during the CRC Forum at ATS 2016. Lectures will provide

scientific background for skills that CRCs perform daily. Discussion will allow coordinators from across the world to share experience, knowledge, and methods for recruitment, retention, standardized measurement, and regulatory compliance. This course will provide a venue for supporting and promoting best practices among those who coordinate the clinical trials from which clinical practice is changed. It will provide value to nationwide clinical trial networks by helping to establish consistency in data collection and procedure execution.


Chairing: N.E. Bracken, MSN, ACNP-BC, Chicago, IL
K. Lindell, PhD, RN, Pittsburgh, PA

- 8:00 Welcome and Introductions**
N.E. Bracken, MSN, ACNP-BC, Chicago, IL
- 8:15 6-Minute Walk Testing**
E.G. Collins, PhD, RN, Chicago, IL
- 9:00 Spirometry**
D.M. Mannino, MD, Lexington, KY
- 9:45 Break**
- 10:00 Recruitment and Retention of Minority Populations**
M.N. Eakin, PhD, Baltimore, MD
- 10:45 Respiratory Inhaler Device Technique**
N.E. Bracken, MSN, ACNP-BC, Chicago, IL
- 11:30 Methacholine Challenge**
S. Nyenhuis, MD, Chicago, IL
- 12:15 LUNCH**
- 12:45 General Discussion**
H. Erickson, BSN, RN, Tucson, AZ
- 1:20 CPAP/BiPAP**
D. Hart, MSN, Auckland, New Zealand
- 2:05 Regulatory Management**
M. Carno, PhD, MBA, MJ, CHRC, RN, Rochester, NY
- 2:50 Break**
- 3:05 Impulse Oscillometry**
C. Dumonceaux, BSc, RRT, RCPT(P), CCRP, Calgary, Canada
- 3:50 Wrap Up and Closing Remarks**
K. Lindell, PhD, RN, Pittsburgh, PA

CLINICAL

POSTGRADUATE COURSE

PG18 AERODIGESTIVE APPROACH TO COMPLEX CHRONIC PEDIATRIC DISEASES

 **Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.**

Member: \$350 In-Training Member: \$200
Non-Member: \$425 In-Training Non-Member: \$300

 **Registrants must bring a laptop to the course to view the course material.**

Assemblies on Pediatrics; Nursing**8:00 a.m. - 4:00 p.m.****Target Audience**

Pediatric pulmonologists, gastroenterologists, surgeons, fellows, nurses, speech therapists, and health care practitioners providing care coordination to children with chronic multi-system disease. Faculty representative of major aerodigestive programs, U.S. and international, with gender and discipline diversity and a mix of junior aerodigestive providers and senior program, clinical, and research leaders

Objectives

At the conclusion of this session, the participant will be able to:

- apply successful strategies to develop multi-disciplinary pediatric programs;
- measure relevant outcomes to pediatric populations with complex chronic diseases;
- gain new strategies and methods for pediatric pulmonologists to diagnose and manage complex airway disease.

This course will aid pediatric pulmonologists and care coordinators to develop multidisciplinary programs for children with complex chronic conditions affecting lung health. An integrated team approach to coordinated evaluation and management of children with complex diseases affecting airways and breathing, feeding and swallowing, and development, will be presented. This will focus on the rationale and quality imperative for

such programs and strategies to work within and across institutions for program development, expanding provider practices into newer roles and the identification and measurement of outcomes.

Chairing: R.P. Boesch, DO, Rochester, MN
M. Kazachkov, MD, New York, NY

8:00 The Past, Present, and Future of Pediatric Aerodigestive Programs

R.E. Wood, PhD, MD, Cincinnati, OH

8:25 Organization and Knowledge Generation, What Aerodigestive Can Learn from chILD

R.R. Deterding, MD, Aurora, CO

8:50 Building an Aerodigestive Program in Your Hospital

J. Erkman, MSN, CPNP, New York, NY
C. Miller, PhD, MHA, Cincinnati, OH

9:15 Untangling Airway, Lung, Maturation, and GI Disease in the Premature Infant

E.B. Hysinger, MD, Cincinnati, OH

9:40 Aerodigestive Approach to Children with Trisomy 21

E. DeBoer, MD, Aurora, CO

10:00 Break**10:10 Aerodigestive Approach to Tracheoesophageal Fistula and Esophageal Atresia**

E. Eber, MD, Graz, Austria

10:30 Is Severe Asthma an Aerodigestive Problem?

M. Kazachkov, MD, New York, NY

10:50 Indications and Methods for Interventional Pulmonology in Complex Pediatric Patients

R.M. Kern, MD, Rochester, MN

11:15 Why Should Pediatricians Do Interventional Pulmonology?

R.P. Boesch, DO, Rochester, MN

11:35 LUNCH**12:20 The Role of the Anesthesia Provider in Aerodigestive Programs**


M.B. Peterson, MD, Aurora, CO

- 12:45 The Pulmonologist's Role in Optimization for Airway Surgery and Decannulation**
J. Piccione, DO, MS, Philadelphia, PA
- 1:10 The Multi-Disciplinary Approach to Aspiration**
C. Daines, MD, Tucson, AZ
- 1:35 Feeding Disorders and Swallowing Dysfunction in the Aerodigestive Patient**
C. Miller, PhD, Cincinnati, OH
- 2:00 Break**
- 2:10 Airway and GI Microbiomes. Pure Science or Clinical Application?**
M. Kazachkov, MD, New York, NY
- 2:35 Pediatric Motility Disorders**
R. Rosen, MD, Boston, MA
- 3:00 Aerodigestive Case Presentations**
R.R. Deterding, MD, Aurora, CO
R. Rosen, MD, Boston, MA
C. Miller, PhD, Cincinnati, OH
J. Piccione, DO, MS, Philadelphia, PA
- 3:45 Where We Are Headed: Maturation of Pediatric Aerodigestive as a Defined Model of Care**
R.P. Boesch, DO, Rochester, MN

CLINICAL

POSTGRADUATE COURSE

PG19 CRITICAL CARE OF THE PATIENT WITH PULMONARY VASCULAR DISEASE

 Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.

Member: \$350 In-Training Member: \$200
Non-Member: \$425 In-Training Non-Member: \$300

 Registrants must bring a laptop to the course to view the course material.

Assemblies on Pulmonary Circulation; Critical Care

8:00 a.m. - 4:00 p.m.

Target Audience

Pulmonary and cardiology faculty, intensivists of all backgrounds, trainees, allied health professionals

Objectives

At the conclusion of this session, the participant will be able to:

- understand etiology and pathophysiology of RV failure in critically ill patients;
- identify strategies for the diagnosis and treatment of pulmonary vascular disease in critically ill patients;
- interpret common pulmonary artery catheter waveform patterns and learn about the basics of RV echocardiography in critically ill patients with pulmonary vascular disease.

This comprehensive course will provide the learner with a strategy to care for critically ill patients with various diseases of the pulmonary vasculature and right ventricle. Presenters will provide a framework for understanding pathophysiology, hemodynamics, and specific high-risk scenarios using state of the art evidence and clinical expertise. Common pitfalls and knowledge gaps in caring for patients with pulmonary vascular and right heart failure will be addressed. By the session's conclusion, learners should have a refined approach for the management of these challenging patients.

Chairing: C.E. Ventetuolo, MD, MS, Providence, RI
T.M. Bull, MD, Aurora, CO
T. Lahm, MD, Indianapolis, IN

- 8:00 Mechanisms of RV Failure in Critical Illness**
R. Naeije, MD, PhD, Brussels, Belgium
- 8:30 The PA Catheter in Critically Ill Patients with Pulmonary Vascular Disease: The Nuts and Bolts of PAC Waveform Analysis**
J.B. Hall, MD, Chicago, IL
- 9:30 Echo in the ICU: How Can It Help in the Critically Ill Pulmonary Vascular Disease Patient?**
A. Vieillard-Baron, MD, PhD, Paris, France
- 10:00 Break**
- Management of PAH in ICU**
- 10:15 Supportive Care: Volume, Arrhythmias, Mechanical Ventilation**
T. Lahm, MD, Indianapolis, IN

10:45 Pulmonary Vasodilators and Management of Hemodynamics (Pressors and Inotropes)
J.R. Klinger, MD, Providence, RI

11:15 Pulmonary Vascular Disease in Pregnancy: PH, PAH and Embolism Syndromes
A.R. Hemnes, MD, Nashville, TN

11:45 Pulmonary Vasculitis Crises in the ICU
U. Specks, MD, Rochester, MN

12:15 LUNCH

1:15 Post-Cardiotomy RV Dysfunction
J.L. Diaz-Gomez, MD, Jacksonville, FL

1:45 Catheter-Based Therapy and PERT for VTE: Yay or Nay
T.M. Bull, MD, Aurora, CO

2:00 Rebuttal
J.A. Kline, MD, Indianapolis, IN

2:15 Catheter-Based Therapy and PERT for VTE: Yay or Nay
J.A. Kline, MD, Indianapolis, IN

2:30 Rebuttal
T.M. Bull, MD, Aurora, CO

2:45 Break


3:00 Reperfusion Injury and Post-Endarterectomy Care in CTEPH
W. Auger, MD, San Diego, CA

3:30 Mechanical Circulatory Support for the RV
M.M. Hoeper, MD, Hannover, Germany

BASIC • TRANSLATIONAL

POSTGRADUATE COURSE

PG20 THE HALLMARKS OF AGING IN THE LUNG

 Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.

Member: \$350 In-Training Member: \$200
Non-Member: \$425 In-Training Non-Member: \$300

 Registrants must bring a laptop to the course to view the course material.

Assemblies on Respiratory Cell and Molecular Biology; Allergy, Immunology and Inflammation

8:00 a.m. - 4:00 p.m.

Target Audience

Basic and clinical researchers interested in learning about the hallmarks of the aging lung and new methods of studying lung aging

Objectives

At the conclusion of this session, the participant will be able to:

- recognize the hallmarks of aging in the lung;
- understand and learn the new systems biology approaches to study the aging lung;
- learn about the new tools and techniques for assessment of the aging in the lung.

Aging is one the crucial factors contributing to lung diseases, however, mechanisms of normal aging are not well understood. Moreover, there is no clear consensus about the hallmarks of normal aging in the lung, both in clinical settings and in research. This session will assemble a group of experts with the capacity to comprehensively review the state of the art in aging research. Specifically, lectures will focus on practically oriented, measurable hallmarks of aging which can be used in clinical and basic research.

Chairing: P.J. Lee, MD, New Haven, CT
M. Rojas, MD, Pittsburgh, PA
A.V. Misharin, MD, PhD, Chicago, IL

8:00 General Welcome and Overview of the Hallmarks of Aging in the Lung
P.J. Lee, MD, New Haven, CT

8:15 NIH NIA Programmatic Perspective on Aging-Related Research
R. Kohanski, PhD, Bethesda, MD

8:50 Lung Endothelium in Aging and Age-Related Lung Disease
P.J. Lee, MD, New Haven, CT

9:25 Immune Landscape in the Aging Lung
A.V. Misharin, MD, PhD, Chicago, IL


10:00 Break

- 10:10 Extracellular Matrix and the Aging Lung**
V.J. Thannickal, MD, Birmingham, AL
- 10:45 Proteostasis and Aging**
W. Balch, PhD, La Jolla, CA
- 11:20 Cellular Senescence**
I. Rahman, PhD, Rochester, NY
- 11:55 LUNCH**
- 12:35 Mitochondrial Dysfunction and Aging**
S. Budinger, MD, Chicago, IL
- 1:10 The Long and Short of Telomeres and Telomerase in Lung Disease**
M. Armanios, MD, Baltimore, MD
- 1:45 Break**
- 1:55 Influenza Virus Infection of the Stem Cell Niche - Implications for Lung Regeneration**
S. Herold, MD, PhD, Giessen, Germany
- 2:30 Age-Related Changes in Lung Mesenchymal Cells**
M. Rojas, MD, Pittsburgh, PA
- 3:05 Age-Related Changes in Ubiquitin-Proteasome System**
S. Meiners, PhD, Munich, Germany
- 3:40 Closing Remarks and Open Discussion**
M. Rojas, MD, Pittsburgh, PA

CLINICAL

POSTGRADUATE COURSE

PG21 PULMONARY FUNCTION AND CARDIOPULMONARY EXERCISE TESTING: MOVING FROM THEORY TO CLINICAL PRACTICE

 **Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.**

Member: \$350 In-Training Member: \$200
Non-Member: \$425 In-Training Non-Member: \$300

 **Registrants must bring a laptop to the course to view the course material.**

Assemblies on Respiratory Structure and Function; Clinical Problems

8:00 a.m. - 4:00 p.m.

Target Audience

Current and future directors of PFT labs, attending physicians, respiratory therapists, trainees, fellows, and other interested health care providers

Objectives

At the conclusion of this session, the participant will be able to:

- gain further understanding of the principles and practice of pulmonary function and exercise physiology diagnostic tests;
- develop greater confidence interpreting pulmonary function and cardiopulmonary exercise test results in clinical practice;
- identify strategies to approach the interpretation of pulmonary function and cardiopulmonary exercise test results in complex patients.

This course will focus on the approach to interpreting pulmonary function and cardiopulmonary exercise tests, moving from the basic physiologic underpinnings to implementation in clinical practice. We will combine didactic lectures with case-based instruction in small group settings, and we will offer participants the opportunity to bring their own complex cases for review by an expert team of clinicians and physiologists. Small group discussion will include pulmonary function and exercise tests, and we will use a team approach to facilitating the group discussions including content experts and pulmonary function laboratory medical directors from around the world.

Chairing: C.E. Berry, MD, Tucson, AZ
M.C. McCormack, MD, MHS, Baltimore, MD
D.A. Kaminsky, MD, Burlington, VT

8:00 Introduction to Pulmonary Function and Cardiopulmonary Exercise Testing: From Physiology to Practice
C.E. Berry, MD, Tucson, AZ

8:15 Take a Deep Breath: Expert Approach to Spirometry Interpretation and Reference

Equations

B.H. Culver, MD, Olga, WA

8:45 Sizing Things Up: Lung Volume Measurement and Interpretation

B. Borg, BAppSc, CRFS, Prahran, Australia

9:15 Confusion with Diffusion: Understanding Diffusing Capacity and KCO

C.E. Berry, MD, Tucson, AZ

9:45 What About the Kids? Special Considerations for Pediatric Pulmonary Function Measurement and Interpretation

D. Weiner, MD, Pittsburgh, PA

10:15 Easing Your Frustration with Bronchoprovocation: Rethinking the Approach to Challenge Testing and Interpretation

T.S. Hallstrand, MD, MPH, Seattle, WA

10:45 Break**11:00 Make the Case: Pulmonary Function Testing**M.C. McCormack, MD, MHS, Baltimore, MD
M. Rosenfeld, MD, MPH, Seattle, WA**12:00 LUNCH****12:30 First Things First: Indications, Patient Evaluation, and Protocols for Exercise Testing**

C.D. Mottram, RRT, RPFT, Rochester, MN

1:00 Data Overload: Understanding the Physiology and Evaluating the Data in Cardiopulmonary Exercise Testing

C.G. Irvin, PhD, Burlington, VT

1:30 Abnormal Responses to Exercise: What Happens in Patients with Cardiopulmonary Disease?

D.A. Kaminsky, MD, Burlington, VT

2:15 Break**2:30 Make the Case: Cardiopulmonary Exercise Testing**C.E. Berry, MD, Tucson, AZ
R. Casaburi, MD, PhD, Torrance, CA
N. MacIntyre, MD, Durham, NC**CLINICAL****POSTGRADUATE COURSE****PG22 PULMONARY AND CRITICAL CARE REVIEWS: BUILT AROUND THE 2016 ABIM-SEP MODULES****R** Pre-registration and additional fees required. Continental breakfast and box lunch included. Attendance is limited.

Member: \$350

In-Training Member: \$200

Non-Member: \$425

In-Training Non-Member: \$300

 Registrants must bring a laptop to the course to view the course material.**Education Committee****8:00 a.m. - 4:00 p.m.****Target Audience**

Clinicians practicing pulmonary and/or critical care medicine; clinicians seeking ABIM MOC credit

Objectives

At the conclusion of this session, the participant will be able to:

- critically review and interpret recent literature in pulmonary and critical care medicine;
- apply recent literature in pulmonary and critical care medicine to clinical practice;
- complete the 2016 ABIM Pulmonary and Critical Care SEP module.

Led by expert faculty, this active learning session is a clinical practice and literature review designed around the most recent ABIM Self-Evaluation Process modules in pulmonary and critical care medicine. Using the ABIM-SEP questions with an audience response system as a launching point, faculty will lead a brief didactic review followed by an engaging discussion of knowledge gaps, controversy, and practice variation. In addition to a valuable review of high-impact medical knowledge and critical thinking, this session will provide a convenient opportunity to fulfill ABIM maintenance of certification requirements while at the ATS international conference.

Chairing: J.T. Poston, MD, Chicago, IL

8:00 Introduction
J.T. Poston, MD, Chicago, IL

8:10 Pulmonary Part 1
J. Mandel, MD, La Jolla, CA

9:50 Break

10:00 Pulmonary Part 2
B. Coruh, MD, Seattle, WA

11:40 LUNCH

12:30 Critical Care Part 1
J.T. Poston, MD, Chicago, IL

2:10 Break

2:20 Critical Care Part 2
J.B. Hall, MD, Chicago, IL

4:30 p.m. - 5:30 p.m.

OPENING CEREMONY

The American Thoracic Society invites you to attend the Opening Ceremony for the 2017 International Conference. The keynote speaker is Nobel Laureate **James Heckman, MD**, from the Center for the Economics of Human Development at the University of Chicago. Dr. Heckman has devoted his professional life to understanding the origins of major social and economic problems related to inequality, social mobility, discrimination, skill formation and regulation, and to devising and evaluating alternative strategies for addressing those problems.

Also during the Opening Ceremony will be an address by ATS President **David Gozal, MD, MBA** and the presentation of several Respiratory Health Awards.

The following awards will be presented:

Public Service Award: **Michelle M. Cloutier, MD**

World Lung Health Award: **Surendra Kumar, MBBS, MD, PhD**

Jo Rae Wright Award for Outstanding Science: **Hallie C. Prescott, MD, MSc**

5:30 p.m. - 6:30 p.m.

THE NETWORKING EXCHANGE FOR EARLY CAREER PROFESSIONALS

The Networking Exchange for Early Career Professionals is an annual networking event for early career professionals and first time conference attendees. This one hour event is intended to provide a relaxed atmosphere where attendees can network with peers, ATS leaders, program directors, associate program directors and division directors, as well as other prominent thought leaders. Cocktails and appetizers will be provided.

The Membership Committee, Training Committee, and the Members in Transition and Training Committee (MITT) jointly host the Networking Exchange for Early Career Professionals.

R Attendance is free, but registration is required to obtain an audience count. Tickets will not be issued; however, Conference badges are required for admission. Space is limited.



CLINICAL

PEDIATRIC CLINICAL CORE CURRICULUM

PCC1 PEDIATRIC CLINICAL CORE CURRICULUM

Pediatric Core Curriculum Working Group

7:00 a.m. - 8:00 a.m.

Target Audience

Pediatric pulmonary and critical care physicians who work in a clinical setting and are currently engaged in maintenance of certification

Objectives

At the conclusion of this session, the participant will be able to:

- remain current with medical knowledge relevant to their practice in pediatric pulmonology;
- evaluate their understanding of key skills and content areas in pediatric pulmonology as well as receive feedback on their comprehension of a result of a pre-test/post-test comparison;
- support clinicians who are engaged in maintenance of certification activities by providing updates on subjects included in recertification requirements.

The Pediatric Core Curriculum symposia promote lifelong learning and the enhancement of the clinical judgment and skills essential for practicing pediatrician. The symposia will address topics that have been

identified by an ATS pediatric working group, which is comprised of members of the ATS Education Committee and the International Conference Committee, who have identified important areas within pediatric medicine (including severe asthma, ILD, BPD, pulmonary hypertension and pulmonary manifestations of pulmonary disease). Attendees will increase their medical knowledge as a result of attending this symposium, and this will be measured by a comparison of pre-test vs. post-test results on the corresponding maintenance of certification module. The ATS Pediatric Core Curriculum will focus on a 3-year content cycle of key medical content in the area of pediatric medicine.

Chairing: J. Rettig, MD, Boston, MA

7:00 Severe Asthma: Outpatient Evaluation
J. Gaffin, MD, Boston, MA

7:30 Severe Asthma: Inpatient Management
K.R. Ross, MD, Cleveland, OH



BASIC • CLINICAL • TRANSLATIONAL

ATS KEYNOTE SERIES

The Keynote Series provides state of the art lectures on selected topics in an unopposed format to showcase major discoveries in pulmonary, critical care and sleep medicine. The speakers have been chosen by input from the members and various ATS committees with consensus built via the ATS executive committee.

Two sessions are presented each morning during the conference.
Below are the topics for the Sunday, May 21st series.

**K1 AIDS TO ZIKA: THE PERPETUAL CHALLENGE OF
EMERGING AND RE-EMERGING INFECTIOUS DISEASES**

8:15 a.m. - 9:00 a.m.

Speaker: A. Fauci, MD, Bethesda, MD

This session will be chaired by J.M. Beck, MD, Denver, CO

**K2 TELOMERES AND TELOMERASE IN PULMONARY
FIBROSIS AND EMPHYSEMA**

8:15 a.m. - 9:00 a.m..

Speaker: M. Armanios, MD, Baltimore, MD

This session will be chaired by Z. Borok, MD, Los Angeles, CA

CLINICAL

YEAR IN REVIEW

A1 CLINICAL YEAR IN REVIEW 1

9:15 a.m. - 11:15 a.m.

Target Audience

Providers including physicians; registered nurses; advanced practice nurses; respiratory therapists; physician assistants; trainees including residents and fellows; clinical researchers

Objectives

At the conclusion of this session, the participant will be able to:

- apply new clinical research knowledge to clinical practice;
- gain new strategies to manage the care of common conditions in pulmonary, critical care, and sleep;
- apply new findings about key conditions in pulmonary, critical care and sleep.

The annual Clinical Year in Review symposia topics are reviews of key clinical research publications over the last year. Each speaker is asked to review the 5-7 most important and influential publications on their topic in the prior year.

Chairing: D.J. Lederer, MD, MS, New York, NY
D.W. Ford, MD, MSCR, Charleston, SC
V.E. Ortega, MD, PhD, Winston-Salem, NC

9:15 New Tools to Support Acute Respiratory Failure

D. Brodie, MD, New York, NY

9:45 General Critical Care

D.W. Ford, MD, MSCR, Charleston, SC

10:15 Neuro-Critical Care

T.P. Bleck, MD, Chicago, IL

10:45 Sleep Disordered Breathing

S.S. Redline, MD, MPH, Boston, MA

BASIC • CLINICAL

CLINICAL TOPICS IN PULMONARY MEDICINE

A2 JAMA AND THE NEW ENGLAND JOURNAL OF MEDICINE. DISCUSSION ON THE EDGE: REPORTS OF RECENTLY PUBLISHED PULMONARY RESEARCH

This session will provide a forum for attendees to interact with the authors and editors about papers published in JAMA and the New England Journal of Medicine. Papers presented will be recent publications, selected by the editors, to be of significant importance to the field of pulmonary medicine. Attendees will have the opportunity to hear presentations directly from the author and address questions to both the authors and editors. The discussion is intended to provide a unique insight into these papers, the selection process, and how the research applies directly to the field of pulmonary medicine.

Speakers And Talks To Be Announced

CLINICAL

CLINICAL TOPICS IN PULMONARY MEDICINE

A3 FELLOWS CASE CONFERENCE

Training Committee; Assemblies on Allergy, Immunology and Inflammation; Behavioral Science and Health Services Research; Clinical Problems

9:15 a.m. - 11:15 a.m.

Target Audience

Clinicians, nurses, fellows, residents, and researchers looking to broaden their clinical acumen to facilitate clinical and translational research.

Objectives

At the conclusion of this session, the participant will be able to:

- recognize clinical, radiographic, and pathologic findings of rare diseases or unusual presentations of common diseases;

- gain insight into clinical decision-making skills which will improve the quality of learners' practice and potentially improve quality of care for the learner's patients;
- develop strategies to evaluate patients with common symptoms that include uncommon/rare diseases in the differential diagnosis when appropriate.

This session will consist of unique cases presented and discussed by fellows with a panel of clinical experts to moderate the discussion and provide commentary. The cases will provide new insights into disease pathogenesis, diagnosis, and/or treatment. Selected cases will include clear clinical teaching points with review of associated pathology and radiology as appropriate. Finally, the discussion will highlight medical decision making important for both physicians-in-training and seasoned clinicians.

Chairing: L.E. Crotty Alexander, MD, San Diego, CA

9:15 Welcome and Introduction

L.E. Crotty Alexander, MD, San Diego, CA

9:20 Expert Clinicians

M.I. Schwarz, MD, Aurora, CO

A.H. Limper, MD, Rochester, MN

9:50 Expert Pathologist

J.L. Myers, MD, Ann Arbor, MI

10:05 Expert Radiologist

C.T. Lin, MD, Baltimore, MD

CLINICAL • TRANSLATIONAL

CRITICAL CARE TRACK

A4 DETERMINANTS OF LONG-TERM OUTCOMES AMONG CRITICALLY ILL OLDER ADULTS: FROM CELL TO POPULATION

Assembly on Critical Care

9:15 a.m. - 11:15 a.m.

Target Audience

Clinical and translational scientists who study the basic and clinical aspects of critical illness; nurses, physicians,

pharmacists, therapists and social workers who provide care in the intensive care unit (ICU), inpatient providers caring for patients transferred from the ICU, and outpatient providers who care for ICU survivors

Objectives

At the conclusion of this session, the participant will be able to:

- identify important risk factors that increase vulnerability in older adults, such as frailty, disability, and aging biology and understand the effects of these risk factors on long-term outcomes for older survivors of critical illness;
- gain an understanding of the role of longitudinal studies of aging in advancing the science of critical care outcomes research and how these studies have improved our understanding of prognosis in a way that can be applied at the bedside, and ways that longitudinal functional information can be added into future studies;
- facilitate the integration of geriatrics and critical care research to improve the care of older adults with critical illness by identifying funding opportunities for aging-related critical care research from the National Institute of Aging;

Older adults comprise the majority of patients admitted to ICUs each year. The aging population and improved survival from critical illness is expected to drive a significant increase in the number of older ICU survivors with life-altering physical and cognitive impairments. This session will explore age-related biological processes and clinical factors that affect long-term outcomes from a clinical and translational science perspective, including ways to enhance care for critically ill older adults. Finally, this session will explore the role of aging-related research in understanding outcomes after critical illness and introduce attendees to research programs from the National Institute on Aging.

Chairing: L. Ferrante, MD, New Haven, CT
N.E. Brummel, MD, Nashville, TN
W.J. Ehlenbach, MD, Madison, WI

9:15 Aging Biology and Critical Illness: Bidirectional Mechanistic Insights
D.C. Files, MD, Winston-Salem, NC

9:35 Phenotypic, Deficit Accumulation, and Social Perspectives of Frailty in Older Adults with Critical Illness

N.E. Brummel, MD, Nashville, TN

9:55 The Importance of Pre-ICU Factors on Long-Term Outcomes Among Critically Ill Older Adults

L. Ferrante, MD, New Haven, CT

10:15 Personalizing ICU Care for Older Adults: Applying Outcomes Research to Older Adults with Critical Illness

W.J. Ehlenbach, MD, Madison, WI

10:35 Finding Hidden Data About Pre-ICU Functioning to Understand the Long Arc of Your Patient's Life

T.J. Iwashyna, MD, PhD, Ann Arbor, MI

10:55 Meet the NIA: Research Opportunities at the Nexus of Aging and Critical Illness

S. Zieman, MD, PhD, Bethesda, MD

- learn new findings about the impact of exposure to environmental toxins and microorganisms, as well as the nature of the lung microbiome, as determinants of developmental programming leading to human lung disease;
- learn new findings about the contribution of paternal epigenetics for disease programming for chronic disease.

The developmental origins of health and disease theory is based on evidence that a suboptimal environment during fetal and neonatal development can impact the evolution of adult-onset disease. A compromised prenatal (and early postnatal) environment leads to increased risk of a number of chronic diseases. DOHaD research is only just emerging as a significant force with respect to lung health and disease. This session will highlight fundamental elements of the DOHaD theory, leveraging examples of significant advances in other disease areas, as well as presenting current significant advances being made with respect to an array of lung disorders.

Chairing: A.J. Halayko, PhD, Winnipeg, Canada
M. Konigshoff, MD, PhD, Munich, Germany

9:15 DOHaD Theory: How In Utero Mechanisms Identify Therapeutic Targets for Hypertension

S.T. Davidge, PhD, Edmonton, Canada

9:41 The Airway Microbiome at Birth: Setting the Stage for Subsequent Lung Disease

C.V. Lal, MD, Birmingham, AL

10:04 Environmental Shaping of the Innate Immune Response: Mechanisms for Asthma Protection in Kids

A.I. Sperling, PhD, Chicago, IL

BASIC • TRANSLATIONAL

BASIC SCIENCE CORE

A5 DOHAD: DEVELOPMENTAL ORIGINS OF HEALTH AND DISEASE AND THE CIRCLE OF LIFE FOR LUNG DISEASE

Assemblies on Allergy, Immunology and Inflammation; Respiratory Cell and Molecular Biology; Respiratory Structure and Function

9:15 a.m. - 11:15 a.m.

Target Audience

Those conducting translational research; those conducting basic or discovery research; those conducting clinical research; research and clinical fellows; graduate students; providers of lung health

Objectives

At the conclusion of this session, the participant will be able to:

- understand the developmental origins of health and disease theory and how it relates to the evolution of adult-onset disease;

10:27 Pulmonary Effects of Maternal Smoking or Vaping During Pregnancy on Lung Development, Epigenetics, and Life Long Lung Health

E.R. Spindel, MD, PhD, Beaverton, OR

10:50 Sex-Specificity in Transgenerational Inheritance: Noncoding RNAs, Environmental Epigenetics and Disease

W. Yan, MD, PhD, Reno, NV

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

A6 BARBARIANS AT THE GATE: VIRUSES AND THE AIRWAY EPITHELIUM IN ASTHMA

Assemblies on Allergy, Immunology and Inflammation; Environmental, Occupational and Population Health; Pediatrics; Respiratory Cell and Molecular Biology

9:15 a.m. - 11:15 a.m.

Target Audience

Lung health providers, trainees, and those involved in research or clinical care related to asthma and lung infections. This topic is expected to appeal to both scientists and clinicians.

Objectives

At the conclusion of this session, the participant will be able to:

- describe the most up-to-date information on the relationship between early life viral infections and risk for development of asthma;
- understand and describe new advances in the molecular understanding of common childhood respiratory viruses;
- describe the role of the airway epithelium in mediating host-environment interactions.

Viral respiratory infections are the most common causes of wheezing in infants and young children and are associated with an increased risk of developing childhood asthma. In addition, viral respiratory infections are common triggers of asthma exacerbations in adult

and pediatric patients with pre-existing asthma. The mechanisms by which viral respiratory infections increase future risk of asthma and cause asthma exacerbations are uncertain. Investigators in the NIAID-funded Asthma and Allergic Disease Cooperative Research Center (AADCRC) shed light on these mechanisms through basic, translational and clinical investigation. These studies have yielded new insights into the central role of viral infection in the pathogenesis of asthma and the role that the airway epithelium plays in mediating host-virus interactions. This symposium will present these new discoveries and place them in the context of human disease.

Chairing: P.G. Woodruff, MD, MPH, San Francisco, CA
D. Byers, MD, PhD, St. Louis, MO
R.S. Peebles, MD, Nashville, TN

9:15 Epithelial Barrier Programs in Asthma and Allergic Disease

M.J. Holtzman, MD, St. Louis, MO

9:35 Host and Viral Determinants of Infant and Childhood Allergy and Asthma

T. Hartert, MD, MPH, Nashville, TN

9:55 Mechanisms and Environmental Determinants of Rhinovirus Illness Severity

J.E. Gern, MD, Madison, WI

10:15 Epithelial Determinants of Childhood Asthma

G.K. Hershey, MD, PhD, Cincinnati, OH

10:35 Epithelial Control of Responses to Allergen Challenge and Viral Exacerbation

S.F. Ziegler, PhD, Seattle, WA

BEHAVIORAL • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

A7 HOT TOPICS IN PULMONARY REHABILITATION: A PRO/CON DEBATE

Assemblies on Pulmonary Rehabilitation; Behavioral Science and Health Services Research; Clinical Problems

9:15 a.m. - 11:15 a.m.

Target Audience

Clinicians of all disciplines with an interest in chronic disease management, registered nurses, advanced practice nurses, respiratory therapists, providers of pulmonary rehabilitation services, clinical researchers, and physicians in training

Objectives

At the conclusion of this session, the participant will be able to:

- identify five areas of controversy in the field of pulmonary rehabilitation medicine;
- describe how the latest advances in pulmonary rehabilitation can modify and optimize existing practices in the care of patients with chronic pulmonary disease;
- apply a balanced and evidence-based view to current controversies in pulmonary rehabilitation medicine.

There are ongoing controversial issues in pulmonary rehabilitation medicine that significantly impact the overall approach to the care of patients with chronic pulmonary disease. This symposium will explore these knowledge gaps through the vehicle of the pro/con debate. The specific topics will be debated by an international faculty of experts who will provide balanced and evidence-based information regarding these controversial areas to guide and improve current clinical practice.

Chairing: M.L. Moy, MD, MSc, Boston, MA
W. Man, MD, PhD, Harefield, United Kingdom

- 9:15 PRO: We Can Increase Access to Pulmonary Rehabilitation**
C.L. Rochester, MD, New Haven, CT
- 9:25 CON: We Cannot Increase Access to Pulmonary Rehabilitation**
C.M. Garvey, FNP, MSN, MPH, San Francisco, CA
- 9:39 PRO: A Mortality Study is Needed to Prove Efficacy of Pulmonary Rehabilitation**
R. Casaburi, MD, PhD, Torrance, CA
- 9:49 CON: A Mortality Study is Not Needed to Prove Efficacy of Pulmonary Rehabilitation**
B.R. Celli, MD, Boston, MA

10:03 PRO: “Add-Ons” Should Be Used in Conventional Pulmonary Rehabilitation
S.P. Bhatt, MD, Birmingham, AL

10:13 CON: “Add-Ons” Should Not Be Used in Conventional Pulmonary Rehabilitation
H. Demeyer, PhD, Leuven, Belgium

10:27 PRO: Pulmonary Rehabilitation Should Be Delivered at Home
A.E. Holland, PhD, Melbourne, Australia

10:37 CON: Pulmonary Rehabilitation Should Not Be Delivered at Home
J. Bourbeau, MD, Montreal, Canada

10:51 PRO: Directly Measured Physical Activity Should Be Routinely Assessed in Clinical Care
T. Troosters, PhD, Leuven, Belgium

11:01 CON: Directly Measured Physical Activity Should Not Be Routinely Assessed in Clinical Care
H.Q. Nguyen, PhD, RN, Pasadena, CA

There will be a 5-minute discussion after each talk.

BASIC • TRANSLATIONAL**SCIENTIFIC SYMPOSIUM**

A8 A PRO/CON DEBATE: CONTROVERSIES IN PAH PATHOGENESIS

Assembly on Pulmonary Circulation

9:15 a.m. - 11:15 a.m.

Target Audience

Basic, translational and clinical researchers and clinicians with an interest in pulmonary arterial hypertension

Objectives

At the conclusion of this session, the participant will be able to:

- summarize the evidence why the immune system plays a role in the etiology of pulmonary arterial hypertension;
- learn about the opposing processes of endothelial cell apoptosis and proliferation that both play a role in the pathogenesis of PAH and probably even at the same time;

- critically weigh the role of shear stress and dysfunctional BMPR2 signaling in the development of PAH.

This session will focus on controversies in the understanding of the pathogenesis of pulmonary arterial hypertension (PAH). By employing a pro/con debate style, this session will critically evaluate opposing views of how pulmonary hypertension develops, identify points of agreement and disagreement with the ultimate goal to reach a consensus to identify novel treatment targets for PAH.

Chairing: E.F. Spiekerkoetter, MD, Palo Alto, CA
W.M. Kuebler, MD, PhD, Toronto, Canada

- 9:15 Pulmonary Arterial Hypertension Is an Autoimmune Disease**
M. Nicolls, MD, Stanford, CA
- 9:25 Pulmonary Arterial Hypertension Is NOT an Autoimmune Disease**
A. Olschewski, MD, Graz, Austria
- 9:35 Rebuttal**
- 9:40 Rebuttal**
- 9:45 Hemodynamic Stress Is the Most Important Driver in the Pathogenesis of Occlusive Neointimal Lesions in PAH**
K. Abe, MD, PhD, Fukuoka, Japan
- 9:55 Hemodynamic Stress Is NOT the Most Important Driver in the Pathogenesis of Occlusive Neointimal Lesions in PAH**
M. Rabinovitch, MD, Stanford, CA
- 10:05 Rebuttal**
- 10:10 Rebuttal**
- 10:15 Pulmonary Hypertension Is a Disease of Endothelial Cell Apoptosis NOT Proliferation**
D. Stewart, MD, Ottawa, Canada
- 10:25 Pulmonary Hypertension Is a Disease of Proliferation and NOT Endothelial Cell Apoptosis**
S.Y. Chan, MD, PhD, Pittsburgh, PA
- 10:35 Rebuttal**
- 10:40 Rebuttal**

10:45 BMPR2 Signaling Is the Central Therapeutic Target in PAH

N. Morrell, MD, Cambridge, United Kingdom

10:55 BMPR2 Signaling Is NOT the Central Therapeutic Target in PAH

S. Archer, MD, Kingston, Canada

11:05 Rebuttal

11:10 Rebuttal

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

**A9 IN MEMORY OF PETER T. MACKLEM:
EMERGENT PHENOMENA AND
HETEROGENEITY IN RESPIRATORY
DISEASE**

Assemblies on Respiratory Structure and Function; Allergy, Immunology and Inflammation; Pulmonary Circulation; Respiratory Cell and Molecular Biology; Sleep and Respiratory Neurobiology

9:15 a.m. - 11:15 a.m.

Target Audience

Those with an interest in complex phenomena in the lung originating from interactions among the elements of a system or organ such as the cells of the epithelial cell layer, airways within the bronchial tree in asthma, and blood vessels in the vascular tree in pulmonary hypertension

Objectives

At the conclusion of this session, the participant will be able to:

- gain knowledge on how emergent behavior can explain phenomena of lung diseases such as ventilation defects during bronchoconstriction, and how it might be indicative of idiopathic pulmonary hypertension;
- identify emergent phenomena in lung physiology and lung disease for further investigation or the development of novel treatment approaches.

Lung environment interactions have the potential to trigger seemingly small changes in the lung, which may have much greater impact on the lung through Emergent Phenomena. Expanding on Peter Macklem's

article “Emergent phenomena and the secrets of life” (J. Appl. Physiol., 104: 1844-1846, 2008), the session will review key concepts of emergent behavior where the spontaneous development of self-organized order among ensembles occurs, resulting in patterns that can be neither predicted nor explained by examining the isolated components. The session will explore the role of emergent phenomena in health and disease processes such as asthma, breathing during sleep, and pulmonary arterial hypertension.

Chairing: G.K. Prisk, DSc, PhD, La Jolla, CA
T. Winkler, PhD, Boston, MA
J.P. Butler, PhD, Boston, MA

9:15 Cell Migration and Long Range Correlations
J.J. Fredberg, PhD, Boston, MA

9:35 Emergent Oscillatory Behavior in Breathing
J.P. Butler, PhD, Boston, MA

9:55 Airway Instability and Runaway Bronchoconstriction
T. Winkler, PhD, Boston, MA

10:15 The Mechanical Consequences of Emergent Behavior in the Lung
J.H.T. Bates, DSc, PhD, Burlington, VT

10:35 Nonlinear Dynamics and Pulmonary Arterial Hypertension
S.R. Hopkins, MD, PhD, La Jolla, CA

10:55 General Discussion
G.K. Prisk, DSc, PhD, La Jolla, CA

There will be a 5-minute discussion after each talk.

CLINICAL

SCIENTIFIC SYMPOSIUM

A10 A PRO/CON DEBATE IN PEDIATRIC ASTHMA

Assemblies on Pediatrics; Allergy, Immunology and Inflammation; Clinical Problems; Environmental, Occupational and Population Health

9:15 a.m. - 11:15 a.m.

Target Audience

Providers of pediatric asthma care, including registered nurses and advanced practice nurses

Objectives

At the conclusion of this session, the participant will be able to:

- review and understand recent data about early allergen exposure and asthma;
- improve understanding of FeNO as a method of monitoring asthma control and vitamin D supplementation in the treatment of asthma;
- gain understanding and apply recent data to the treatment of preschool children with intermittent asthma.

This pro/con session will review the evidence on four current controversies in pediatric asthma: 1) Early environmental allergen exposure prevents asthma; 2) Vitamin D supplementation should be a part of asthma management; 3) FeNO should be a standard part of asthma monitoring; and 4) Intermittent ICS is preferred therapy for preschool children with intermittent asthma. Each speaker will review current literature as they present their argument either for or against the topic statement.

Chairing: T. Simoneau, MD, Hartford, CT
E. Forno, MD, MPH, Pittsburgh, PA
A. Bush, MD, London, United Kingdom

9:15 Early Allergen Exposure Prevents Asthma
W. Phipatanakul, MD, Boston, MA

9:25 Early Allergen Exposure Does Not Prevent Asthma
G.B. Marks, MBBS, PhD, Sydney, Australia

9:35 General Discussion

9:41 Rebuttal
W. Phipatanakul, MD, Boston, MA

9:43 Rebuttal
G.B. Marks, MBBS, PhD, Sydney, Australia

9:45 Vitamin D Supplementation Should Be a Part of Asthma Management
B.L. Chawes, MD, PhD, Copenhagen, Denmark

9:55 Vitamin D Supplementation Should Not Be a Part of Asthma Management
J.C. Celedon, MD, DrPH, Pittsburgh, PA

- 10:05 General Discussion**
- 10:11 Rebuttal**
J.C. Celedon, MD, DrPH, Pittsburgh, PA
- 10:13 Rebuttal**
B.L. Chawes, MD, PhD, Copenhagen, Denmark
- 10:15 FeNO Measurement Should Be a Standard Part of Asthma Monitoring**
A. Bush, MD, London, United Kingdom
- 10:25 FeNO Measurement Should Not be a Standard Part of Asthma Monitoring**
M. Pijnenburg, MD, PhD, Rotterdam, Netherlands
- 10:35 General Discussion**
- 10:41 Rebuttal**
A. Bush, MD, London, United Kingdom
- 10:43 Rebuttal**
M. Pijnenburg, MD, PhD, Rotterdam, Netherlands
- 10:45 Intermittent ICS Is the Preferred Management for Preschool Children with Intermittent Asthma**
L. Bacharier, MD, St. Louis, MO
- 10:55 ICS Is Not the Preferred Management for Preschool Children with Intermittent Asthma**
F. Ducharme, MD, Montreal, Canada
- 11:05 General Discussion**
- 11:11 Rebuttal**
L. Bacharier, MD, St. Louis, MO
- 11:13 Rebuttal**
F. Ducharme, MD, Montreal, Canada

BEHAVIORAL • CLINICAL

SCIENTIFIC SYMPOSIUM

A11 LUNG CANCER SCREENING AND TOBACCO CESSATION: THE TEACHABLE MOMENT?

Assemblies on Thoracic Oncology; Behavioral Science and Health Services Research

9:15 a.m. - 11:15 a.m.

Target Audience

Physicians; nurses; advanced practice practitioners

(APRNs and PAs); and allied health providers (respiratory care) who participate in the care of patients who smoke, have smoked, have had lung cancer, or are perceived to have high lung cancer risk

Objectives

At the conclusion of this session, the participant will be able to:

- discuss the barriers and identify strategies in providing effective tobacco dependence treatment within LDCT screening programs;
- gain an understanding of and recognize research gaps in implementing smoking cessation interventions within LDCT programs;
- improve quit rates for patients who are referred for LDCT screening by optimizing guideline recommended smoking cessation interventions in this setting.

Smoking cessation treatment in conjunction with lung cancer screening offers the opportunity to reduce smoking related mortality. The best approach for delivering interventions in this setting is not known. The session will focus on 5 areas: (1) effect of screening on smoking cessation; (2) minimizing disparities in tobacco treatment within this context; (3) effective smoking cessation interventions specific to screening; (4) message framing to optimize cessation in this setting; (5) applying science to regulatory decision making. We will discuss clinical guidelines, highlight the evidence, address research gaps, and outline stakeholder recommendations for future research.

Chairing: H. Kathuria, MD, Boston, MA
L.T. Tanoue, MD, New Haven, CT
R.S. Wiener, MD, MPH, Boston, MA

- 9:15 A Patient Perspective on Lung Cancer Screening and Tobacco Use Cessation**
Speaker To Be Announced
- 9:20 The Effect of Screening on Smoking Cessation: What Do We Know?**
Speaker To Be Announced
- 9:40 Minimizing Disparities: Tobacco Dependence Treatment and Lung Cancer Screening in Underserved Populations**
M.P. Rivera, MD, Chapel Hill, NC

10:00 Innovative Approaches to Implementing Tobacco Treatment in Lung Cancer Screening
J.T. Fathi, ARNP, DNP, Seattle, WA

10:20 Message Framing for Tobacco Dependence Disorder Within the Lung Cancer Screening Setting
B. Toll, PhD, Charleston, SC

10:40 Applying Science to Regulatory Decision Making: The Role of the FDA
Speaker To Be Announced

11:00 Maximizing the Moment: Future Directions for Integrating Smoking Cessation with Lung Cancer Screening
H. Kathuria, MD, Boston, MA

BEHAVIORAL • CLINICAL

SCIENTIFIC SYMPOSIUM

A12 THE PROMISE AND REALITY OF WEARABLE HEALTH TECHNOLOGY

Drug/Device Discovery and Development Committee;
Assemblies on Behavioral Science and Health Services Research; Clinical Problems

9:15 a.m. - 11:15 a.m.

Target Audience

Health care professionals, patients and patient-support groups; clinicians and clinical investigators involved in translational and clinical research in both academic and industry settings

Objectives

At the conclusion of this session, the participant will be able to:

- learn and describe the current role of wearable devices in the prevention, identification, and management of pulmonary diseases, with special consideration for use of mobile health technology in vulnerable, high risk populations;
- gain understanding and describe the broad framework for conducting clinical studies of pulmonary diseases using wearable technology, including rational approaches,

regulatory challenges and future directions for technology development;

- describe the future prospects for wearable devices in the prevention, identification, and management of pulmonary diseases.

This session will provide a state of the art discussion of the current and future role of wearable technology in the prevention and management of pulmonary diseases, with relevant information for both clinical and translational researchers and practicing clinicians. Topics will provide special emphasis on the role of wearable technology in interventions designed to reach vulnerable populations and to promote pulmonary health equity. The session will also describe considerations when conducting clinical studies dependent on or to further develop wearable technology for the prevention and management of pulmonary diseases.

Chairing: C. Reisner, MD, Morristown, NJ
G.T. Ferguson, MD, Farmington Hills, MI
T.M. Powell-Wiley, MD, MPH, Bethesda, MD
B.J. Make, MD, Denver, CO

9:15 Wearable Devices and Smoking Cessation: What Have We Learned About Using Wearables in Behavior Change?
Speaker To Be Announced

9:39 The Role of Wearable Devices in Sleep Medicine
M. Hirshkowitz, PhD, Houston, TX

10:03 Use of Mobile Health Technology in Vulnerable Populations
T.M. Powell-Wiley, MD, MPH, Bethesda, MD

10:27 Wearable Technology in Assessing the Impact of Pulmonary Rehabilitation
F.C. Sciurba, MD, Pittsburgh, PA

10:51 Activity Monitors for Precision Assessment of Activity in COPD Patients
R. Bowler, MD, PhD, Denver, CO

9:15 a.m. - 11:15 a.m

Oral And Poster Presentations Of Scientific Research And Case Reports. Abstract Sessions Will Be Published In The Final Program.



ATS 2017
*Where today's science
 meets tomorrow's care™*
International Conference
Washington, DC
Sunday Mid-day, May 21

11:45 a.m. - 1:15 p.m.

ATS DIVERSITY FORUM

The annual ATS Diversity Forum focuses on diversity within the fields of pulmonary, critical care, and sleep medicine and research. At the 2017 forum we are pleased to welcome **Eliseo J. Pérez-Stable, MD**, Director, National Institute on Minority Health and Health Disparities at the National Institutes of Health, as our speaker. **Dr. Perez-Stable**, who was named to this position in 2015, has been called "a highly respected leader with rich experience in advancing efforts to eliminate health disparities." His interests have included improving the health of racial and ethnic minorities and underserved populations and improving cross-cultural communication skills among health care professionals. He will address career and diversity issues followed by a question and answer period.

The Minority Trainee Development Scholarships (MTDS), which recognize trainees who are members of underrepresented minority groups, will also be presented at this forum. MTDS recipients are selected for the quality of the science in their submitted abstract, among other criteria. Their abstracts will be presented at this conference.

All conference attendees, including past MTDS recipients, are invited to attend this forum which provides an opportunity for discussion and networking among attendees. Attendees will find inspiration and valuable career insights.

The Diversity Forum is organized and presented by the ATS Membership Committee and will be hosted by its chair **Yolanda Mageto, MD, MPH**. The Minority Trainee Development Scholarships are supported by the American Thoracic Society.

R Registration is required. There is no fee to attend this event and tickets will not be issued; however, conference badges are required for admission. A plated lunch will be served.

BEHAVIORAL • CLINICAL

WORKSHOP

WS1 TURNING DATA INTO WISDOM: DATABASES AND REGISTRIES FOR BETTER LUNG CANCER OUTCOMES

R Registration Fee: \$75 (includes box lunch)
 Attendance is limited. Pre-registration is required.

**Assemblies on Thoracic Oncology; Behavioral Science
 and Health Services Research; Clinical Problems**

11:45 a.m. - 1:15 p.m.

Target Audience

Lung cancer clinicians who wish to learn more about the content and structure of cancer registries, how to use and improve the data to create better clinical outcomes and how to build datasets for lung cancer screening

Objectives

At the conclusion of this session, the participant will be able to:

- recognize the types of data collected by registries, the limitations of that data and how to access that data;
- identify requirements of data collection for quality improvement, research and in particular for lung cancer screening.

Outcomes research and quality improvements in lung cancer use a range of data sources including clinical trials, administrative and insurance-linked registries. The complexities of lung cancer screening call for high quality, accessible and relevant information, requirements that demand much of routinely collected clinical data. Administrative registries have advantages (large numbers, population cohorts) and disadvantages (retrospective, inaccessible). For many practicing lung cancer clinicians, registry data are not clinically relevant, despite the high levels of expenditure and effort required for their collection. This session will explore clinically relevant approaches to registry data that attendees can use to improve lung cancer outcomes.


Chairing: E.C. Stone, MBBS, MMed,
 Darlinghurst, Australia
 M.K. Gould, MD, MS, Pasadena, CA

- 11:45 More than Just Excel: A Brief Introduction to Databases for Clinicians**
E.C. Stone, MBBS, MMed, Darlinghurst, Australia
- 11:50 The Value of a Comprehensive National Lung Cancer Database: The Danish Experience**
E. Jakobsen, MD, MPM, Odense, Denmark
- 12:05 What Do Databases Offer for Clinical Practice? Lessons from U.S. Registry Data (Including SEER and AQuIRE)**
D.E. Ost, MD, MPH, Houston, TX
- 12:20 The Promises and Pitfalls of Data Linkage: Experience from the Victorian Lung Cancer Registry**
R. Stirling, BSc(Hons), MBChB, Melbourne, Australia
- 12:35 Building a Database for Clinicians: The ACR Lung Cancer Screening Registry**
E.A. Kazerooni, MD, Ann Arbor, MI
- 12:50 Interactive Discussions**
E.A. Kazerooni, MD, Ann Arbor, MI
D.E. Ost, MD, MPH, Houston, TX
R. Stirling, BSc(Hons), MBChB, Melbourne, Australia
E. Jakobsen, MD, MPM, Odense, Denmark
- 1:10 Summary of Session and Final Questions to Panel**
M.K. Gould, MD, MS, Pasadena, CA

CLINICAL

CAREER DEVELOPMENT FORUM

WS2 GLOBAL HEALTH CAREERS IN PULMONARY AND CRITICAL CARE MEDICINE

 This Forum is part of the ATS initiative to offer program specifically geared toward the professional development of trainees, fellows and students to aid in the pursuit of successful careers in pulmonary, critical care and sleep medicine.

Pre-registration is required. Attendance is limited. There is no additional fee.

Assembly on Critical Care; Member in Transition and Training and Committee (MITT)

11:45 a.m. - 1:15 p.m.

Target Audience

Early career professionals (junior faculty, fellows, residents, students) interested in careers in global health

Objectives

At the conclusion of this session, the participant will be able to:

- understand different strategies to develop a successful career in global health;
- network with established global health faculty.

This intimate session will provide early career professionals an invaluable opportunity to interface and network with pulmonary and critical care faculty with established global health careers. Panelists will include both junior and senior faculty and will highlight different pathways to achieving success, including academic/research, private practice, non-governmental organization (NGO), faith-based medical education, and hybrid models. The end of the session will provide Q&A time to allow participants to interact directly with faculty.

Chairing: A. Papali, MDCM, Baltimore, MD
N.K. Adhikari, MD, Toronto, Canada

11:45 Pulmonary/Critical Care and Global Health: Yes You Can!

A. Papali, MDCM, Baltimore, MD

11:55 How to Have a Successful Academic Global Health Career

E.D. Riviello, MD, MPH, Boston, MA

12:07 Productive Research in LMICs: The Importance of Partnerships

S. Gordon, MD, Blantyre, Malawi

12:19 Faith-Based Global Health Careers

B.W. Lee, MD, Pittsburgh, PA

12:31 Global Health and Medical Education

E.J. Carter, MD, Providence, RI

12:43 WHO Consulting

R. Fowler, MD, MDCM, MSc, Toronto, Canada

12:55 General Discussion

CLINICAL

ADULT CLINICAL CORE CURRICULUM

CC1 CRITICAL CARE CLINICAL CORE CURRICULUM I

Adult Core Curriculum Working Group

11:45 a.m. - 1:15 p.m.

Target Audience

Practicing internists and subspecialists in Pulmonary, Critical Care, and Sleep medicine who work in a clinical setting and are currently engaged in maintenance of certification

Objectives

At the conclusion of this session, the participant will be able to:

- remain current with medical knowledge relevant to their practice in pulmonary, critical care, and sleep medicine;
- evaluate their understanding of key skills and content areas in pulmonary, critical care and sleep medicine, as well as receive feedback on their comprehension of a result of a pre-test/post-test comparison;
- support clinicians who are engaged in maintenance of certification activities by providing updates on subjects included in recertification requirements.

The ATS Clinical Core Curriculum Symposia focus on a 3-year content cycle of key medical content in the areas of Pulmonary, Critical Care, and Sleep Medicine. The topics are also aligned with corresponding MOC Medical Knowledge modules. This symposium is intended to assist clinicians with staying current with the growth of information relevant to their medical practice, as well as provide an opportunity to evaluate individual knowledge and skills while earning MOC Medical Knowledge points.

Chairing: J.I. McSparron, MD, Boston, MA
A.M. Luks, MD, Seattle, WA

11:45 Acute Liver Failure

A.E. Morris, MD, Seattle, WA

12:15 Acute Pancreatitis

J.D. Farkas, MD, Burlington, VT

12:45 Hematologic and Oncologic Emergencies

R.S. Stephens, MD, Baltimore, MD

AMERICAN LUNG ASSOCIATION AIRWAYS
CLINICAL RESEARCH CENTERS**L1 AMERICAN LUNG ASSOCIATION AIRWAYS CLINICAL RESEARCH CENTERS CLINICAL TRIALS**

12:15 p.m. - 1:15 p.m.

Target Audience

Physicians, clinical scientists, nurses, paraprofessionals, educators, health care providers

Objectives

At the conclusion of this session, the participant will be able to:

- understand predictors of treatment failure and the non-reversible airway obstruction in children;
- learn new methods of evaluating outcomes in asthma;
- understand the validity of the asthma control score in asthmatic smokers.

The purpose of the ALA-ACRC is to conduct clinical trials with practical importance to adults and children with asthma and COPD. ACRC has produced manuscripts from data analyzed from the LASST, MICT, SCS, and REACH trials. For the LASST trial, the primary hypothesis was that stopping LABA would be inferior to reducing ICS dose and continuing LABA; the secondary hypothesis was that reduced ICS/LABA would be non-inferior to stable ICS/LABA. The primary outcome was time to treatment failure. The MICT trial hypothesized that incorporation of mobile devices and the internet into a study design that tests interventions to reduce morbidity in pediatric asthma would result in a lower-cost method for conducting a clinical trial and encourage more families to participate. The SCS trial was designed to evaluate the performance characteristics of study questionnaires (ACT and ASUI) and composite measures of asthma control (EPAC and TRS) for people with asthma who are active smokers. The objective of the REACH trial was to systematically characterize a diverse cohort of children with airflow obstruction resistant to BD.

Chairing: W.C. Bailey, MD, Birmingham, AL
R.A. Wise, MD, Baltimore, MD

12:15 Predictors of Treatment Failure in LASST
E. DiMango, MD, New York, NY

12:30 MICT (Discussing New Methods of Evaluating Outcome in Asthma)
K. Blake, PharmD, Jacksonville, FL

12:45 Validity of Asthma Control Score in Asthmatic Smokers
X. Soler, MD, PhD, San Diego, CA

1:00 Non-Reversible Airway Obstruction in Children
S. Krishnan, MD, Valhalla, NY

ENVIRONMENTAL PROTECTION AGENCY

L2 AIR POLLUTION AND PUBLIC HEALTH

12:15 p.m. - 1:15 p.m.

Target Audience

Health care providers, patients and researchers interested in the respiratory and other health effects of air pollution

Objectives

At the conclusion of this session, the participant will be able to:

- understand recent findings on health effects of air pollution in the context of public health;
- understand EPA activities to communicate public health risks linked to wildland fires;
- promote to the health care community the need to communicate to patients the risks that air pollution may pose to them.

The session will present information on new research endeavors at the EPA regarding the communication of the public health implications of air pollution, with a specific focus on a) wildfires and respiratory health, b) EPA's efforts to communicate with the public on health effects of air pollution and c) integrating air pollution risk communication into health care delivery and practice.

Chairing: D. Costa, ScD, Research Triangle Park, NC

12:15 Introduction
D. Costa, ScD, Research Triangle Park, NC

12:20 AQI and Community Outreach
S. Stone, MS, Research Triangle Park, NC

12:35 Wildland Fire Smoke and Public Health
A. Rappold, PhD, Chapel Hill, NC

12:50 Air Pollution and the Health Care System
W. Cascio, MD, Chapel Hill, NC

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

L3 WORK-RELATED LUNG DISEASE: STILL WITH US

12:15 p.m. - 1:15 p.m.

Target Audience

Providers of lung health; clinicians and other professionals providing preventive, diagnostic, and therapeutic services to employers and to workers at risk for work-related lung disease; and those interested in conducting research in the field.

Objectives

At the conclusion of this session, the participant will be able to:

- learn about new requirements for protecting workers from coal mine dust and silica, and proposed requirements for beryllium;
- gain new findings about respiratory toxicity of diacetyl and related compounds;
- learn about continuing burden of work-related respiratory disease and opportunities to set a national research and service agenda for the nation.

This session will address continuing challenges to the elimination of work-related respiratory disease, highlight several examples of ongoing work in the field, and provide attendees with information about NIOSH efforts to set research priorities for the next decade and how they can become involved.

Chairing: D.N. Weissman, MD, Morgantown, WV

12:15 Work-Related Respiratory Health: 50 Years of Research and Service
D.N. Weissman, MD, Morgantown, WV

12:30 Coal Mine Dust Lung Disease: Where Are We? Where Do We Need to Go?

A.S. Laney, PhD, Morgantown, WV

12:45 Flavorings-Related Lung Disease: From Popcorn to Molecular Mechanisms

A.F. Hubbs, DVM, PhD, Morgantown, WV

1:00 Priorities for Work-Related Respiratory Health in the Next Decade

P.K. Henneberger, MPH, ScD, Morgantown, WV

U.S. FOOD AND DRUG ADMINISTRATION

L4 PULMONARY UPDATE FROM THE U.S. FOOD AND DRUG ADMINISTRATION

12:15 p.m. - 1:15 p.m.

Target Audience

Clinicians in practice, researchers, pharmaceutical industry representatives, international regulators

Objectives

At the conclusion of this session, the participant will be able to:

- discuss the most recent FDA approvals for pulmonary indications. Understand the regulatory framework for these approvals and lessons learned;
- learn about the FDA's new labeling initiatives for opioid medicines for cough indications;
- understand the regulatory challenges in drug development for cystic fibrosis and how these can be overcome.

The most recent regulatory FDA actions including discussion of current safety and efficacy issues of products for pulmonary indications, and clinical trials design issues will be discussed. The recent agency actions regarding opioid medicines for cough indication in children and an update on the long-acting-beta agonist (LABA) safety issues will be presented. The regulatory challenges for drug development in cystic fibrosis (CF) in view of the recent approvals of drugs for specific mutations will be presented.

Chairing: L.I. Gilbert-McClain, MD, Silver Spring, MD

12:15 Update on Current Pulmonary Issues at FDA

L.I. Gilbert-McClain, MD, Silver Spring, MD

M. Paterniti, MD, Silver Spring, MD

12:40 Pulmonary Safety Update from the FDA

S. Seymour, MD, Silver Spring, MD

12:55 Regulatory Considerations for Drug Development in Cystic Fibrosis

R. Lim, MD, Silver Spring, MD

1:10 Questions and Answers

L.I. Gilbert-McClain, MD, Silver Spring, MD

VARIOUS ORGANIZATIONS

L5 RESEARCH FUNDING OPPORTUNITIES

12:15 p.m. - 1:15 p.m.

Target Audience

Any ATS members who are conducting research and seeking for research funding

Objectives

At the conclusion of this session, the participant will be able to:

- describe the research priorities of each funding agency represented on the panel;
- identify a funding agency that is most closely aligned with the attendee's research interest.

This session will introduce programs and research grant opportunities offered from various funding agencies. Speakers will present current research priorities and mechanisms of research funding available from each agency.

Chairing: J. Choi, PhD, RN, Pittsburgh, PA
J.A. Tate, PhD, RN, Columbus, OH

12:15 ATS Foundation

A.M. Tager, MD, Charlestown, MA

12:27 American Lung Association

S. Rappaport, MPH, New York, NY

12:39 National Institute of Nursing Research

K. Huss, PhD, Bethesda, MD

- 12:51 National Center for Complementary Integrative Health**
L.M. Mudd, PhD, Bethesda, MD
- 1:03 National Heart Lung and Blood Institute**
L. Reineck, MD, Bethesda, MD

**NATIONAL HEART, LUNG, AND BLOOD INSTITUTE,
DIVISION OF LUNG DISEASES, NIH**

**L6 PHENOTYPING IN THE
SUBPOPULATIONS AND INTERMEDIATE
OUTCOME MEASURES IN COPD
(SPIROMICS) STUDY**

12:15 p.m. - 1:15 p.m.

Target Audience

Those with clinical or research responsibilities;

Objectives

At the conclusion of this session, the participant will be able to:

- learn about imaging phenotyping of COPD;
- learn about molecular phenotyping of COPD;
- learn about clinical phenotyping of COPD.

SPIROMICS is an NHLBI-sponsored study that supports the prospective collection and analysis of phenotypic, biomarker, genetic, genomic, and clinical data from subjects with COPD for the purpose of identifying subpopulations and intermediate outcome measures. Participants in this session will learn about the progress of the SPIROMICS study, specifically the study design, and progress in general enrollment, genomics, biomarkers, and radiology.

Chairing: L. Postow, PhD, Bethesda, MD
R.G. Barr, MD, DrPH, New York, NY

- 12:15 Overview of SPIROMICS**
R.G. Barr, MD, DrPH, New York, NY
- 12:20 Using Clinical Markers to Identify Subpopulations at Higher Risk for Poor Outcomes**
C. Martinez, MD, MPH, Ann Arbor, MI

- 12:35 Defining COPD Disease Severity and Phenotype Through Sputum Mucin Concentration Analyses**
M. Kesimer, PhD, Chapel Hill, NC
- 12:45 Clinical Implications of Airway Branch Patterns and Other Imaging Findings in SPIROMICS**
B.M. Smith, MD, MS, New York, NY
- 1:00 Lung Microbiota Patterns and Immune Responses in COPD**
Y.J. Huang, MD, Ann Arbor, MI

**NATIONAL HEART, LUNG, AND BLOOD INSTITUTE,
DIVISION OF LUNG DISEASES, NIH**

L7 ASTHMANET CLINICAL TRIAL RESULTS

12:15 p.m. - 1:15 p.m.

Target Audience

Health care providers who manage patients with asthma (children and adults)

Objectives

At the conclusion of this session, the participant will be able to:

- understand the efficacy of high dose inhaled corticosteroids to prevent exacerbations in children who are in the "yellow zone" on their asthma action plan;
- gain understanding of the efficacy of high dose inhaled corticosteroids to reduce symptoms in children who are in the "yellow zone" on their asthma action plan;
- understand mechanisms that may contribute to the reduction in the response to long acting bronchodilators with chronic use in patients with asthma and a possible approach to management.

Results of two clinical trials conducted by the multi-site clinical trial network funded by NHLBI, AsthmaNet, will be presented. One of the studies, "Alendronate for Asthma" trial (ALFA), is a study in adults to assess if alendronate can restore the bronchoprotective effect which may be diminished with chronic use of long acting beta agonists. The other study, Step-Up Yellow Zone Inhaled Corticosteroids To Prevent Exacerbations (STICS), is a

study of how to manage children with asthma when they get into the “yellow zone” on their asthma action plan in order to prevent severe exacerbations.

Chairing: W.W. Busse, MD, Madison, WI
M.M. Freemer, MD, MPH, Bethesda, MD

12:15 Does Alendronate Preserve LABA-Induced Bronchoprotection in Adults with Asthma?
J. Cardet, MD, Boston, MD

12:30 Does Yellow Zone Inhaled Corticosteroid Reduce Severe Asthma Exacerbations in Children?
D.J. Jackson, MD, Madison, WI

1:00 Panel Discussion

**NATIONAL HEART, LUNG, AND BLOOD INSTITUTE,
DIVISION OF LUNG DISEASES, NIH**

**L8 LUNG DISEASE PROJECTS IN
TRANS-OMICS FOR PRECISION
MEDICINE (TOPMED) PROGRAM**

12:15 p.m. - 1:15 p.m.

Target Audience

Providers of lung health; those with clinical or research responsibilities; those needing instruction in areas of medicine outside of their specialty

Objectives

At the conclusion of this session, the participant will be able to:

- demonstrate the WGS efforts in precision medicine initiative and its potential as diagnostic tool and in discovery of therapeutic targets;
- discuss the impact of rare genetic variants in disease development;
- display the ways to perform big data analysis and relevant resources that will be available for the research community.

NHLBI's Trans-Omics for Precision Medicine (TOPMed) is part of the NIH's Precision Medicine Initiative and designed to generate scientific resources that will enhance our understanding of the fundamental biological processes

underlying HLBS disorders. The TOPMed program will integrate -omics (e.g., genomic, proteomic, metabolomic) and phenotypic data in an effort to improve the prediction, prevention, diagnosis, and treatment of these disorders. In its first two years, TOPMed has done whole genome sequencing (WGS) for more than 70,000 DNA samples of many common diseases, including COPD, asthma, and sleep apnea. This session will present the initial results of these disease studies.

Chairing: S.S. Redline, MD, MPH, Boston, MA
W. Gan, PhD, Bethesda, MD

12:15 Initial Results from Whole Genome Sequence of Cleveland Family Study on CFS Sleep Apnea
S.S. Redline, MD, MPH, Boston, MA

12:30 Whole Genome Sequencing Analysis of Asthma Drug Response in Minority Children
E.G. Burchard, MD, MPH, San Francisco, CA

12:45 Initial Whole Genome Sequence Results for Asthma in a Costa Rican Population Isolate
S. Weiss, MD, Boston, MA

1:00 Whole Genome Sequencing of Severe Chronic Obstructive Pulmonary Disease
E.K. Silverman, MD, PhD, Boston, MA

**NATIONAL HEART, LUNG, AND BLOOD INSTITUTE,
DIVISION OF LUNG DISEASES, NIH**

**L9 MAPPING LUNG HEALTH AND DISEASE
WITH THE MOLECULAR ATLAS OF
LUNG DEVELOPMENT**

12:15 p.m. - 1:15 p.m.

Target Audience

Providers of lung health, medical fellows in training, and basic and clinical researchers interested in lung biology, developmental biology, chronic lung disease pathogenesis, pediatrics, bioinformatics, and systems biology

Objectives

At the conclusion of this session, the participant will be able to:

- learn the newest datasets of LungMAP that could inform lung research;
- learn the innovative technologies for molecular profiling, imaging, and data analysis of the developing lung;
- learn how to access and use the LungMAP resources.

Molecular Atlas of Lung Development (LungMAP) is an NHLBI-sponsored program. The overall goal of this program is to build an open-access reference resource by creating a comprehensive molecular atlas of the late-stage developing lung with data and reagents available to the research community. Speakers will show how the approach/systems biology/bioinformatics can be used to inform clinical medicine-discovery of biomarkers and processes in development that are recapitulated in disease/repair. The session will also elucidate how understanding alveolar cells and intracellular communication forms the lung and informs the processes altered in disease.

Chairing: S.M. Palmer, MD, MHS, Durham, NC
S. Lin, PhD, Bethesda, MD

- 12:15 Transcriptomic Analysis of Pulmonary Cell Lineages Using Single Cell RNAseq in Health and Disease**
J.A. Whitsett, MD, Cincinnati, OH
- 12:30 Application of Advanced Proteomic, Lipidomic, and Metabolomics Technologies to Challenges in Lung Biology and Medicine**
R. Corley, PhD, Richland, WA
- 12:45 Systems Biology to Integrate Non-Coding RNAs, DNA Methylation, and Epigenetics During Alveologenesis**
N. Ambalavanan, MD, Birmingham, AL
- 1:00 Presenting, Visualizing, and Integrating LungMAP Omics Data**
R.F. Clark, PhD, Research Triangle Park, NC

MEET THE PROFESSOR SEMINARS

Registration Fee: \$70.00 (includes box lunch.)
Attendance is limited. Pre-registration is required.

12:15 p.m. - 1:15 p.m.

MP401 BIOMARKERS IN SEVERE ASTHMA

N. Hanania, MD, MS, Houston, TX

MP402 NEW FLEISCHNER SOCIETY GUIDELINES FOR PULMONARY NODULES

A.C. Mehta, MBBS, Cleveland, OH

MP403 NEW INSIGHTS INTO CHRONIC ALLOGRAFT DYSFUNCTION AFTER LUNG TRANSPLANTATION: EMERGING PHENOTYPES AND TREATMENT PARADIGMS

J.L. Todd, MD, Durham, NC

A.R. Glanville, MBBS, MD, Sydney, Australia

MP404 SCLERODERMA ASSOCIATED INTERSTITIAL LUNG DISEASE: ADVANCES IN MANAGEMENT

K.B. Highland, MD, Cleveland, OH

MP405 APPROACH TO THE TREATMENT OF BRONCHIECTASIS

G. Tino, MD, Philadelphia, PA

MP406 IMMUNOSUPPRESSION AND BEYOND: PRACTICAL STRATEGIES IN CONNECTIVE TISSUE DISEASE-ASSOCIATED INTERSTITIAL LUNG DISEASE

L.D. Morrison, MD, Durham, NC

MP407 REAL-WORLD CHALLENGES IN THE DIAGNOSIS OF IPF

A.M. Nambiar, MD, San Antonio, TX

MP408 CRITICAL CARE MANAGEMENT OF ACUTE ON CHRONIC LIVER FAILURE

R. Subramanian, MD, Atlanta, GA

MP409 SARCOIDOSIS PRIMARY CARE

A. Berman, MD, Newark, NJ

MP410 NEUROLOGICAL DISASTERS IN THE ICU

T.P. Bleck, MD, Chicago, IL

MP411 HOW TO MANAGE PATIENTS WITH SEVERE COMMUNITY-ACQUIRED PNEUMONIA

C. Feldman, MD, PhD, Johannesburg, South Africa

MP412 PRACTICAL CONSIDERATIONS FOR PRAGMATIC TRIALS OF BEHAVIORAL INTERVENTIONS

H.Q. Nguyen, PhD, RN, Pasadena, CA

MP413 INTERPRETATION AND APPLICATION OF THE PEDIATRIC POLYSOMNOGRAM REPORT

S. Bhargava, MD, Palo Alto, CA

MP414 ROLE OF E-TECHNOLOGY, INCLUDING TELEREHABILITATION, IN THE MANAGEMENT OF CHRONIC LUNG DISEASE

M. Stickland, PhD, Edmonton, Canada

A.E. Holland, PhD, Melbourne, Australia

MP415 OBESE ASTHMA: UNDERSTANDING AND MANAGING A COMPLEX PROBLEM

G.S. Skloot, MD, New York, NY

MP416 MULTIPLE BED PARTNERS AND OTHER SUCCESSFUL COLLABORATIONS

R.R. Grunstein, MBBS, MD, PhD, Glebe, Australia

MEDICAL EDUCATION SEMINAR**ME1 TEACHING WITH SIMULATION: PRACTICAL SOLUTIONS TO COMMON PROBLEMS****R Registration Fee: \$70 (includes box lunch)**
Attendance is limited. Pre-registration is required.**12:15 p.m. - 1:15 p.m.****Target Audience**

Members of the multi-disciplinary health care team, including physicians, nurses, pharmacists, respiratory therapists and other medical educators who use simulation-based medical education (SBME) to teach important concepts, including interprofessional education (IPE) to train teams, procedural training and communication skills that are best taught by simulation modalities

Objectives

At the conclusion of this session, the participant will be able to:

- overcome barriers for implementing simulation at home institution;
- learn new methods of training through simulation.

Through case study examples, this session will provide practical guidance on specific ways the participant can best use simulation-based medical education (SBME) to address educational needs at their home institution. Participants will learn how each of the speakers use SBME to address specific common educational questions, such as strategies for debriefing interprofessional teams and delivering bad news to patients and families.

Speakers: N. Seam, MD, Bethesda, MD
J.C. Palaganas, PhD, RN, MSN, CRNP, CEN, Charlestown, MA
A.S. Clay, MD, Durham, NC
J. Chiarchiaro, MD, MS, Pittsburgh, PA

THEMATIC SEMINAR SERIES**TSS1 EVOLVING CONCEPTS IN EARLY COPD****R Registration Fee: \$170 for full series (includes continental breakfast or box lunch)**

Attendance is limited. Pre-registration is required.

This is a 4-part series. Those registering for this seminar series will be registered for all 4 parts. The topics and schedule for each part are listed below.

Sunday 12:15 p.m. - 1:15 p.m.**Preventing Lung Function Decline in Early COPD**

P. Calverly, MBChB, Liverpool, United Kingdom

Monday 12:15 p.m. - 1:15 p.m.**The Symptomatic Smoker: The Need to Bring Back Gold 0**

P.G. Woodruff, MD, MPH, San Francisco, CA

Tuesday 12:15 p.m. - 1:15 p.m.

Screening for COPD: Beyond the Current Guidelines

R.A. Wise, MD, Baltimore, MD

Wednesday 7:00 a.m. - 8:00 a.m.

**Chronic Bronchitis Without Airflow Obstruction:
Epidemiology, Phenotype, and Clinical
Consequences**

C. Martinez, MD, MPH, Ann Arbor, MI



ATS 2017
*Where today's science
meets tomorrow's care™*
International Conference
Washington, DC
Sunday Afternoon, May 21

1:15 p.m. - 2:15 p.m

VISIT THE EXHIBIT HALL

Take this opportunity between sessions to visit the Exhibit Hall to gain practical knowledge to advance care and research. Exhibitors will be on hand to provide information on pharmaceutical products, medical equipment, publications and research services.

BEHAVIORAL • CLINICAL • TRANSLATIONAL

YEAR IN REVIEW

A81 NURSING YEAR IN REVIEW

**Assemblies on Nursing; Behavioral Science and Health
Services Research; Clinical Problems; Critical Care**

2:15 p.m. - 4:15 p.m.

Target Audience

Clinicians, researchers, registered nurses, advanced practice nurses and nurse practitioners who care for individuals who experience critical illness and their families across the stages of critical illness and long-term recovery

Objectives

At the conclusion of this session, the participant will be able to:

- describe current knowledge in symptom science, communication and decision making, ICU survivorship, oncology-critical care, implementation science and telehealth in critical care;

- identify current gaps in knowledge in the topic areas;
- identify future research directions and clinical practice initiatives targeted to advance symptom science, communication and decision making, ICU survivorship, oncology-critical care, implementation science and telehealth in critical care.

This session will review the current state of knowledge in critical care. Topic areas will include: (1) symptom science; (2) implementation science in critical care; (3) communication and decision making; (4) critical care in persons with cancer; (5) intensive care unit survivorship; and (6) telehealth in critical care. Each speaker will review recent studies, discuss current gaps and highlight implications to clinical practice and future research.

Chairing: J. Choi, PhD, RN, Pittsburgh, PA
J.A. Tate, PhD, RN, Columbus, OH

- 2:15 Symptom Science**
L. Chlan, PhD, RN, Rochester, MN
- 2:35 Implementation Science in Critical Care**
D.K. Costa, PhD, RN, Ann Arbor, MI
- 2:55 Communication and Decision Making**
J.B. Seaman, PhD, RN, Pittsburgh, PA
- 3:15 Topics in Onco-Critical Care**
J.A. Tate, PhD, RN, Columbus, OH
- 3:35 ICU Survivorship**
J. Choi, PhD, RN, Pittsburgh, PA
- 3:55 Telehealth in Critical Care**
R.M. Kleinpell, PhD, RN, Chicago, IL

CLINICAL

CLINICAL TOPICS IN PULMONARY MEDICINE

A82 IDIOPATHIC PULMONARY FIBROSIS: CONTROVERSIES IN MANAGEMENT - PRO/CON DEBATE

Assemblies on Clinical Problems; Allergy, Immunology and Inflammation; Behavioral Science and Health Services Research; Environmental, Occupational and Population Health; Nursing

2:15 p.m. - 4:15 p.m.

Target Audience

Clinicians, registered nurses, advanced practice nurses, other allied health staff, researchers, investigators in basic and clinic science pertinent to interstitial lung disease, and sponsors for research

Objectives

At the conclusion of this session, the participant will be able to:

- gain understanding and feel more confident discussing controversial topics in IPF diagnosis and management with patients when engaging in shared decision making about diagnosis and treatment;
- apply and understand knowledge gained to diagnosis and management of patients with IPF.

Significant progress has been made in the management of idiopathic pulmonary fibrosis (IPF). While the 2011 and 2015 evidence based guidelines have empowered clinicians and patients to make informed decisions regarding diagnosis and treatment, significant controversies exists. The goal of this session is to surface controversies frequently encountered in routine clinical practice. The session will be in the format of four Pro/Con provocative debates between experts that will give attendees increased insight into the management of IPF.

Chairing: G. Raghu, MD, Seattle, WA

- 2:15 Introduction**
G. Raghu, MD, Seattle, WA
- 2:20 PRO: Patients with IPF Should Be Treated for Gastroesophageal Reflux**
Y. Ghebre, PhD, Houston, TX
- 2:34 CON: Patients with IPF Should Be Treated for Gastroesophageal Reflux**
M. Kreuter, MD, Heidelberg, Germany
- 2:48 PRO: Surgical Lung Biopsy Is Required to Eliminate Other Diagnoses Before Making a Diagnosis of IPF**
G. Raghu, MD, Seattle, WA
- 3:02 CON: Surgical Lung Biopsy Is Required to Eliminate Other Diagnoses Before Making a Diagnosis of IPF**
Y. Inoue, MD, PhD, Osaka, Japan

3:16 PRO: Multidisciplinary Discussion Is Necessary in Ascertaining a Diagnosis of IPF
S.K. Danoff, MD, PhD, Baltimore, MD

3:30 CON: Multidisciplinary Discussion Is Necessary in Ascertaining a Diagnosis of IPF
CON
A.U. Wells, MD, London, United Kingdom

3:44 PRO: N-Acetylcysteine Is Useful for Some Patients with IPF
F.J. Martinez, MD, New York, NY

3:58 CON: N-Acetylcysteine Is Useful for Some Patients with IPF
J. Behr, MD, Munich, Germany

CLINICAL

CLINICAL TOPICS IN PULMONARY MEDICINE

A83 GREAT CASES: CLINICAL, RADIOLOGIC, AND PATHOLOGIC CORRELATIONS BY MASTER PHYSICIANS

Council of Chapter Representatives

2:15 p.m. - 4:15 p.m.

Target Audience

Clinicians in the fields of pulmonary and critical care medicine, pediatric pulmonology, sleep medicine, thoracic surgery, and infectious disease

Objectives

At the conclusion of this session, the participant will be able to:

- integrate the clinical presentation, radiologic and pathologic findings for seven challenging cases;
- understand the clinical reasoning used to determine differential diagnosis by Master clinicians using a multidisciplinary approach;
- describe the associated pathology and radiology of the cases.

Learners will have the opportunity to observe master clinicians approach challenging clinical problems by working through 7 unknown cases selected from the

abstract pool. Collaboration with a master radiologist reviewing the films and a master pathologist reviewing pathology slides will demonstrate the multidisciplinary approach to difficult cases. The audience will participate through interactive questions that are tallied electronically. Additional discussion by presenters and master panelists will enhance the educational experience.

Chairing: S.P. Kantrow, MD, New Orleans, LA
S. Kirtland, MD, Seattle, WA

2:15 Master Clinicians
S.I.S. Rounds, MD, Providence, RI
M.I. Schwarz, MD, Aurora, CO
P.C. Stillwell, MD, Aurora, CO

3:15 Master Pathologist
J.L. Myers, MD, Ann Arbor, MI

3:30 Master Radiologist
A.G. Wilcox, MD, Los Angeles, CA

BASIC • CLINICAL

CRITICAL CARE TRACK

A84 THE NEW ENGLAND JOURNAL OF MEDICINE AND JAMA. DISCUSSION ON THE EDGE: REPORTS OF RECENTLY PUBLISHED CRITICAL CARE RESEARCH

This session will provide a forum for attendees to interact with the authors and editors about papers published in the New England Journal of Medicine and JAMA. Papers presented will be recent publications, selected by the editors, to be of significant importance to the field of critical care medicine. Attendees will have the opportunity to hear presentations directly from the author and address questions to both the authors and editors. The discussion is intended to provide a unique insight into these papers, the selection process, and how the research applies directly to the field of critical care medicine.

Speakers And Talks To Be Announced

BASIC • CLINICAL • TRANSLATIONAL**BASIC SCIENCE CORE****A85 THE EXPOSOME CONCEPT:
UNDERSTANDING IMPACT ON
LUNG HEALTH AND DISEASE**

Assemblies on Allergy, Immunology and Inflammation;
Respiratory Cell and Molecular Biology; Respiratory
Structure and Function

2:15 p.m. - 4:15 p.m.

Target Audience

Those conducting translational research; those conducting basic or discovery research; those conducting clinical research; research and clinical fellows; graduate students; providers of lung health

Objectives

At the conclusion of this session, the participant will be able to:

- describe the exposome concept as it relates to the risk and pathogenesis of chronic disease;
- learn new findings about the potential to apply 'omics technologies to monitor exposures and associated biological responses related to a spectrum of adult and childhood lung diseases;
- consider the potential of developing biomarkers for lung disease prevention and treatment based on monitoring the exposome.

The term “exposome” refers to the totality of exposures individuals experience from conception until death and its impact on risk of chronic diseases. Exposures can include toxicants in the environment, diet, lifestyle choices and socioeconomic status. People have unique genetic, epigenetic, health status, and physiological characteristics that can change in response to prior exposures, and make them more or less susceptible to stressors in their environment. This session will outline the exposome concept and highlight current research that is examining a breadth of biological, chemical and environmental influences that contribute to development, susceptibility and presentation of lung disease.

Chairing: C. Carlsten, MD, MPH, Vancouver, Canada
J.E. Bourke, PhD, Clayton, Australia

- 2:15 The Exposome Concept: Discovering Causes of Chronic Disease**
S.M. Rappaport, PhD, Berkeley, CA
- 2:42 Multiomics Analysis of Diesel Exhaust and Allergen Exposure in Asthma: Understanding Molecular Circuits in Adaptation and Disease**
N. Mookherjee, PhD, Winnipeg, Canada
- 3:05 Lipid Mediator Metabolic Profiling Discriminates Heterogeneous Responses to Environment in Chronic Lung Disease**
C.E. Wheelock, PhD, Stockholm, Sweden
- 3:28 Outdoor Air Pollution and Environmental Mitochondriomics Program Respiratory Health in Childhood**
R. Wright, MD, MPH, New York, NY
- 3:52 The Inhaled Environmental Toxin Transcriptome: Early Detection and Prevention Tools for Lung Cancer**
A. Spira, MD, Boston, MA

CLINICAL**SCIENTIFIC SYMPOSIUM****A86 THE SLEEP STATE OF THE UNION:
TAKING OSA MANAGEMENT TO
WASHINGTON**

Assemblies on Sleep and Respiratory Neurobiology;
Environmental, Occupational and Population Health;
Pediatrics

2:15 p.m. - 4:15 p.m.

Target Audience

Pulmonologists, pediatricians, respiratory therapists, nurse practitioners, sleep medicine research scientists, epidemiologists, public health providers and health services researchers.

Objectives

At the conclusion of this session, the participant will be able to:

- identify current policies in place that pertain to decisions regarding diagnosis and treatment of OSA and discuss their effectiveness in clinical practice;
- discover areas in which an absence of policy amounts to significant heterogeneity in clinical practice but also inconsistencies in physician/hospital billing practices of OSA;
- engage and possibly participate in a call for action in which organizations such as the ATS will need to lobby government to enhance the diagnosis and management of OSA and deal with the burden of untreated OSA.

Obstructive Sleep Apnea (OSA) is highly prevalent with many recent advances evolving the practice of Sleep Medicine. This symposium will critically examine the current approved and unapproved methods for OSA diagnosis and current criteria used to define treatment efficacy. In addition, the societal repercussions of undiagnosed or untreated OSA will also be discussed with attention placed to the hazard of OSA on driving and work safety and a call for policy change. In all proposed presentations, speakers will emphasize current existing policies or lack thereof, discussing how these play as obstacles to meaningful clinical practice in the care of patients with OSA.

Chairing: R. Bhattacharjee, MD, San Diego, CA
J.L. Pepin, MD, PhD, Grenoble, France

- 2:15 General Discussion: Current State of OSA, Implications of OSA on Individuals, on Society, on Government**
R.J. Kimoff, MD, Montreal, Canada
- 2:30 What's in a Number? How Diagnosis of OSA Is Determined by a 4 or a 3**
N.M. Punjabi, MD, PhD, Baltimore, MD
- 2:50 Diagnosing Pediatric OSA: Is Home Testing Plausible?**
C. Marcus, MBChB, Philadelphia, PA
- 3:10 Inpatients with Possible OSA: Should, Can, and How Do We Study Them in Hospital?**
B. Prasad, MD, Chicago, IL

3:25 OSA Is a Work and Driving Hazard: Should Untreated OSA Lead to License or Work Suspensions?

A. Pack, MBChB, PhD, Philadelphia, PA

3:50 Treating OSA With Positive Airway Pressure. Is 4 Hours, 70%, 30 Days Realistic?

Speaker To Be Announced

BASIC • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

A87 ATS MYTHBUSTERS: ONE OME TO RULE THEM ALL: WE WILL FIND A COMMON PRIME MOVER FOR PULMONARY FIBROSIS

Assemblies on Respiratory Cell and Molecular Biology; Allergy, Immunology and Inflammation; Respiratory Structure and Function

2:15 p.m. - 4:15 p.m.

Target Audience

Clinicians with interest in mechanism of disease, basic scientists, postdocs, fellows and PhD/ MSc students

Objectives

At the conclusion of this session, the participant will be able to:

- understand the complexity of pathogenesis of lung injury and repair;
- learn about “omics” and how they are relevant to chronic fibrotic lung diseases.

This is a new session in the very successful series of ATS Mythbusters, in which leading researchers give talks relevant to a controversial hypothesis, after which expert “mythbusters” discuss its validity, and audience members ultimately vote on whether the myth has been accepted or busted. In this provocative session, the hypothesis to be examined is that as we learn more about fibrogenesis, a common prime mover will emerge as the driving force in most cases of pulmonary fibrosis. Speakers will present evidence supporting the proposition that abnormalities in the “OMICS” or “OMES” that they discuss are driving the abnormal tissue injury and repair seen in fibrotic lung disease, especially IPF. The candidate OMEs proposed to

be the main culprit in fibrosis will be the transcriptome, the genome, the proteome, the microbiome or the metabolome. The session will debate whether abnormalities in one of these OMEs “rules them all” in pulmonary fibrosis.

Chairing: M.R.J. Kolb, MD, PhD, Hamilton, Canada
A.M. Tager, MD, Charlestown, MA
R.G. Jenkins, MD, PhD, Nottingham, United Kingdom

- 2:15 Introduction**
M.R.J. Kolb, MD, PhD, Hamilton, Canada
- 2:21 The Genome Drives Injury and Fibrosis in the Lung**
T.E. Fingerlin, PhD, Denver, CO
- 2:35 The Transcriptome Drives Injury and Fibrosis in the Lung**
D. Kass, MD, Pittsburgh, PA
- 2:49 The Proteome Drives Injury and Fibrosis in the Lung**
O. Eickelberg, MD, Munich, Germany
- 3:03 The Metabolome Drives Injury and Fibrosis in the Lung**
P.J. Sime, MD, Rochester, NY
- 3:17 The Microbiome Drives Injury and Fibrosis in the Lung**
T.M. Maher, MD, MSc, PhD, London, United Kingdom
- 3:31 The Mechanome Drives Injury and Fibrosis in the Lung**
D.J. Tschumperlin, PhD, Rochester, MN
- 3:45 Mythbuster 1**
I. Petrache, MD, Denver, CO
- 3:51 Mythbuster 2**
N. Kaminski, MD, New Haven, CT
- 3:57 Mythbuster 3**
E. White, MD, MS, Ann Arbor, MI

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

A88 SEX, SUGAR, SALT AND STRESS: NEUROHORMONAL SIGNALING AS A NOVEL THERAPEUTIC TARGET IN RIGHT VENTRICULAR FAILURE

Assemblies on Pulmonary Circulation; Critical Care; Respiratory Cell and Molecular Biology

2:15 p.m. - 4:15 p.m.

Target Audience

Basic, translational and clinical researchers interested in right ventricular function in health and disease. Clinicians (especially internists, pulmonologists/intensivists, and cardiologists) interested in RV and LV function as well as in RV-directed therapies in pulmonary vascular diseases. Nurses and respiratory therapists interested in pulmonary vascular disease and RV function

Objectives

At the conclusion of this session, the participant will be able to:

- learn new findings about common modifiers of hormonal signaling in cardiovascular diseases;
- understand how sex steroids, glucose and fatty acid metabolism, the renin-angiotensin-aldosterone system and the catecholaminergic system regulate RV function in health and disease;
- identify novel strategies to target hormone signaling in clinical trials.

This session will focus on the role of neurohormonal signaling in modifying right ventricular (RV) function in pulmonary hypertension (PH). While it has long been known that hormones affect left ventricular function, recent data identified neurohormonal signaling as a major modifier of RV function. However, the exact mechanisms of how sex steroids, insulin, the renin-angiotensin-aldosterone system and the catecholaminergic system affect RV function are only incompletely understood. In addition, optimal strategies for harnessing these pathways therapeutically are still unknown. This multidisciplinary session will address these knowledge gaps by providing novel evidence indicating

how hormones affect cardiomyocyte function and by discussing novel results from phase I and II clinical trials.

Chairing: T. Lahm, MD, Indianapolis, IN
C.E. Ventetulo, MD, MS, Providence, RI
F. De Man, PhD, Amsterdam, Netherlands

2:15 Hormones 101: What Do Physicians Need to Know When Studying Hormones and Hormonal Signaling?

H. Nakshatri, PhD, Indianapolis, IN

2:35 Sex in the Heart: Sex Hormones as Modifiers of RV Function

T. Lahm, MD, Indianapolis, IN

2:55 Hungry Heart: How Do Insulin Resistance and Altered Fatty Acid Oxidation Affect RV Function?

A.R. Hemnes, MD, Nashville, TN

3:15 Salt Water in My Veins Part 1: The Role of the Renin-Angiotensin System in RV Failure

F. De Man, PhD, Amsterdam, Netherlands

3:35 Salt Water in My Veins Part 2: The Role of Aldosterone in Mediating RV Stress

J. Leopold, MD, Boston, MA

3:55 Pure Adrenaline: Is There a Role for Targeting the Sympathetic Nervous System in RV Failure?

H.J. Bogaard, MD, PhD, Amsterdam, Netherlands

BASIC • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

A89 SMOLDERING TB: EXPLORING THE FULL SPECTRUM OF INFECTION WITH MTB

Assemblies on Microbiology, Tuberculosis and Pulmonary Infections; Clinical Problems; Pediatrics

2:15 p.m. - 4:15 p.m.

Target Audience

All audiences ranging from those who provide clinical care to those with infection with Mtb (both LTBI and TB disease), to those with an interest in the host/pathogen interaction, to those with a broader interest in other disease that are often termed latent

Objectives

At the conclusion of this session, the participant will be able to:

- learn about new findings in the underlying pathophysiology and immunology of “smoldering” TB;
- develop an improved understanding of those factors associated with a high risk of developing TB once infected.

Infection with *Mycobacterium tuberculosis* (Mtb) is often categorized as either “active” or “latent”. However, it is increasingly clear that infection with Mtb results in a much broader range of clinically relevant outcomes. Understanding the molecular and immunologic basis of this spectrum of infection is clinically relevant, as identifying those at risk for progression to disease following infection has the potential to facilitate the eradication of TB worldwide.

Chairing: P. LoBue, MD, Atlanta, GA
D.M. Lewinsohn, MD, PhD, Portland, OR

2:15 The Epidemiology of Subclinical TB

C.R. Horsburgh, MD, Boston, MA

2:35 PET/CT: A Window Into Incipient TB

R. Wilkinson, PhD, Cape Town, South Africa

2:55 Predicting TB Progression

D. Zak, PhD, Seattle, WA

3:15 Clearance of Mtb Following Infection

E. Nardell, MD, Boston, MA

3:35 Animal Modeling

P. Lin, MD, Pittsburgh, PA

3:55 Can Infection with Mtb Be Prevented?

D.M. Lewinsohn, MD, PhD, Portland, OR

There will be a 5-minute discussion after each talk.

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

A90 MAKING NEW LINKS: MECHANISMS OF ORGAN FAILURE IN SEPSIS AND ARDS

Assemblies on Critical Care; Allergy, Immunology and Inflammation; Respiratory Cell and Molecular Biology; Respiratory Structure and Function

2:15 p.m. - 4:15 p.m.

Target Audience

Pulmonary and critical care researchers, clinicians, and trainees interested in advances in understanding the pathophysiology and pathogenesis of organ failure in sepsis

Objectives

At the conclusion of this session, the participant will be able to:

- solve the problem of gap of knowledge;
- contextualize new knowledge;
- interpret and evaluate quality of new knowledge.

This session will review seminal concepts in sepsis-induced organ failure as well as present novel and cutting edge research in the field. The aim is to translate cutting-edge advancements in epigenetics, molecular physiology and functional genomics of organ failure in the septic patient to a broad clinical and translational audience. In addition the session will engage/stimulate enhanced understanding of the leading concepts regarding the relative contributions of epigenetics, over-inflammation, immunosuppression/immunoexhaustion, the microcirculation, the microbiome, epithelium and endothelium as critical target(s) of organ failure that ultimately determine (lung, kidney, liver, heart, muscle, gut and brain) dysfunction and clinical outcomes in the critically ill.

Chairing: C.C. Dos Santos, MD, Toronto, Canada
I.S. Douglas, MD, Denver, CO
J. Marshall, MD, Toronto, Canada

2:15 Same Old Platelet ... New Tricks: Genome Wars in Sepsis

T. van der Poll, PhD, Amsterdam, Netherlands

2:35 Metabolic Adaptation Establishes Disease Tolerance to Sepsis

M. Soares, PhD, Oeiras, Portugal

2:55 Potato or Potahto: Immune Exhaustion Vs. Innate Immune Suppression

D. Remick, MD, Boston, MA

3:15 Poking the Cyclops in the Eye! Disruption in Immune Surveillance and Outcomes from Sepsis

P. Kubes, PhD, Calgary, Canada

3:35 Microbial Surveillance and Pulmonary Microbiome

I.S. Douglas, MD, Denver, CO

3:55 Contextualizing Sepsis Research: Where Are the Translational Signals Pointing To?

J. Marshall, MD, Toronto, Canada

There will be a 5-minute discussion after each talk.

BASIC • CLINICAL

SCIENTIFIC SYMPOSIUM

A91 CATCHING FIRE: THE GLOBAL HEALTH ISSUE OF HOUSEHOLD AIR POLLUTION

Assemblies on Environmental, Occupational and Population Health; Allergy, Immunology and Inflammation; Respiratory Cell and Molecular Biology; Clinical Problems; Microbiology, Tuberculosis and Pulmonary Infections; Pediatrics; Respiratory Structure and Function

2:15 p.m. - 4:15 p.m.

Target Audience

Basic and clinical scientists, clinicians, public health officials, students, post-doctoral trainees with an interest in global environmental health, health disparities, exposure assessment, household air pollution, and toxicological mechanisms of biomass smoke inhalation

Objectives

At the conclusion of this session, the participant will be able to:

- gain knowledge about the current data on the global health effects of exposure to household air pollution and strategies designed to reduce HAP-induced diseases;
- understand experimental methods that can be used to investigate the impact of the inhalation of HAP;
- understand the socioeconomic and cultural factors that contribute to the health disparity issue of HAP.

Household air pollution (HAP) arises from the indoor burning of biomass such as wood, animal dung, and crop residues or coal for cooking and heating, resulting in high levels of particulate matter, carbon monoxide, volatile organic compounds, and other pollutants within the home. These have deleterious effects on lung health, including lung growth during childhood, respiratory infections, asthma, COPD, and lung cancer. This is a global health problem, particularly in developing countries but is also relevant to economically deprived areas of high income countries. This session will provide information about the respiratory health effects of exposure to biomass smoke. The talks will discuss epidemiological, experimental (cellular and molecular pathways), and risk-mitigation evidence related to the toxicological effects of household air pollution. Policy makers need to be made aware of the effects of household air pollutants.

Chairing: P.J. Sime, MD, Rochester, NY
G.P. Downey, MD, Denver, CO
N. Lugogo, MD, Durham, NC
P.J. Barnes, MD, DSc, London, United Kingdom
R. Vlahos, PhD, Bundoora, Australia

- 2:15 Household Air Pollution: A Call to Action**
A. Lee, MD, MS, New York, NY
- 2:25 Inflammatory Lung Diseases in Vulnerable Populations Exposed to HAP**
S. Salvi, MD, PhD, Pune, India
- 2:40 Household Air Pollution Exposure Occurs in Developed Countries As Well!**
A. Sood, MD, MPH, Albuquerque, NM
- 2:55 Studying Biologic Mechanisms of HAP-Induced Diseases**
C.E. McCarthy, MS, Rochester, NY
- 3:15 The Role of Biomass Smoke in Respiratory Infections**
S. Gordon, MD, Blantyre, Malawi
- 3:35 Translational Approaches to Understand the Effects of Biomass Smoke**
I. Jaspers, PhD, Chapel Hill, NC

3:55 Does Exposure to Household Air Pollution Increase Cardiovascular Morbidity and Mortality?

J.R. Balmes, MD, San Francisco, CA

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

A92 IT'S NOT DOROTHY ANDERSEN'S CF ANYMORE

International Conference Committee Chair's Symposium

2:15 p.m. - 4:15 p.m.

Target Audience

Individuals involved in the care of people with cystic fibrosis, including those involved in basic, translational and clinical investigations of CF and others with primary interests in related diseases; individuals interested in lung biology and disease

Objectives

At the conclusion of this session, the participant will be able to:

- understand and describe the latest information about CF pathogenesis, animal and laboratory models, and the evolution of CF lung disease in infants and young children;
- improve caregiver understanding of current CF therapies (including both efficacy and side effects) and the rapidly evolving therapeutic pipeline, which will enable better integration when discussing treatment options with patients, families and loved ones
- understand the complex future landscape directed at helping all individuals with CF, targeting both the mutation- and theratype-specific cause, as well as agents for symptomatic improvement that are agnostic to CFTR genotype.

This symposium features an inspiring patient perspective and the latest scientific, clinical, and translational information about CF. State of the art presentations focus on mechanisms leading to mucociliary dysfunction and lessons learned about disease pathogenesis from animal models. Leading edge investigations of early CF lung disease during

infancy in those identified by neonatal screening are highlighted. The drug discovery pipeline and development of agents targeting both the underlying cause and therapeutics used for symptomatic improvement are illuminated. The session concludes with a presentation on clinical research challenges and future directions aimed at helping all children and adults with CF.

Chairing: S.D. Davis, MD, Indianapolis, IN
S.H. Randell, PhD, Chapel Hill, NC

- 2:15 Introduction**
S.D. Davis, MD, Indianapolis, IN
- 2:20 A Patient's Perspective**
Speaker To Be Announced
- 2:35 The Mucus Biophysical Maelstrom at the Airway Surface**
R.C. Boucher, MD, Chapel Hill, NC
- 2:55 Lessons Learned from the CF Noah's Ark**
D.A. Stoltz, MD, PhD, Iowa City, IA

- 3:15 CF in the Lungs' Most Formative Years**
S. Stick, MBBS, Perth, Australia
- 3:35 CFTR Modulators and the Pipeline**
B.W. Ramsey, MD, Seattle, WA
- 3:55 The Future of CF Therapeutics: Emerging Challenges and How We Will Address Them**
M.P. Boyle, MD, Baltimore, MD

2:15 p.m. - 4:15 p.m.

Oral And Poster Presentations Of Scientific Research And Case Reports. Abstract Sessions Will Be Published In The Final Program.

4:30 p.m. - 5:45 p.m.

RESPIRATORY HEALTH AWARDS PRESENTATION OF THE AMBERSON LECTURE, TRUDEAU MEDAL AND DISTINGUISHED ACHIEVEMENT AWARDS

Amberson Lecture

The Amberson Lecturer is an individual with a career of major lifetime contributions to clinical or basic pulmonary research and/or clinical practice. The Lecture is given in honor of James Burns Amberson, an international authority on chest disease and tuberculosis.

Lecturer: **Peter D. Pare, MD, Vancouver, Canada**

Trudeau Medal

The Trudeau Medalist is an individual with lifelong major contributions to prevention, diagnosis and treatment of lung disease through leadership in research, education, or clinical care. This award was established in 1926 and is given in honor of Edward Livingston Trudeau, a founder and the first president of the American Lung Association.

Awardee: **Sharon I.S. Rounds, MD, Providence, RI**

Distinguished Achievement Award

The Distinguished Achievement Award is given to individuals who have made outstanding contributions to fighting respiratory disease through research, education, patient care, or advocacy.

Awardees: **Jack Gauldie, DSc, PhD, Hamilton, Canada**
Steven D. Shapiro, MD, Pittsburgh, PA

6:30 p.m. - 8:30 p.m.

ASSEMBLY MEMBERSHIP MEETINGS

The fourteen Assemblies are the primary groups of the American Thoracic Society. Each Assembly holds an annual Membership Meeting at the International Conference. All Assembly members and other interested individuals are invited to attend. The Assembly Membership Meetings provide an update on the Assembly's activities via the Assembly's Leadership and provide Assembly members the chance to have input on future directions, information on how to get involved and networking opportunities. Voting results for the Assembly's future leaders will also be announced. The Assembly Membership Meetings will be held on Monday, May 22, 5:00 p.m. - 7:00 p.m., with the exception of the Assemblies on Behavioral Science and Health Services Research and Pediatrics (see below.)

BEHAVIORAL SCIENCE AND HEALTH SERVICES RESEARCH

Chairing: Christopher H. Goss, MD, MSc,
Seattle, WA

PEDIATRICS

Chairing: James Chmiel, MD, PhD, Cleveland, OH

6:30 p.m. - 8:30 p.m.

SECTION MEMBERSHIP MEETING

The Section meetings are open to all ATS members and other interested individuals. Items to be discussed include the Sections' current projects and future directions.

GENETICS AND GENOMICS

Chairing: Craig P. Hersh, MD, MPH
Blanca E. Himes, PhD



CLINICAL

PEDIATRIC CLINICAL CORE CURRICULUM

PCC2 PEDIATRIC CLINICAL CORE CURRICULUM

Pediatric Core Curriculum Working Group

7:00 a.m. - 8:00 a.m.

Target Audience

Pediatric pulmonary and critical care physicians who work in a clinical setting and are currently engaged in maintenance of certification

Objectives

At the conclusion of this session, the participant will be able to:

- remain current with medical knowledge relevant to their practice in pediatric pulmonology;
- evaluate their understanding of key skills and content areas in pediatric pulmonology as well as receive feedback on their comprehension of a result of a pre-test/post-test comparison;
- support clinicians who are engaged in maintenance of certification activities by providing updates on subjects included in recertification requirements.

The Pediatric Core Curriculum symposia promote lifelong learning and the enhancement of the clinical judgment and skills essential for practicing pediatrician. The symposia will address topics that have been

identified by an ATS pediatric working group, which is comprised of members of the ATS Education Committee and the International Conference Committee, who have identified important areas within pediatric medicine (including severe asthma, ILD, BPD, pulmonary hypertension and pulmonary manifestations of pulmonary disease). Attendees will increase their medical knowledge as a result of attending this symposium, and this will be measured by a comparison of pre-test vs. post-test results on the corresponding maintenance of certification module. The ATS Pediatric Core Curriculum will focus on a 3-year content cycle of key medical content in the area of pediatric medicine.

Chairing: J.E. Pittman, MD, MPH, St. Louis, MO

7:00 ILD: Approaches to Evaluation and Diagnosis
T.J. Vece, MD, Chapel Hill, NC

7:30 ILD: Management and Treatment
A.M.H. Casey, MD, Boston, MA

SUNRISE SEMINARS

R Registration Fee: \$50.00 (includes continental breakfast.)

Attendance is limited. Pre-registration is required.

7:00 a.m. - 8:00 a.m.

SS101 MINING FOR GOLD: PERFORMING AND INTERPRETING QUALITATIVE RESEARCH
M.N. Eakin, PhD, Baltimore, MD
L.J. Hinkle, MD, Indianapolis, IN

SS102 OBSTRUCTIVE AND RESTRICTIVE PULMONARY DYSFUNCTION AFTER HEMATOPOIETIC CELL TRANSPLANTATION
G. Cheng, MD, Seattle, WA

SS103 SARCOIDOSIS PHENOTYPES: EMERGING SCIENCE AND CLINICAL APPLICATION
W.E. James, MD, Charleston, SC

SS104 DIAGNOSTIC DILEMMAS IN ADULT BRONCHIECTASIS: IS THIS CF? A CASE-BASED DISCUSSION
K.S. Miller, MD, Meridian, ID

SS105 AN UPDATE IN THE DIAGNOSIS AND MANAGEMENT OF MYOSITIS-ASSOCIATED ILD
R. Jablonski, MD, Chicago, IL

SS106 EVIDENCE-BASED CONSIDERATIONS IN DIAGNOSIS AND TREATMENT OF FIBROTIC HYPERSENSITIVITY PNEUMONIA
M. Salisbury, MD, Ann Arbor, MI

SS107 CLINICAL APPROACH TO THE PATIENT WITH PNEUMOTHORAX
N.A. Maskell, MD, Bristol, United Kingdom

SS108 BRINGING PATIENTS WITH INTERSTITIAL DISEASE INTO THE DISCUSSION: STRATEGIES FOR EFFECTIVE PATIENT EDUCATION
J. Morisset, MD, Montreal, Canada

SS109 CHALLENGES AT THE CHECKPOINT: PULMONARY TOXICITIES FROM ANTI-PD-1 AND ANTI-CTLA-4 IMMUNOTHERAPIES
J.D. Possick, MD, New Haven, CT

SS110 TRANSLATING CLINICAL PRACTICE GUIDELINES INTO QUALITY IMPROVEMENT AND PERFORMANCE MEASURES
I. Barbash, MD, Pittsburgh, PA

SS111 ECMO IN ACUTE RESPIRATORY FAILURE: OPTIMIZING OUTCOMES AND CLINICAL MANAGEMENT
C. Agerstrand, MD, New York, NY

SS112 UPDATE ON RESPIRATORY HEALTH CONSEQUENCES OF THE WORLD TRADE CENTER DISASTER
D. Pradhan, MD, New York, NY

SS113 ENDEMIC MYCOSES OF NORTH AMERICA
C.A. Hage, MD, Indianapolis, IN

SS114 WHO'S WHO? RECOGNIZING THE MANY FACES OF PULMONARY HYPERTENSION
J.A. Mazurek, MD, Philadelphia, PA

SS115 ASSESSING AND TREATING SLEEP DISORDERS IN CHRONIC LUNG DISEASE AND THE ROLE OF PULMONARY REHABILITATION
X. Soler, MD, PhD, San Diego, CA

SS116 PRENATAL AIR POLLUTION EXPOSURE AND PROGRAMMING OF RESPIRATORY OUTCOMES
A. Lee, MD, MS, New York, NY

SS117 HOW CAN WE IMPROVE CLINICAL IDENTIFICATION OF DRIVING RISK IN OSA PATIENTS?
A. Vakulin, PhD, Adelaide, Australia

SS118 PULMONARY COMPLICATIONS OF CANCER IMMUNOTHERAPY
T. Peikert, MD, Rochester, MN

FACULTY DEVELOPMENT SEMINAR

FD1 DEMYSTIFYING “WHAT YOU WANT TO BE WHEN YOU GROW UP”

 Pre-registration is required. Attendance is limited. There is no additional fee.

7:00 a.m. - 8:00 a.m.

Target Audience

Clinical and research fellows, post-doctoral fellows, residents, and junior faculty in the early stages of a career in academic pulmonary, allergy, critical care, and/or sleep medicine

Objectives

At the conclusion of this session, the participant will be able to:

- identify career opportunities in academic settings, private practice, and industry research;
- understand the differences between tenure track and non-tenure track pathways within academic medicine
- understand how expectations of performance and benchmarks for promotion vary depending on career path.

Graduate and postgraduate trainees and early career faculty must choose from a variety of career tracts and settings, but may have little exposure to the breadth of career opportunities that exist or the different expectations and benchmarks that define success within these different career paths. The goal of this session is to bring together representatives from the

worlds of academic medicine, private medical practice, and industry research for an interactive panel discussion that will allow the attendee to explore the options that exist for career development through a moderated interaction between the panel discussants and the attendees.

Chairing: J.C. Horowitz, MD, Ann Arbor, MI

Speakers: M. Gyetko, MD, Ann Arbor, MI
T. Hartert, MD, MPH, Nashville, TN
C. Baleeiro, MD, Chattanooga, TN
T.R. Martin, MD, East Hanover, NJ
P. Rowe, MD, Bridgewater, NJ



BASIC • CLINICAL • TRANSLATIONAL

ATS KEYNOTE SERIES

The Keynote Series provides state of the art lectures on selected topics in an unopposed format to showcase major discoveries in pulmonary, critical care and sleep medicine. The speakers have been chosen by input from the members and various ATS committees with consensus built via the ATS executive committee.

Two sessions are presented each morning during the conference.
Below are the topics for the Monday, May 22nd series.

K3 TOWARD ELIMINATING ALL HARMS

8:15 a.m. - 9:00 a.m.

Speaker: P. Pronovost, MD, PhD, Baltimore, MD

This session will be chaired by M. Moss, MD, Aurora, CO

K4 CYSTIC FIBROSIS LUNG DISEASE: LOOKING BACK AND LOOKING FORWARD

8:15 a.m. - 9:00 a.m.

Speaker: M. Welsh, MD, Iowa City, IA

This session will be chaired by D. Gozal, MD, Chicago, IL

CLINICAL

YEAR IN REVIEW

B1 CLINICAL YEAR IN REVIEW 2

9:15 a.m. - 11:15 a.m.

Target Audience

Providers including physicians; registered nurses; advanced practice nurses; respiratory therapists; physician assistants; trainees including residents and fellows; clinical researchers

Objectives

At the conclusion of this session, the participant will be able to:

- apply new clinical research knowledge to clinical practice;
- gain new strategies to manage the care of common conditions in pulmonary, critical care, and sleep.
- apply new findings about key conditions in pulmonary, critical care and sleep.

The annual Clinical Year in Review symposia topics are reviews of key clinical research publications over the last year. Each speaker is asked to review the 5-7 most important and influential publications on their topic in the prior year.

Chairing: D.J. Lederer, MD, MS, New York, NY
D.W. Ford, MD, MSCR, Charleston, SC
V.E. Ortega, MD, PhD, Winston-Salem, NC

9:15 ILD
T.J. Corte, MD, PhD, Sydney, Australia

9:45 Asthma
E. Bleeker, MD, Winston-Salem, NC

10:15 COPD
M.K. Han, MD, MS, Ann Arbor, MI

10:45 Pulmonary Vascular Diseases
A.R. Hemnes, MD, Nashville, TN

BEHAVIORAL • CLINICAL

CLINICAL TOPICS IN PULMONARY MEDICINE

B2 THE LONG-TERM OXYGEN TREATMENT TRIAL (LOTT): IMPLICATIONS FOR COPD PATIENT CARE

All those interested in the detailed use of supplemental oxygen in the largest group of COPD patients ever examined, including registered nurses and advanced practice nurses

9:15 a.m. - 11:15 a.m.

Target Audience

All those interested in the detailed use of supplemental oxygen in the largest group of COPD patients ever examined

Objectives

At the conclusion of this session, the participant will be able to:

- recognize and understand the results of the long-term oxygen treatment trial;
- gain and understanding of the rationale for development of the long-term oxygen treatment trial;
- gain knowledge issues that affect compliance with oxygen in COPD patients.

Long-term oxygen therapy is one of the most common therapies that COPD patients receive. There have been no studies of significance being conducted in the last 30 years examining use of supplemental oxygen in COPD patients. The National Heart Lung Blood Institute long-term oxygen treatment trial is the largest and longest trial ever conducted examining the feasibility and effectiveness of oxygen supplementation in patients with COPD. Specifically if provides little information regarding the use of supplemental oxygen in patients with mild to moderate hypoxia at rest or with normoxia and desaturation only with exercise.

Chairing: G.J. Criner, MD, Philadelphia, PA
W.C. Bailey, MD, Birmingham, AL
A.L. Fuhlbrigge, MD, Aurora, CO

- 9:15 Rationale for the Long-Term Oxygen Treatment Trial (LOTT)**
R.A. Wise, MD, Baltimore, MD
- 9:30 Design of the Long-Term Oxygen Treatment Trial**
J. Cooper, MD, Birmingham, AL
- 9:45 Methods and Data Analysis of the Long-Term Oxygen Treatment Trial**
F.C. Sciurba, MD, Pittsburgh, PA
- 10:00 Main Outcomes of the Long-Term Oxygen Treatment Trial**
G.J. Criner, MD, Philadelphia, PA
- 10:15 Types of Devices and Compliance with O2 Therapy in LOTT**
A.L. Fuhlbrigge, MD, Aurora, CO
- 10:30 PRO: Oxygen Therapy Benefits Patients with Mild to Moderate Hypoxemia at Rest and Those with Desaturation on Exertion Only**
F.J. Martinez, MD, New York, NY
- 10:40 Con: Oxygen Therapy Benefits Patients with Mild to Moderate Hypoxemia at Rest and Those with Desaturation on Exertion Only**
R.D. Yusen, MD, MPH, St. Louis, MO
- 10:50 Rebuttal**
F.J. Martinez, MD, New York, NY
- 10:55 Rebuttal**
R.D. Yusen, MD, MPH, St. Louis, MO
- 11:00 Panel Discussion**
G.J. Criner, MD, Philadelphia, PA
W.C. Bailey, MD, Birmingham, AL
A.L. Fuhlbrigge, MD, Aurora, CO

**BASIC • BEHAVIORAL
CLINICAL • TRANSLATIONAL**

SCIENTIFIC SYMPOSIUM

B3 THE CANCER MOONSHOT: ATS = MISSION CONTROL FOR LUNG CANCER

Assemblies on Thoracic Oncology; Clinical Problems;
Respiratory Cell and Molecular Biology

9:15 a.m. - 11:15 a.m.

Target Audience

All clinicians who care for patients with lung cancer and other thoracic malignancies; all researchers, using multiple methodologies, who are involved with thoracic malignancy research

Objectives

At the conclusion of this session, the participant will be able to:

- identify the critical role the NCI Moonshot will play in cancer detection and treatment research for years to come;
- recognize research gaps in detecting and treating lung cancer;
- foster multifaceted collaborations across the lung cancer research and clinical care continuum.

The ATS is a vital partner in NCI's Cancer Moonshot. Soon, lung cancer care and research will be characterized by molecular diagnosis and targeted treatment and will be personalized, safe, effective and affordable. This symposium will highlight three areas along the lung cancer continuum that are most relevant for ATS members including 1) prevention and screening, 2) nodules and early detection, and 3) development of novel therapies to treat early stage disease. Each speaker will discuss at least one Moonshot focus including, early cancer detection, immunotherapy and combination therapies, genomic profiling of tumor and surrounding cells, and enhanced data sharing.

Chairing: V.C. Broaddus, MD, San Francisco, CA
N.T. Tanner, MD, MSCR, Charleston, SC
M.M. Fuster, MD, San Diego, CA
P. Mazzone, MD, MPH, Cleveland, OH

- 9:15 Introduction to the NCI's Cancer Moonshot**
D. Lowy, MD, Bethesda, MD
- 9:37 Lung Cancer Prevention: The Launch Pad for the Moonshot**
R.L. Keith, MD, Denver, CO
- 9:51 Lung Cancer Screening: The Booster Rockets for the Moonshot**
L. Kinsinger, MD, MPH, Washington, DC

- 10:05 Lung Cancer Early Detection and Biomarkers: The Fuel for the Moonshot**
P. Nana-Sinkam, MD, Columbus, OH
- 10:19 Lung Cancer Screening and Pulmonary Nodule Evaluation: How Do We Help Everyone Who Wants to Go to the Moon Get There and Back Safely?**
M.K. Gould, MD, MS, Pasadena, CA
- 10:33 Lung Cancer Immunotherapy: Building a Force-Field of Protection**
S. Dubinett, MD, Los Angeles, CA
- 10:47 Lung Cancer, Lung Injury, and Lung Repair: Don't Forget the Toolbox**
M. Konigshoff, MD, PhD, Munich, Germany
- 11:01 Lung Cancer Treatment: The VALOR Lunar Module**
D. Moghanaki, MD, MPH, Richmond, VA

BEHAVIORAL • CLINICAL

CRITICAL CARE TRACK

B4 HUMANIZING THE INTENSIVE CARE UNIT: NEW PERSPECTIVES ON AN OLD PROBLEM

Assemblies on Critical Care; Behavioral Science and Health Services Research

9:15 a.m. - 11:15 a.m.

Target Audience

All clinicians, registered nurses and advanced practice nurses who practice in an intensive care unit

Objectives

At the conclusion of this session, the participant will be able to:

- introduce novel ways to address advance care planning and communication in the ICU. This objective will change the structure of guidance through the process of shared decision making;
- define and recognize psychological contributions to Post-intensive Care Syndrome in ICU Patients and Family Members. This objective will increase

understanding of critical care physicians regarding important long term outcomes after critical illness;

- describe practical approaches to facilitating humanization of the ICU, including development of Patient Advisory councils. This objective will provide attendees with tools to implement interventions in their ICU.

The new frontiers of critical care emphasize the potential impact on patients and their loved ones of a critical illness, including long-lasting negative physical and psychological outcomes. The ICU has been clinician-centered in the past, but there is an increasing desire to make the ICU more patient and family-centered. This session explores many of the necessary components of a more humane, patient and family-centered ICU, using research and pioneering new perspectives to reframe the experience of the ICU.

Chairing: E. Hirshberg, MD, MS, Salt Lake City, UT
E.K. Kross, MD, Seattle, WA
W.D. Schweickert, MD, Philadelphia, PA

- 9:15 A Patient's Perspective**
Speaker To Be Announced
- 9:20 The Psychology of Dehumanization**
R.O. Hopkins, PhD, Murray, UT
- 9:35 Evidence-Based Communication in the ICU**
J.R. Curtis, MD, MPH, Seattle, WA
- 9:50 Personalized Care During Serious Illness: Rebooting Advance Care**
S.M. Brown, MD, MS, Murray, UT
- 10:05 Facilitated Sensemaking and Post-Intensive Care Syndrome in Family Members**
J. Davidson, DNP, RN, San Diego, CA
- 10:20 Creating Lasting Collaboration: Patient-Family Advisory Councils**
B. Sarnoff Lee, MSW, LICSW, Boston, MA
- 10:35 The Experience of Humanization in Resource-Limited Settings**
W. Siika, MD, Nairobi, Kenya
- 10:50 Let Them In: Family Presence in the ICU**
S.J. Beesley, MD, Salt Lake City, UT
- 11:05 General Discussion**

BASIC • CLINICAL • TRANSLATIONAL

BASIC SCIENCE CORE

B5 SMOKERS WITH PRESERVED SPIROMETRY: EARLY COPD?

Assemblies on Respiratory Structure and Function; Clinical Problems; Environmental, Occupational and Population Health; Respiratory Cell and Molecular Biology

9:15 a.m. - 11:15 a.m.

Target Audience

Professionals with clinical and/or research responsibilities; basic, applied and clinical scientists, respiratory therapists/technologists, population health scientists

Objectives

At the conclusion of this session, the participant will be able to:

- learn new findings about clinical features as well as physiological abnormalities in smokers with normal spirometry;
- gain better insight into the limitations of spirometry in the identification of abnormalities in these patients;
- gain new strategies to manage the care of smokers with normal spirometry and a better understanding of their prognoses.

Despite the known health effects of tobacco smoking, a large proportion of smokers have preserved spirometry, and only a third go on to develop chronic obstructive pulmonary disease. This symposium focuses on the latest research on smokers, with evidence of abnormalities in some despite normal spirometric lung function, whether it is possible to identify those at risk of future lung function decline, and whether they warrant clinical intervention.

This will be a unique opportunity to draw together exciting recent data ranging from large cohort studies such as SPIROMICS and COPDGene, imaging studies, to sophisticated tests of small airway function, and cellular and molecular changes in this population within a larger context.

Chairing: D.D. Sin, MD, Vancouver, Canada
C. Thamrin, PhD, Glebe, Australia
C. Farah, MBBS, PhD, Sydney, Australia

9:15 **Why Should We Care About “Early” COPD?**
D.D. Sin, MD, Vancouver, Canada

9:30 **Smokers with Preserved Spirometry: Results from COPDGene**
M.K. Han, MD, MS, Ann Arbor, MI

9:45 **Smokers with Preserved Spirometry: What We Know from the SPIROMICS Study**
P.G. Woodruff, MD, MPH, San Francisco, CA

10:00 **Small Airways and Ventilation in Smokers with Preserved Spirometry**
G. King, MBChB, PhD, St. Leonards, Australia

10:15 **Reduced Diffusion Capacity in Smokers with Preserved Spirometry**
R.G. Crystal, MD, New York, NY

10:30 **Role of Environmental Influences and Inflammation in “Early” COPD**
M.R. Stampfli, PhD, Hamilton, Canada

10:45 **Should We Be Treating “Early” COPD?**
N. Berend, MD, Sydney, Australia

11:00 **Panel Discussion**

CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

B6 MECHANICAL VENTILATION IN THE NICU, PICU AND AT HOME: WHAT THE PEDIATRIC PULMONOLOGIST SHOULD KNOW

Assemblies on Pediatrics; Clinical Problems; Critical Care; Pulmonary Circulation; Pulmonary Rehabilitation; Respiratory Structure and Function

9:15 a.m. - 11:15 a.m.

Target Audience

Pediatric pulmonologists; pediatric critical care specialists; neonatologists; respiratory therapists; advanced practice nurses; registered nurses; nurse practitioners; physician assistants caring for patients with acute or chronic respiratory failure

Objectives

At the conclusion of this session, the participant will be able to:

- identify the best ventilatory strategies for the management of acute respiratory failure in neonates;
- gain knowledge of the interaction of the respiratory and cardiovascular systems in acute and chronic respiratory failure;
- gain understanding in the ways of maximizing the effectiveness and minimizing the side effects of chronic mechanical ventilation.

Pediatric pulmonologists are consulted routinely on patients admitted to the Neonatal and Pediatric Intensive Care Units, and they usually assume full responsibility for those who require prolonged or chronic mechanical ventilator support at home. However, controversies persist regarding the physiologic basis and supportive clinical data for selecting ventilator strategies and how to optimize acute and long-term outcomes in children with acute and chronic respiratory failure. In addition, pediatric fellowship programs from diverse fields of pulmonary, critical care and neonatology, often lack sufficient training in specific approaches towards mechanical ventilation. This session intends to provide a comprehensive review of the currently available ventilators and the strategies one can employ for the introduction, management and weaning off mechanical ventilation. Special emphasis will be given to patients with special conditions such as preterm and term infants with diverse forms of acute respiratory failure; bronchopulmonary dysplasia; pulmonary hypertension; congenital heart disease; airway problems (e.g. tracheobronchomalacia and neuromuscular disorders). Recent guidelines from the ATS on home mechanical ventilation as well as pediatric pulmonary hypertension provide additional and timely information for this session as well.

Chairing: A.C. Koumbourlis, MD, MPH, Washington, DC
S.H. Abman, MD, Aurora, CO

9:15 The Role of the Pediatric Pulmonologist in the Care of Mechanically Ventilated Patients
A.C. Koumbourlis, MD, MPH, Washington, DC

9:25 Modalities for Invasive and Non-Invasive Ventilatory Support: Indications and Limitations
Speaker To Be Announced

9:45 Ventilatory Strategies for Acute Respiratory Failure in Preterm and Term Infants

A. Greenough, MD, MBBS, London, United Kingdom

10:05 Ventilatory Strategies for Infants with Established BPD and Pulmonary Hypertension

S.H. Abman, MD, Aurora, CO

10:25 Choosing Ventilatory Support for Patients with Neuromuscular Disorders

G. Perez, MD, Washington, DC

10:45 Caring of and Weaning the Ventilated Child at Home

A. Halbower, MD, Aurora, CO

11:05 Round Table Discussion

A.C. Koumbourlis, MD, MPH, Washington, DC

S.H. Abman, MD, Aurora, CO

C.J.L. Newth, MBChB, Los Angeles, CA

A. Greenough, MD, MBBS, London, United Kingdom

G. Perez, MD, Washington, DC

A. Halbower, MD, Aurora, CO

BEHAVIORAL • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

B7 FROM RESEARCH TO BEDSIDE: OPTIMIZING WELL-BEING THROUGH INTEGRATIVE THERAPY

Assemblies on Nursing; Behavioral Science and Health Services Research; Critical Care; Pulmonary Rehabilitation

9:15 a.m. - 11:15 a.m.

Target Audience

Providers of lung health, those with clinical or research interests in Integrative Therapies, including registered nurses and advanced practice nurses

Objectives

At the conclusion of this session, the participant will be able to:

- critically examine the use of integrative therapies: mindfulness, music, Tai-Chi;

- gain more information on the issues surrounding safety and efficacy of nutritional supplements as viewed from the FDA;
- gain a broader perspective on the safety, efficacy, care coordination and research needs of integrative therapies.

Holistic care through appropriate integration of complementary therapy has the potential to optimize health and well-being for patients with chronic lung disease. To maximize integrative therapies' benefits while reducing potential harm, critical appraisal and relevant application of popular complementary therapies is needed. In addition to addressing this "bench to bedside" paradigm, the session will begin from patients' perspective that will expand its scope to international perspective with regards to complementary therapy practice.

Chairing: T.T. Von Visger, MSN, CNS, CCNS, PCCN, Columbus, OH
N. Liang, MD, San Diego, CA

9:15 Patient Education/A Patient's Perspective
Speaker To Be Announced

9:35 Mindfulness for Patients with COPD
R. Benzo, MD, MSc, Rochester, MN

9:55 Music Intervention in Critically Ill Patients
L. Chlan, PhD, RN, Rochester, MN

10:15 Tai Chi Practice for Patients with Pulmonary Conditions
M.L. Moy, MD, MSc, Boston, MA

10:35 NIH Funding for Integrative Therapy Research
L.M. Mudd, PhD, Bethesda, MD

10:55 Integrative Therapy Use and Practice: International Perspective
J. Adams, PhD, Sydney, Australia

There will be a 5-minute discussion after each talk.

BEHAVIORAL • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

B8 REALIZING THE PARIS CLIMATE AGREEMENT TO IMPROVE CARDIO-PULMONARY HEALTH: WHERE SCIENCE MEETS POLICY

Assemblies on Environmental, Occupational and Population Health; Allergy, Immunology and Inflammation; Behavioral Science and Health Services Research; Clinical Problems; Critical Care; Microbiology, Tuberculosis and Pulmonary Infections, Pediatrics; Environmental Health Policy Committee; International Health Committee

9:15 a.m. - 11:15 a.m.

Target Audience

Clinicians, researchers and practitioners focused on the prevention and treatment of respiratory and/or cardiovascular disease.

Objectives

At the conclusion of this session, the participant will be able to:

- create a science policy forum where scientists and Washington policymakers can have a bi-directional dialogue to improve future interactions;
- educate ATS members and others as to the potential human health benefits of climate mitigation;
- inspire ATS members and others to get involved in enhancing the role of science and medicine in Washington policy making.

Climate change has been described by the Lancet Commission as "the greatest public health opportunity of the 21st Century." This scientific symposium will objectively examine this opportunity with a focus on cardio-pulmonary health and public policy. The Director of EPA's Environmental Public Health Division will introduce climate science and policy from a physician's perspective. A series of speakers will review evidence of cardio-pulmonary health effects of greenhouse gas emissions and climate change, and identify vulnerable populations. Finally, a former EPA

administrator and U.S. Senator will discuss challenges and opportunities of the 2015 Paris Climate Agreement for physicians, scientists and patients.

Chairing: M.B. Rice, MD, MPH, Boston, MA
K.E. Pinkerton, PhD, Davis, CA
G.D. Thurston, DSc, Tuxedo, NY

9:15 Climate Change in Africa: A Physician's Perspective from Cameroon

M.M. Nganda, MD, Douala, Cameroon

9:20 Understanding Climate Science and Policy: What Doctors Should Know

W. Cascio, MD, Chapel Hill, NC

9:40 Air Pollution Health Effects of Energy Sources: Which Are the Most Toxic?

G.D. Thurston, DSc, Tuxedo, NY

9:55 Hot Temperatures and Ground-Level Smog: Who Is Most Likely to Die?

J. Schwartz, PhD, Boston, MA

10:15 Effects of Climate Change on Children and Adults with Asthma

K.C. Nadeau, MD, PhD, Stanford, CA

10:35 Implementation of the U.S. Clean Power Plan: Maximizing Its Public Health Benefits

C. Browner, JD, Washington, DC

10:55 Making the Paris Agreement a Reality: Challenges and Opportunities

S. Whitehouse, JD, Washington, DC

There will be a 5-minute discussion after each talk.

BEHAVIORAL • CLINICAL

SCIENTIFIC SYMPOSIUM

B9 GAMING THE SYSTEM OR SAVING LIVES: PAY FOR PERFORMANCE IN THE 21ST CENTURY

Assemblies on Behavioral Science and Health Services Research; Clinical Problems; Critical Care; Environmental, Occupational and Population Health; Nursing

9:15 a.m. - 11:15 a.m.

Target Audience

Clinicians, researchers, and administrators seeking to understand pay for performance and its impact on clinical practice

Objectives

At the conclusion of this session, the participant will be able to:

- learn about theories behind P4P from a clinical and payer perspective;
- gain new strategies to deploy P4P initiatives at their local institutions, particular to ATS conditions, to improve the care delivered to patients;
- learn about pitfalls related to P4P, particular to ATS conditions.

With the growing prominence of quality improvement, an associated emphasis has been on pay for performance. However, despite billions of dollars spent, it is unclear how efficacious these interventions are in improving care. In this session, attendees will hear from experts on innovative research regarding pay for performance: effectiveness, evidence of “gaming” and unintended consequences, and the future of incentivized health care as it pertains to ATS conditions. This is especially pertinent given ATS ownership over COPD quality measures along with the recent deployment of sepsis core measures. Attendees will learn about the recent evidence and practical implications behind these initiatives.

Chairing: S. Govindan, MD, Ann Arbor, MI
A.S. Gershon, MD, MSc, Toronto, Canada
B. Patel, MD, Houston, TX

9:15 ICU Quality Metrics in the U.K.: Past Experience and Implications for P4P

K. Rowan, PhD, MSc, London, United Kingdom

9:35 To Game or Not to Game: Unintended Consequences of Pay for Performance

C.R. Cooke, MD, MSc, Ann Arbor, MI

9:55 P\$P: The Payer Perspective

L. Tefera, MD, Baltimore, MD

10:15 Sepsis Core Measures: In Need of Resuscitation?

J. Stevens, MD, Boston, MA

10:35 Back to Basics: Are Comprehension and Efficacy of Quality Metrics Linked?

S. Govindan, MD, Ann Arbor, MI

10:55 P4P and QI: A Call to Arms

M. Howell, MD, MPH, Chicago, IL

BEHAVIORAL • CLINICAL • TRANSLATIONAL**SCIENTIFIC SYMPOSIUM****B10 SEPSIS GOES TO WASHINGTON: REGULATIONS, DEFINITIONS, AND RESEARCH SHAPING THE FUTURE OF SEPSIS**

Assemblies on Critical Care; Behavioral Science and Health Services Research; Clinical Problems; Nursing

9:15 a.m. - 11:15 a.m.

Target Audience

Pulmonary and critical care, emergency room, and hospital physicians, trainees, researchers, administrators, nurses, and other clinicians interested in learning how new regulations, definitions, and research will shape the future of sepsis

Objectives

At the conclusion of this session, the participant will be able to:

- understand the goals of the SEP-1 measure and its potential impact on patient care;
- learn how the new sepsis definitions and technology can be merged to perform more effective clinical trials;
- discover how new research will bring more personalized care of patients with sepsis in the future.

The recent CMS SEP-1 core measure, Sepsis-3 definitions, and cutting edge research will shape the future of sepsis over the coming years. This session will reflect the unique location of the annual International ATS Conference this year by including talks discussing the development and future of SEP-1, the concerns voiced by major societies regarding this measure, and how the readmission reduction programs

can be leveraged to improve the lives of sepsis survivors. The session will also highlight how the new sepsis definitions could impact future clinical trial design and bedside care. Finally, new research that will bring precision medicine to septic patients will be discussed.

Chairing: M.M. Churpek, MD, MPH, PhD, Chicago, IL
M. Mikkelsen, MD, MSCE, Philadelphia, PA
R.C. Hyzy, MD, Ann Arbor, MI

9:15 A Patient's Perspective*Speaker To Be Announced***9:20 Improving Sepsis Care through CMS Core Measures: The Development and Future of SEP-1**

S. Townsend, MD, San Francisco, CA

9:39 Should We Stand Behind SEP-1? Concerns from Major Societies and How We Can Do Better

R.C. Hyzy, MD, Ann Arbor, MI

9:58 It's Not Just About the ICU: The Potential Impact of SEP-1 and New Sepsis Definitions on Patients in the ED and on the Wards

M.M. Churpek, MD, MPH, PhD, Chicago, IL

10:17 The Future of Sepsis Clinical Trials: Merging the New Definitions and Novel Clinical Trial Methods to Perform More Effective Studies

D.C. Angus, MD, MPH, Pittsburgh, PA

10:36 Bringing Precision Medicine to Sepsis: Emerging Methods to Personalize Sepsis Care

N.J. Meyer, MD, MS, Philadelphia, PA

10:55 The Evolution of Sepsis Performance Metrics: From 3- and 6-Hour Bundles to the New Frontier of Hospital Readmission and Longer-Term Mortality

M. Mikkelsen, MD, MSCE, Philadelphia, PA

There will be a 5-minute discussion after each talk.

BASIC • CLINICAL • TRANSLATIONAL**SCIENTIFIC SYMPOSIUM****B11 THE LUNG ENDOTHELIUM PRO/CON SESSION: THE KEY CULPRIT IN CHRONIC LUNG DISEASE**

Assemblies on Respiratory Cell and Molecular Biology;
Pulmonary Circulation

9:15 a.m. - 11:15 a.m.

Target Audience

Basic, translational and clinical scientists as well as clinicians

Objectives

At the conclusion of this session, the participant will be able to:

- understand the contribution of endothelium to a range of lung processes;
- identify the existing controversies and complexities in cell focused studies in the lung;
- identify new opportunities for cell-based lung studies.

Although the endothelium is well-recognized to be a critical component of acute lung injury and lung cancer, its role in chronic lung disease remains controversial. We will have experts in their respective fields present lively, opposing points of view, based on their investigations as well as the general literature, to help elucidate the issues with the goal of informing and elucidating the pathogenetic, diagnostic and therapeutic aspects of a range of lung diseases.

Chairing: P.J. Lee, MD, New Haven, CT
I. Petrache, MD, Denver, CO
E.R. Neptune, MD, Baltimore, MD

9:15 PRO: The Endothelium Is Key to COPD
M. Sauler, MD, New Haven, CT

9:25 CON: The Endothelium Is NOT to COPD
A.O. Yildirim, PhD, Neuherberg, Germany

9:40 PRO: The Endothelium Is Key to ILD
B. Shea, MD, Providence, RI

9:55 CON: The Endothelium Is NOT Key to ILD
E. Herzog, MD, PhD, New Haven, CT

10:10 PRO: The Endothelium Is Key to Pulmonary Hypertension
H. Chun, MD, New Haven, CT

10:25 CON: The Endothelium Is NOT Key to Pulmonary Hypertension
T. Stevens, PhD, Mobile, AL

10:40 PRO: The Endothelium Is Key to Asthma
K. Asosingh, PhD, Cleveland, OH

10:50 CON: The Endothelium Is NOT Key to Asthma
P.A. Verhoef, MD, PhD, Chicago, IL

11:00 General Discussion

BEHAVIORAL • TRANSLATIONAL**SCIENTIFIC SYMPOSIUM****B12 THE IMPORTANCE OF TECHNOLOGY IMPLEMENTATION IN RESPIRATORY CARE AND PUBLIC HEALTH**

Drug/Device Discovery and Development Committee;
Assembly on Behavioral Science and Health Services
Research

9:15 a.m. - 11:15 a.m.

Target Audience

Researchers and clinicians interested in integrating drugs, devices and technologies into health systems and practice

Objectives

At the conclusion of this session, the participant will be able to:

- understand the relative importance of implementation technology as a critical step following discovery and development;
- appreciate the value of disciplines and competencies overlooked in the bridge from discovery to public health;
- gain understanding of the examples of cutting edge technology that failed to achieve their full health impact.

The session will use examples to highlight the importance of optimal implementation of technology (e.g. drugs, devices, procedures) following the journey

of discovery and development. These examples will stress competencies and disciplines often overlooked in implementing advances in health science.

Chairing: T. Witek, DrPH, Toronto, Canada
T.F. Reiss, MD, New Hope, PA

9:15 Optimizing Integration of Respiratory Care Innovation

T. Witek, DrPH, Toronto, Canada

9:35 Humanomics Trumps Genomics: Very Practical Perspectives on Technology Implementation

J.M. Fitzgerald, MB, MCh, BAO, MD, Vancouver, Canada

10:05 The Negative Impact of Human Behavior and Organizational Inertia on Maximizing Personalized Lung Cancer Care

N. Leighl, MD, Toronto, Canada

10:35 Beyond Bronchodilators: What Is Missing in COPD Care

Speaker To Be Announced

10:55 Health Information Technology: Long on Promises but Still Very Short on Details

J. Bourbeau, MD, montreal, Canada

BASIC • CLINICAL • TRANSLATIONAL

ATS PRESIDENT'S SYMPOSIUM

B13 A POTPOURRI OF EPIGENETICS AND RESPIRATORY DISEASE

9:15 a.m. - 11:15 a.m.

Target Audience:

Clinicians and researchers with interest in lung diseases

Objectives

At the conclusion of this session, the participant will be able to:

- understand potential determinants of lung disease heterogeneity;
- describe new findings on the role of epigenetics in several respiratory disorders and their manifestations and clinical course;

- understand potential new strategies to manage the morbidities of respiratory diseases.

This symposium will focus on the potential role of epigenetics in the epidemiology, clinical manifestations and phenotypic variance of several diseases affecting the respiratory system. The major aim is to bring to the fore of the discussion the potentially unique role of epigenetic modifications in better understanding the pathophysiology of respiratory disorders and the critical importance of such mechanisms as they may facilitate the long-term persistence of disease.

Chairing: D. Gozal, MD, Chicago, IL

9:15 Biological Aging and Air Pollution

A. Peters, MD, Munich, Germany

9:40 Senescence in COPD: Potential Role of Epigenetics

P.J. Barnes, MD, DSc, London, England

10:05 Epigenetics and the Human Asthma/COPD Continuum

D. Vercelli, MD, Tucson, AZ

10:30 Pulmonary Hypertension: An Epigenetic Target?


S. Archer, MD, Kingston, Canada

10:55 Sleep Apnea: Epigenetic Complications

D. Gozal, MD, Chicago, IL

9:15 a.m. - 11:15 a.m

Oral And Poster Presentations Of Scientific Research And Case Reports. Abstract Sessions Will Be Published In The Final Program.



ATS 2017
*Where today's science
 meets tomorrow's care™*
 International Conference
Washington, DC
Monday Mid-day, May 22

11:45 a.m. - 1:15 p.m.

ATS WOMEN'S FORUM

The annual ATS Women's Forum recognizes the achievements and supports the advancement of women in pulmonary, critical care, and sleep medicine and research. We are pleased to have **Redonda Miller, MD, MBA**, of The Johns Hopkins Hospital, as our speaker. In May, 2016 Dr. Miller became the hospital's eleventh president and the first woman to hold the position in the hospital's 127-year history. She has a long history with Johns Hopkins starting with earning her medical degree there. While at Hopkins' Department of Medicine, Dr. Miller focused her academic and clinical career on medical education and women's health. She will discuss issues that are relevant to female medical professionals followed by a question and answer period.

In addition, the 2017 Elizabeth A. Rich, MD Award, which honors the memory and work of Elizabeth Rich, MD, will be presented to a female ATS member. The awardee will be a woman who has made significant achievements in the practice or science of pulmonary, critical care, or sleep medicine; demonstrated leadership in her field; and has shown dedicated mentorship of junior colleagues. The award recipient will also address the audience.

The forum provides a valuable opportunity for women to meet new colleagues and ATS leaders. Men are also welcome to attend the forum. Attendees will find value in the inspirational messages and career insights the speakers share as well as vibrant networking opportunities.

The forum is organized and presented by the ATS Membership Committee, and will be hosted by **Yolanda Mageto, MD, MPH**, chair of the committee.

R Registration is required. There is no fee to attend this event and tickets will not be issued; however, conference badges are required for admission. A plated lunch will be served.

BEHAVIORAL • CLINICAL

WORKSHOP

WS3 MEDICAL SIMULATION TO IMPROVE ICU SAFETY

R Registration Fee: \$75 (includes box lunch)
 Attendance is limited. Pre-registration is required.

Assemblies on Critical Care; Behavioral Science and Health Services Research; Nursing

11:45 a.m. - 1:15 p.m.

Target Audience

Nurses, physicians, respiratory therapists, simulation technicians and other medical educators who train teams of interprofessional groups related to critical care (code teams, rapid response teams, ICU teams) and/or those Nurses, physicians, respiratory therapists, simulation technicians and other medical educators who train teams of interprofessional groups related to critical care (code teams, rapid response teams, ICU teams) and/or those who assess competence of critical care providers (physicians, nurses, mid-level practitioners) to perform critical care procedures

Objectives

At the conclusion of this session, the participant will be able to:

- recognize the simulation-based educational platforms that can be used to improve ICU safety;
- apply team debriefing concepts to effectively train interdisciplinary critical care teams;
- use simulation to implement a deliberate practice model and a testing process to establish competence prior to performance of critical care procedures.

This workshop will explore the concepts of simulation-based medical education (SBME) as related to ICU safety, specifically interprofessional education (IPE) also known as team training, as well as deliberate practice and assessment of competence to perform critical care procedures. We will start the workshop reviewing these concepts, the data regarding these practices with respect to ICU safety will and areas of uncertainty. We will then break into small groups led by facilitators so that each group can practice debriefing

interprofessional critical care teams as well as develop a deliberate practice model and competency for procedural training relevant to their practice at their home institution.

Chairing: N. Seam, MD, Bethesda, MD
A.S. Clay, MD, Durham, NC

11:45 Simulation and ICU Safety

N. Seam, MD, Bethesda, MD

12:00 Practical Tips to Effective Debriefing

J.C. Palaganas, PhD, RN, MSN, CRNP, CEN,
Charlestown, MA

12:10 Practicum: Debriefing Critical Care Teams in Simulation

J.C. Palaganas, PhD, RN, MSN, CRNP, CEN,
Charlestown, MA
N. Knudsen, MD, Durham, NC

12:40 Practicum: Competency for Critical Care Procedures

J. Mikita, MD, Bethesda, MD
N. Seam, MD, Bethesda, MD


1:10 Conclusions/Next Steps

A.S. Clay, MD, Durham, NC

BEHAVIORAL • CLINICAL

CAREER DEVELOPMENT FORUM

WS4 CAREER ADVANCEMENT FOR CLINICIAN EDUCATORS: FOSTERING LEADERSHIP, SCHOLARSHIP AND OPPORTUNITIES FOR SUCCESS

 This Forum is part of the ATS initiative to offer program specifically geared toward the professional development of trainees, fellows and students to aid in the pursuit of successful careers in pulmonary, critical care and sleep medicine.

Pre-registration is required. Attendance is limited. There is no additional fee.

Assembly on Behavioral Science and Health Services Research; Members in Transition and Training Committee; Education Committee; Section on Medical Education

11:45 a.m. - 1:15 p.m.

Target Audience

Trainees and junior faculty interested in careers as clinician educators although all clinician educators are likely to benefit from this session

Objectives

At the conclusion of this session, the participant will be able to:

- identify opportunities for scholarship and leadership in medical education locally, regionally and nationally;
- better understand existing career opportunities and strategies for successful acquisition of a job as a clinician educator;
- describe opportunities for production of scholarly work as a clinician educator.

During this interactive session, participants will have the opportunity to hear from successful, nationally recognized clinician educators in pulmonary and critical care medicine regarding career pathways in the field. The focus will be on career development and job attainment. Topics will include developing a clinical niche, scholarly productivity and finding opportunities for collaboration and leadership locally, regionally and nationally through organizations like the ATS.

Chairing: S. Kassutto, MD, Philadelphia, PA
T.S. Wang, MD, Los Angeles, CA

11:45 Introduction and Overview of Clinician Educator Career Pathways in Pulmonary and Critical Care

S. Kassutto, MD, Philadelphia, PA
T.S. Wang, MD, Los Angeles, CA

11:55 Job Hunting and Negotiations

J. Hansen-Flaschen, MD, Philadelphia, PA
H. Fessler, MD, Baltimore, MD
J.T. Poston, MD, Chicago, IL
R. Kotloff, MD, Cleveland, OH
J.W. McCallister, MD, Columbus, OH
G. Tino, MD, Philadelphia, PA
T.S. Wang, MD, Los Angeles, CA
M.M. Hayes, MD, Boston, MA

12:35 Maximizing Scholarly Productivity

D. Roberts, MD, Boston, MA

12:55 Networking and Harnessing Your Leadership Potential

K. Burkart, MD, New York, NY
P.A. Kritek, MD, Seattle, WA

CLINICAL**ADULT CLINICAL CORE CURRICULUM****CC2 PULMONARY CLINICAL CORE CURRICULUM I**

Adult Clinical Core Curriculum Working Group

11:45 a.m. - 1:15 p.m.

Target Audience

Practicing internists and subspecialists in Pulmonary, Critical Care, and Sleep medicine who work in a clinical setting and are currently engaged in maintenance of certification

Objectives

At the conclusion of this session, the participant will be able to:

- remain current with medical knowledge relevant to their practice in pulmonary, critical care, and sleep medicine;
- evaluate their understanding of key skills and content areas in pulmonary, critical care and sleep medicine, as well as receive feedback on their comprehension of a result of a pre-test/post-test comparison;
- support clinicians who are engaged in maintenance of certification activities by providing updates on subjects included in recertification requirements.

The ATS Clinical Core Curriculum Symposia focus on a 3-year content cycle of key medical content in the areas of Pulmonary, Critical Care, and Sleep Medicine. The topics are also aligned with corresponding MOC Medical Knowledge modules. This symposium is intended to assist clinicians with staying current with the growth of information relevant to their medical practice, as well as provide an opportunity to evaluate individual knowledge and skills while earning MOC Medical Knowledge points.

11:45 Venothromboembolic Disease (Acute to Chronic)

B. Rivera-Lebron, MD, MS, Pittsburgh, PA

12:15 Pleural Disease

F. Maldonado, MD, Nashville, TN

12:45 Smoking Cessation, Electronic Cigarettes, and Other Adjuncts (VAPE)

C.G. Slatore, MD, Portland, OR

CENTERS FOR DISEASE CONTROL AND PREVENTION**L11 UPDATE FROM CDC'S TB TRIALS CONSORTIUM AND THE TB EPI STUDIES CONSORTIUM**

12:15 p.m. - 1:15 p.m.

Target Audience

Clinicians and other health professionals involved in clinical and public health aspects of TB prevention, clinical care and control

Objectives

At the conclusion of this session, the participant will be able to:

- utilize better the new diagnostics for LTBI;
- improve the management of LTBI in the private sector;
- describe new findings about shorter treatments for active TB.

CDC's two TB research consortia are engaged in clinical trials and epidemiologic studies relevant to the clinical and public health management, and prevention of tuberculosis. This session provides updates from both groups.

Chairing: P. Nahid, MD, MPH, San Francisco, CA
C. Ho, MD, MPH, Atlanta, GA

12:15 Mining Health Insurance Claims to Examine LTBI Testing, Treatment, and Cure in the Private Sector

E. Stockbridge, MA, Fort Worth, TX

12:30 Updates on IGRA Sub-Studies From the Tuberculosis Epidemiologic Studies Consortium

J. Wu, MD, PhD, Atlanta, GA

12:45 TBTC: Update on Progress Towards Ultra-Short Therapies for Latent TB Infection

T. Sterling, MD, Nashville, TN

1:00 TBTC: Shorter Therapy for Active Drug-Sensitive Tuberculosis

S. Dorman, MD, Baltimore, MD

**NATIONAL INSTITUTE OF ALLERGY
AND INFECTIOUS DISEASES (NIAID) NIH**

**L12 HOW DO RESPIRATORY MICROBES
CONTRIBUTE TO ASTHMA?**

12:15 p.m. - 1:15 p.m.

Target Audience

ATS conference attendees with an interest in clinical asthma, microbiology (virology and microbiome), mechanisms of allergic inflammation, and genetic pathways that regulate risks for asthma and immune response to microbes, and are associated with asthma exacerbations

Objectives

At the conclusion of this session, the participant will be able to:

- learn new findings about how microbial communities in the airways influence asthma outcomes;
- discuss how viruses and bacteria interact to influence cold severity and asthma exacerbations;
- learn new findings about gene expression pathways in the airways and peripheral blood immune system that influence asthma outcomes.

Airway microbes determine many aspects of asthma, including risk factors for asthma development, asthma exacerbations, and disease persistence and severity. The NIH-sponsored Inner City Asthma Consortium has gained insight into the roles of environmental microbes, respiratory viruses and bacteria, as factors in asthma development and the relationship and contribution to

asthma exacerbations. This session will allow attendees to understand the role of the microbiome as a risk for asthma and the effects of respiratory viruses on the airway microbiome in relation to asthma exacerbations; and the transcriptomic pathways associated with respiratory infections and exacerbations.

Chairing: P.J. Gergen, MD, MPH, Rockville, MD

12:15 The Microbiome and Asthma Development: Friend or Foe?

S.V. Lynch, PhD, San Francisco, CA

12:30 The Interplay Between Viruses and Bacteria in Asthma Exacerbations

D.J. Jackson, MD, Madison, WI

12:45 What Pathways Do Microbes Activate that Lead to Asthma Exacerbation?

M.C. Altman, MD, MPhil, Seattle, WA

**NATIONAL INSTITUTE OF ENVIRONMENTAL
HEALTH SCIENCES (NIEHS) NIH**

**L13 ENVIRONMENTAL INFLUENCES ON
CHILDREN'S PULMONARY HEALTH**

12:15 p.m. - 1:15 p.m.

Target Audience

Basic and clinical researchers, physicians, pulmonologists and community and public health specialists

Objectives

At the conclusion of this session, the participant will be able to:

- expand the knowledge on the environmental influence on lung growth and function;
- gain knowledge on the role of modifying factors such as diet and obesity;
- understand environmental origins of disease and preventive measures.

Children are recognized as a susceptible population to the effects of environmental contaminants. To address this important public health issue, the NIEHS has initiated a research program specifically focused to

address this issue and partnered with other federal agencies such as the U.S. EPA to explore ways to reduce children's health risks from environmental factors. In this session the NIEHS funded researchers will share how their recent findings are providing molecular understanding on pulmonary dysfunction and what preventive strategies are being explored to protect children's health and also at the same time can inform public policy changes to reduce exposure to chemical pollutants in the ambient air.

Chairing: S.S. Nadadur, PhD, Durham, NC
K.C. Nadeau, MD, PhD, Stanford, CA

12:15 Introduction

S.S. Nadadur, PhD, Durham, NC

12:20 The Role of Indoor Allergens and Pollutants in Childhood Asthma: Findings from the Johns Hopkins Center for Childhood Asthma in the Urban Environment

G.B. Diette, MD, MHS, Baltimore, MD

12:37 Multifaceted Effects of Tobacco Smoke on Immunity

K.C. Nadeau, MD, PhD, Stanford, CA

12:54 Environmental Influences on Child Health Outcomes (ECHO) Program

K. Gray, PhD, Research Triangle Park, NC

**CENTER FOR DRUG EVALUATION
AND RESEARCH, FDA**

**L14 GENERIC DRUG DEVELOPMENT FOR
RESPIRATORY PRODUCTS: U.S. FOOD
AND DRUG ADMINISTRATION UPDATE**

12:15 p.m. - 1:15 p.m.

Target Audience

Clinicians in practice, researchers, pharmaceutical industry representatives, international drug regulators

Objectives

At the conclusion of this session, the participant will be able to:

- recognize key aspects of the generic drug regulatory approval process, and how the Office of Generic

Drugs (OGD) evaluates bioequivalence for complex inhaled generic drug products, using a weight-of-evidence approach;

- describe product-specific recommendations and guidances for generic drug products recently posted by the Office of Generic Drugs (OGD), with a focus on how these can inform complex orally inhaled and nasal generic drug development;
- articulate how emerging technologies and innovative approaches are being utilized for FDA-funded research, FDA guidance development, and regulatory decision-making.

This session will describe respiratory product development of generic drugs within the U.S., focusing on paths forward to bring safe and effective generic respiratory products to the American public. A general overview will summarize the generic drug approval process, focusing on the weight-of-evidence approach to bioequivalence used. Discussion of recent posted regulatory guidance and product approvals will provide the audience a greater understanding of the generic approval process, and how the use of emerging technologies and outcomes of research projects contribute to scientific understanding for these complex orally inhaled and nasal drug products to inform regulatory actions will be explained.

Chairing: K.A. Witzmann, MD, Silver Spring, MD

12:15 Introduction

K.A. Witzmann, MD, Silver Spring, MD

12:18 Overview of FDA Generic Inhaled Drug Approval Process

M. Luke, MD, PhD, Silver Spring, MD

12:35 Update for Generic Orally Inhaled and Nasal Drug Products

K.A. Witzmann, MD, Silver Spring, MD

12:52 Emerging Technologies for Bioequivalence of Orally Inhaled and Nasal Drug Products

D.S. Conti, PhD, Silver Spring, MD

1:09 Questions and Answers

K.A. Witzmann, MD, Silver Spring, MD

VETERANS ADMINISTRATION RESEARCH AND DEVELOPMENT PROGRAM

L15 VA CAREER DEVELOPMENT AWARDS: HOW THEY CAN LAUNCH ACADEMIC CAREERS

12:15 p.m. - 1:15 p.m.

Target Audience

Young pulmonary investigators; VA-based pulmonary investigators

Objectives

At the conclusion of this session, the participant will be able to:

- learn about opportunities to conduct pulmonary research through the VA Career Development Program;
- determine how he/she can transition to an independent research career through participating in period of mentored training in the VA that also will allow him/her be an academic pulmonary faculty member during the period of training;
- determine eligibility and requirements, as well as how to apply, for a VA Career Development Award.

The VA Career Development Program is intended to attract talented researchers working in areas of particular importance to the health of veterans. The awards provide 3-5 years of full salary support, usually at the Assistant Professor level. The program has a rich history of supporting young investigators who have gone on to become funded VA-based scientists. Awardees participate in an interactive, mentored training program that leads to independence in research. The goal of this session is to increase awareness among pulmonary investigators of this important career development program.

Chairing: J.K. Brown, MD, San Francisco, CA
K. Myrie, PhD, Washington, DC
L. Nici, MD, Providence, RI

12:15 Who, When, and How?
K. Myrie, PhD, Washington, DC

12:35 Perspectives from a Current Awardee
J.R. Greenland, MD, PhD, San Francisco, CA

12:55 Perspectives from 25 Years Out
J.M. Beck, MD, Denver, CO

NATIONAL HEART, LUNG, AND BLOOD INSTITUTE, DIVISION OF LUNG DISEASES, NIH

L16 NEW RESULTS FROM THE COPDGENE STUDY

12:15 p.m. - 1:15 p.m.

Target Audience

Clinicians or researchers

Objectives

At the conclusion of this session, the participant will be able to:

- learn about imaging in the COPDGene study;
- learn about subtypes identified by the COPDGene study;
- learn about longitudinal follow-up in the COPDGene study.

Chronic obstructive pulmonary disease (COPD), the third leading cause of death in the United States, is a heterogeneous syndrome. The COPDGene study has created the largest cohort of well-characterized current and former smokers for respiratory disease research. The primary goals of COPDGene are: 1) to identify new genetic loci that influence the development of COPD and COPD-related phenotypes and 2) to reclassify COPD into subtypes that can ultimately be used to develop effective therapies. This session will describe the progress and future plans of the COPDGene study.

Chairing: J.D. Crapo, MD, Denver, CO
L. Postow, PhD, Bethesda, MD
E.K. Silverman, MD, PhD, Boston, MA

12:15 Disease Progression in COPD
P.J. Castaldi, MD, MSc, Boston, MA

12:25 COPD Genetics: From GWAS to Sequencing
M.H. Cho, MD, MPH, Boston, MA

12:35 Paraseptal Emphysema in COPD
Gene
E. Regan, MD, PhD, Denver, CO

12:45 Defining Disease Axes of COPD
G. Kinney, MPH, PhD, Denver, CO

12:55 Parenchyma in Chest CT Scans
G. Washko, MD, Boston, MA

**NATIONAL HEART, LUNG, AND BLOOD INSTITUTE,
DIVISION OF LUNG DISEASES, NIH**

**L17 PREVENTION AND EARLY TREATMENT
OF ACUTE LUNG INJURY CLINICAL
TRIAL NETWORK (NHLBI PETAL)**

12:15 p.m. - 1:15 p.m.

Target Audience

Practicing critical care and emergency medicine clinicians and clinical researchers would benefit from this session. This includes fellows, students, nurses, and other medical professionals; persons interested in clinical trial design and conduct would also benefit from this session

Objectives

At the conclusion of this session, the participant will be able to:

- understand the goals and structure of the PETAL network;
- learn new findings about ongoing PETAL trials;
- results may suggest new strategies to manage care of ARDS patients.

This session will provide an update on the NHLBI Prevention and Early Treatment of Acute Lung injury (PETAL) clinical trials network. The session will describe progress in ongoing trials and plans for future trials.

Chairing: R.G. Brower, MD, Baltimore, MD
A.L. Harabin, PhD, Bethesda, MD
L. Reineck, MD, Bethesda, MD

12:15 PETAL Introduction
R.G. Brower, MD, Baltimore, MD

12:20 Results from LOTUS-FRUIT Trial
M.N. Gong, MD, MS, Bronx, NY

12:35 Results from the VIOLET Trial
A. Ginde, MD, MPH, Aurora, CO

12:50 Update on the ROSE Trial
D. Huang, MD, Pittsburgh, PA

1:00 Introduction to CLOVERS
N. Shapiro, MD, MPH, Boston, MA

**NATIONAL HEART, LUNG, AND BLOOD INSTITUTE,
DIVISION OF LUNG DISEASES, NIH**

**L18 NEW INSIGHTS ABOUT SEVERE
ASTHMA FROM THE NHLBI SEVERE
ASTHMA RESEARCH PROGRAM**

12:15 p.m. - 1:15 p.m.

Target Audience

Providers of lung health, especially providers who manage patients with asthma; Investigators interested in mechanisms of disease in asthma.

Objectives

At the conclusion of this session, the participant will be able to:

- learn about new findings about clinical and molecular phenotypes of severe asthma;
- more appropriately refer to approaches being taken by NHLBI to improve understanding of severe asthma and accelerate progress toward new treatments;
- understand the role of androgens, estrogen and progesterone in affecting asthma epidemiology and severity.

In this session on work in progress in the NHLBI-sponsored severe asthma research program, there are four presentations planned to provide the learner with a cutting-edge, data-driven understanding of the clinical features of pediatric and adult severe asthma. Each presentation will cover the context, rationale and recent progress in addressing clinically relevant questions in severe asthma pathobiology,

diagnosis and management, including baseline cross-sectional data on recruited healthy and asthmatic subjects, their response to systemic corticosteroids, risk factors for asthma exacerbations as well as advances in imaging for the detection of pathologic mucus and its association with clinical outcome.

Chairing: N.N. Jarjour, MD, Madison, WI
P. Noel, PhD, Bethesda, MD

12:15 Update on Clinical/Inflammatory Phenotypes
S.E. Wenzel, MD, Pittsburgh, PA

12:30 Hormonal Influences in Severe Asthma
B. Gaston, MD, Cleveland, OH

12:45 Genetics in Severe Asthma: Data from TopMED
D. Meyers, PhD, Winston-Salem, NC

1:00 Molecular and Cellular Stability of Severe Asthma Phenotypes
A. Hastie, PhD, Winston-Salem, NC
M. Peters, MD, San Francisco, CA

NATIONAL HEART, LUNG, AND BLOOD INSTITUTE, DIVISION OF LUNG DISEASES, NIH

L19 NHLBI PVDOMICS PROGRAM: DEEP PHENOTYPING OF PULMONARY VASCULAR DISEASES IN PATIENTS

12:15 p.m. - 1:15 p.m.

Target Audience

Health providers, trainees, and researchers

Objectives

At the conclusion of this session, the participant will be able to:

- learn about current deep-phenotyping of PH;
- learn about integrative genomics analyses in PAH;
- learn about right ventriculo-arterial physiologic and morphologic phenotyping.

Pulmonary hypertension (PH) currently has no cure, thus PH research remains a high priority for NHLBI. Recently, NHLBI launched a major multi-center clinical

study of PH named: Redefining Pulmonary Hypertension through Pulmonary Vascular Disease Phenomics (PVDOMICS). This program includes one data coordinating center (DCC) and six clinical centers that conduct observational clinical studies and data analysis in patients with all types of PH. Currently, the program has completed setting up the protocol and started patient enrollment in 2016. This session will introduce this NHLBI program and present data from the study.

Chairing: L. Xiao, MD, PhD, Bethesda, MD
N.S. Hill, MD, Boston, MA
G.J. Beck, PhD, Cleveland, OH

12:15 Overview of NHLBI PVDOMICS Program and Initial Progress Report
N.S. Hill, MD, Boston, MA

12:27 PROs in PH: Leveraging PVDOMICS to Understand the Patient Perspective
S. Mathai, MD, MHS, Baltimore, MD

12:39 Integrative Genomics Analyses in PAH
M. Aldred, PhD, Cleveland, OH

12:51 Invasive CPET for Deep Physiologic Phenotyping
D. Systrom, MD, Boston, MA

1:03 Right Ventriculo-Arterial Physiologic and Morphologic Phenotyping in Hispanic and Non-Hispanic Cohorts
F. Rischard, MD, Tucson, AZ

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR

L20 THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION'S RULE ON RESPIRABLE CRYSTALLINE SILICA

12:15 p.m. - 1:15 p.m.

Target Audience

Health care professionals who are interested in learning more about OSHA's respirable crystalline silica rule, especially those who may provide medical examinations required under the rule.

Objectives

At the conclusion of this session, the participant will be able to:

- understand the respirable crystalline silica rule and what is required under that rule such as controls to protect workers and required medical tests;
- recognize workers who are at risk of developing silica-related disease based on jobs they perform, diagnose disease in those workers, and determine when a specialist evaluation is appropriate;
- understand how to counsel workers based on the findings of the medical examination and report the appropriate information to the employer so that the workers privacy is not compromised.

Presenters will give an overview of OSHA's respirable crystalline silica (silica) rule, which affects 2.3 million workers in the United States. Attendees will learn how workers are exposed to silica in various industries and the health risks to those workers - including silicosis, lung cancer, other non-malignant lung disease, and kidney disease. Presenters will summarize the rule requirements including the new permissible exposure limit, exposure assessments, controlling exposures, limiting access to high exposure areas, housekeeping, and worker training. The course will focus on medical surveillance requirements and resources available to health care professionals who will be conducting medical examinations.

Chairing: D. O'Connor, MPH, Washington, DC

12:15 Introduction of Speakers

D. O'Connor, MPH, Washington, DC

12:17 Health Risks of Silica Exposures and Benefits of New Rule

S. Schayer, PhD, Washington, DC

12:28 Industries with Silica Exposures and Overview of Rule

J. Schifano, JD, MPH, Washington, DC

12:39 Overview of Medical Surveillance Requirements of Rule

A. Iannucci, MS, Washington, DC

12:50 Guidance and Resources for Health Care Professionals

K. Fagan, MD, MPH, Washington, DC

1:05 Panel Discussion

MEET THE PROFESSOR SEMINARS

R **Registration Fee: \$70.00 (includes box lunch.)**
Attendance is limited. Pre-registration is required.

12:15 p.m. - 1:15 p.m.

MP501 DEVELOPMENT AND DIAGNOSIS OF ABPA

M. Singh, MD, Chandigarh, India

MP502 THE ROLE OF YOUTH AND CAREGIVER ANXIETY AND DEPRESSION IN PEDIATRIC ASTHMA CONTROL

J. Bruzzese, PhD, New York, NY

MP503 MULTIDISCIPLINARY EVALUATION AND MANAGEMENT OF CTD-ILD

A. Fischer, MD, Aurora, CO
J.S. Lee, MD, Aurora, CO

MP504 ALPHA-1 ANTITRYPSIN DEFICIENCY: STATE OF THE ART

J. Stoller, MD, Cleveland, OH

MP505 TARGETED THERAPY FOR COPD: HAVE WE REACHED AN ERA OF PERSONALIZED MEDICINE?

S.S. Braman, MD, New York, NY

MP506 CF UPDATE FOR THE NON-CF PROVIDER

G. Allada, MD, Portland, OR

MP507 PULMONARY INFECTIOUS COMPLICATIONS AFTER LUNG TRANSPLANTATION

L.D. Snyder, MD, MHS, Durham, NC

MP508 PATHOLOGY OF LUNG TRANSPLANTATION

K.D. Jones, MD, San Francisco, CA

MP509 OPTIMIZING MECHANICAL VENTILATION FOR INFANTS AND CHILDREN

I.M. Cheifetz, MD, Durham, NC

MP510 RETHINK WHAT YOU KNOW ABOUT AIR POLLUTION: MULTI-POLLUTANT APPROACH

M. Akpınar-Elci, MD, MPH, Norfolk, VA
H. Bayram, MD, PhD, Gaziantep, Turkey

MP511 CLINICAL ADVANCES IN PLEURAL INFECTION AND IN PNEUMONIA

Y.C.G. Lee, MBChB, PhD, Perth, Australia
G.W. Waterer, MBBS, PhD, MBA, Perth, Australia

MP512 RESPIRATORY SYMPTOM RESEARCH: CONSIDERATIONS FOR PROPOSALS, PUBLICATIONS, AND REVIEWERS

P.M. Meek, PhD, RN, Denver, CO

MP513 NEW FRONTIERS IN G PROTEIN COUPLED RECEPTORS: RELEVANCE TO ASTHMA AND COPD

D.A. Deshpande, PhD, Philadelphia, PA

MP514 HOSPITAL SLEEP MEDICINE: THE ELEPHANT IN THE ROOM

S. Sharma, MD, Philadelphia, PA

MP515 TARGETED THERAPY FOR LUNG CANCER: WHAT THE PULMONOLOGIST NEEDS TO KNOW

J.R. Jett, MD, Denver, CO

BEHAVIORAL**MEDICAL EDUCATION SEMINAR****ME2 EDUCATIONAL VIDEOS: WHY AND HOW TO MAKE THEM**

R **Registration Fee: \$70 (includes box lunch)**
Attendance is limited. Pre-registration is required.

12:15 p.m. - 1:15 p.m.

Target Audience

Anyone interested in making videos to teach patients, medical students, residents, fellows, faculty and/or other medical health professionals.

Objectives

At the conclusion of this session, the participant will be able to:

- create an educational video;
- critically review educational videos;

- choose and use software to make videos.

During this session, you will have the opportunity to create a short educational video under guidance from the facilitators. We will start by providing some hints and tips on best practices for video creation. We will review a few of the frequently used programs for video creation. We will then help participants make a short video in groups using freely available software and a prepared storyboard. You will be able to keep this video and you will have learned the skills necessary to start producing your own educational videos. Participants will need to bring their own laptop.

Speakers: A.S. Clay, MD, Durham, NC
W.G. Carlos, MD, MSCR, Indianapolis, IN
R. Adamson, MBBS, Seattle, WA
M.C. Miles, MD, Winston-Salem, NC

THEMATIC SEMINAR SERIES**TSS1 EVOLVING CONCEPTS IN EARLY COPD**

R **Registration Fee: \$170 for full series (includes box lunch)**
Attendance is limited. Pre-registration is required.

This is part 2 of a 4-part series. Those registering for this seminar series will be registered for all 4 parts. The program for the full series is included with the Sunday, May 21, 12:15 p.m. program.

Monday 12:15 p.m. - 1:15 p.m.

The Symptomatic Smoker: The Need to Bring Back Gold 0

P.G. Woodruff, MD, MPH, San Francisco, CA



ATS 2017
*Where today's science
 meets tomorrow's care™*
 International Conference
Washington, DC
Monday Afternoon, May 22

1:15 p.m. - 2:15 p.m.

VISIT THE EXHIBIT HALL

Take this opportunity between sessions to visit the Exhibit Hall to gain practical knowledge to advance care and research. Exhibitors will be on hand to provide information on pharmaceutical products, medical equipment, publications and research services.

2:15 p.m. - 4:15 p.m.

PRESENTATION OF THE RECOGNITION AWARDS FOR SCIENTIFIC ACCOMPLISHMENTS

As part of the ATS Respiratory Health Awards, the Recognition Awards for Scientific Accomplishments is given to individuals for outstanding scientific contributions in basic or clinical research to the understanding, prevention and treatment of lung disease. Those considered for the award are recognized for either scientific contributions throughout their careers or for major contributions at a particular point in their careers.

Chairing: A.J. Halayko, PhD, Winnipeg, Canada

Awardees: John V. Fahy, MD, MSc, San Francisco, CA
 Andrew Fontenot, MD, Boulder, CO
 Alison Morris, MD, MS, Pittsburgh, PA
 Andrew M. Tager, MD, Boston, MA

CLINICAL

ADULT CLINICAL CORE CURRICULUM

CC3 CRITICAL CARE CLINICAL CORE CURRICULUM II

Adult Core Curriculum Working Group

2:15 p.m. - 4:15 p.m.

Target Audience

Practicing internists and subspecialists in Pulmonary, Critical Care, and Sleep medicine who work in a clinical setting and are currently engaged in maintenance of certification

Objectives

At the conclusion of this session, the participant will be able to:

- remain current with medical knowledge relevant to their practice in pulmonary, critical care, and sleep medicine;
- evaluate their understanding of key skills and content areas in pulmonary, critical care and sleep medicine, as well as receive feedback on their comprehension of a result of a pre-test/post-test comparison;
- support clinicians who are engaged in maintenance of certification activities by providing updates on subjects included in recertification requirements.

The ATS Clinical Core Curriculum Symposia focus on a 3-year content cycle of key medical content in the areas of Pulmonary, Critical Care, and Sleep Medicine. The topics are also aligned with corresponding MOC Medical Knowledge modules. This symposium is intended to assist clinicians with staying current with the growth of information relevant to their medical practice, as well as provide an opportunity to evaluate individual knowledge and skills while earning MOC Medical Knowledge points.

Chairing: J.I. McSparron, MD, Boston, MA
 A.M. Luks, MD, Seattle, WA

2:15 Extracorporeal Membrane Oxygenation
 M.E. Prekker, MD, MPH, Minneapolis, MN

2:45 Right Heart Failure
 M.J. Cuttica, MD, MS, Western Springs, IL

3:15 Assessment of Volume Responsiveness
K.A. Hibbert, MD, Boston, MA

3:45 Update in Early Goal Directed Therapy
R. Clouser, DO, Burlington, VT

BASIC • BEHAVIORAL CLINICAL • TRANSLATIONAL

YEAR IN REVIEW

B81 PEDIATRIC YEAR IN REVIEW

Assemblies on Pediatrics; Allergy, Immunology and Inflammation; Behavioral Science and Health Services Research; Clinical Problems; Environmental, Occupational and Population Health; Respiratory Structure and Function

2:15 p.m. - 4:15 p.m.

Target Audience

Pediatric pulmonologists; nurses; respiratory therapists; virologists; behavioral scientists; epidemiologists

Objectives

At the conclusion of this session, the participant will be able to:

- learn the effect of human rhinovirus on the respiratory and immune systems;
- gain knowledge about health disparities in respiratory illnesses and their causes;
- learn the ways environmental exposures affect respiratory health.

The Pediatric Year in Review provides a summary of important research that was published during the preceding year on the topics that were selected for presentation. For this year the session will concentrate on factors not directly related to the respiratory system but with great impact on respiratory health. The areas that will be covered include the impact of the respiratory viruses (especially human rhinovirus); the impact of health disparities; the impact of environmental factors; and the impact of precision medicine (with focus on Cystic Fibrosis). The presentations will be made by well known experts in the respective fields.

Chairing: A.C. Koumbourlis, MD, MPH, Washington, DC
P.E. Moore, MD, Nashville, TN

2:15 Effects of the Respiratory Viruses on the Lungs
M.B. Hershenson, MD, Ann Arbor, MI

2:45 Disparities and Respiratory Health
B.J. Sheares, MD, MS, New York, NY

3:15 Environmental Exposures and Respiratory Health
E. von Mutius, MD, MS, Munich, Germany

3:45 The Promise and Challenge of Precision Medicine in CF and Beyond
M. Rosenfeld, MD, MPH, Seattle, WA

CLINICAL

CLINICAL TOPICS IN PULMONARY MEDICINE

B82 HOT TOPICS IN COPD: A PRO/CON DEBATE

Assemblies on Clinical Problems; Allergy, Immunology and Inflammation; Environmental, Occupational and Population Health; Nursing; Pulmonary Rehabilitation

2:15 p.m. - 4:15 p.m.

Target Audience

Providers of lung health including, registered nurses, advanced practice nurses, and those with clinical and research responsibilities

Objectives

At the conclusion of this session, the participant will be able to:

- identify significance of eosinophilia in guiding COPD treatment;
- gain new findings about pharmacotherapy and disease progression in COPD;
- recognize the benefit of long term oxygen therapy in COPD.

COPD is a rapidly evolving field with new research and treatments that are leading us to rethink our approach to the COPD patient. This session highlights important

current controversies in COPD diagnosis and management in a pro con debate format.

Chairing: M.K. Han, MD, MS, Ann Arbor, MI
S.P. Bhatt, MD, Birmingham, AL
F.J. Martinez, MD, New York, NY

- 2:15 PRO: Blood Eosinophils Are a Useful Biomarker to Guide Therapy in COPD**
I. Pavord, MD, Oxford, United Kingdom
- 2:27 CON: Blood Eosinophils Are NOT a Useful Biomarker to Guide Therapy in COPD**
K.F. Rabe, MD, PhD, Grosshansdorf, Germany
- 2:39 PRO: Long-Term Oxygen Therapy Benefits COPD Patients with Moderate Hypoxemia**
L.M. Fabbri, MD, Modena, Italy
- 2:51 CON: Long-Term Oxygen Therapy Does NOT Benefit COPD Patients with Moderate Hypoxemia**
R.A. Wise, MD, Baltimore, MD
- 3:03 PRO: Inhaled Corticosteroids Are Required to Maximize Reduction in Acute Exacerbations**
S.D. Singh, MD, NP, Manchester, United Kingdom
- 3:15 CON: Inhaled Corticosteroids Are NOT Required to Maximize Reduction in Acute Exacerbations**
J.A. Wedzicha, MD, PhD, London, United Kingdom
- 3:27 PRO: Interventions Can Reduce COPD Readmissions**
B. Thomashow, MD, New York, NY
- 3:39 CON: Interventions Do NOT Reduce COPD Readmissions**
J.A. Krishnan, MD, PhD, Chicago, IL
- 3:51 PRO: Pharmacotherapy Slows Disease Progression in COPD**
C. Jenkins, MD, MBBS, Concord, Australia
- 4:03 CON: Pharmacotherapy Does NOT Slow Disease Progression in COPD**
P.J. Barnes, MD, DSc, London, United Kingdom

CLINICAL

CLINICAL TOPICS IN PULMONARY MEDICINE

B83 A MULTIDISCIPLINARY, CASE-BASED APPROACH TO HOT TOPICS IN CTD-ILD

Assembly on Clinical Problems

2:15 p.m. - 4:15 p.m.

Target Audience

Students, fellows, physicians (clinical and research oriented, pulmonologists, rheumatologists, transplants), registered nurses, advanced practice nurses, respiratory therapists; any provider of lung health

Objectives

At the conclusion of this session, the participant will be able to:

- develop new strategies in the management of patients with CTD-ILD;
- gain new findings about the evolving understanding of interstitial pneumonia with autoimmune features;
- improve the health and quality of life of CTD-ILD patients by understanding the risks and benefits of novel therapies.

This session will cover complex clinical scenarios encountered in the care of patients with connective tissue associated ILD. We will discuss 3 key issues - the role of ILD pattern in evaluation and treatment, the newly termed condition interstitial pneumonia with autoimmune features (IPAF), and finally the role of therapy beyond conventional immunosuppression (adjunctive treatment, PH specific therapy and the role of transplant). This session will cover timely topics related to CTD-ILD using a case-based format to introduce the topics, which also allows for increased participation by national and international colleagues. The panel discussion at the end will allow for audience participation and a discussion of topics not covered by this session. We will also use an audience response system to gauge practice patterns/beliefs before and after the talks.

Chairing: J.S. Lee, MD, Aurora, CO
A. Fischer, MD, Aurora, CO

- 2:15 Session Introduction**
J.S. Lee, MD, Aurora, CO
- 2:25 Difficult Case 1**
K.R. Flaherty, MD, MS, Ann Arbor, MI
J.H. Chung, MD, Chicago, IL
C. Cool, MD, Aurora, CO
- 2:40 UIP Vs. NSIP - Does It Really Make a Difference in CTD-ILD?**
V. Cottin, MD, PhD, Lyon, France
- 2:55 Difficult Case 2**
Speaker To Be Announced
- 3:10 Smells Like an Autoimmune Condition, but I Can't Quite Put My Finger on It...**
T.J. Corte, MD, PhD, Sydney, Australia
- 3:25 Difficult Case 3**
Speaker To Be Announced
- 3:40 Beyond Conventional Immunosuppression: Are There Any Other Options?**
S.K. Danoff, MD, PhD, Baltimore, MD
- 3:55 Panel Discussion**
A. Fischer, MD, Aurora, CO

BEHAVIORAL • CLINICAL • TRANSLATIONAL

CRITICAL CARE TRACK

B84 CHRONIC, PERSISTENT, PROLONGED, AND JUST PLAIN STUCK: INSIGHTS IN CHRONIC CRITICAL ILLNESS

Assemblies on Critical Care; Behavioral Science and Health Services Research

2:15 p.m. - 4:15 p.m.

Target Audience

Critical care clinicians; clinical and health services researchers who focus on critical care

Objectives

At the conclusion of this session, the participant will be able to:

- accurately identify patients with CCI, recognize important subgroups of patients with CCI, and distinguish CCI from other reasons for prolonged ICU care;

- prognosticate for patients with CCI and incorporate outcomes into high-quality communication during the decision to pursue prolonged life sustaining treatments;
- identify current knowledge gaps in best clinical practices for patients with CCI and describe the need for future clinical trials and health services research.

Chronic critical illness (CCI) refers to a group of patients with ongoing organ failure who survive the acute phase of critical illness but remain dependent on intensive care. More and more patients are developing CCI; long-term outcomes in this population are poor; and clinicians feel very uncomfortable about the care of these patients. We aim to identify the cutting edge of the current understanding of CCI and highlight important knowledge and practice gaps that warrant future research and practice change.

Chairing: J. Kruser, MD, Chicago, IL
T.J. Iwashyna, MD, PhD, Ann Arbor, MI
C.L. Hough, MD, Seattle, WA

- 2:15 A Patient's Perspective**
Speaker To Be Announced
- 2:20 Trajectories into and Out of Chronic Critical Illness: An International Account**
T.J. Iwashyna, MD, PhD, Ann Arbor, MI
- 2:40 Persistent Critical Illness or Persistent Critical Care?**
K. Rowan, PhD, MSc, London, United Kingdom
- 3:00 Outcomes After Prolonged Mechanical Ventilation**
C.L. Hough, MD, Seattle, WA
- 3:20 How Do People Get Stuck and Become Persistently Critically Ill?**
E.M. Viglianti, MD, MPH, Ann Arbor, MI
- 3:35 Communication and Palliative Care in Patients with Chronic Critical Illness**
S.S. Carson, MD, Chapel Hill, NC
- 3:55 Discovering Best Practices in the Care of Patients with Chronic Critical Illness**
J. Kahn, MD, MS, Pittsburgh, PA

BASIC • TRANSLATIONAL**BASIC SCIENCE CORE****B85 ENVIRONMENT AND LUNG AGING: AN ECOLOGICAL MODEL**

Assemblies on Respiratory Cell and Molecular Biology; Allergy, Immunology and Inflammation; Clinical Problems; Environmental, Occupational and Population Health; Pediatrics

2:15 p.m. - 4:15 p.m.

Target Audience

Students, fellows, researchers and lead investigators involved in discovery and translational research on lung biology, development and pulmonary disease and treatment

Objectives

At the conclusion of this session, the participant will be able to:

- identify environmental/lifestyle risk factors for accelerated aging of the lung and higher susceptibility to lung diseases;
- describe the physiology and molecular mechanisms associated with premature and accelerated aging of the lung by environmental contaminants, persistent infections, and inflammation;
- understand ongoing research looking for biomarkers and prevention strategies for premature lung aging and the development of novel therapeutic approaches against age-related chronic lung diseases.

The ecological model of aging is based on the assumption that health is affected by a dynamic interplay among biologic, behavioral and environmental factors. The lung in particular is exposed constantly to environmental factors that can contribute significantly to accelerate the onset of molecular and cellular mechanisms associated with lung aging and increase the susceptibility to age-related lung diseases.

Chairing: A.L. Mora, MD, Pittsburgh, PA
M. Armanios, MD, Baltimore, MD
A.V. Misharin, MD, PhD, Chicago, IL

2:15 **A Patient's Perspective**
Speaker To Be Announced

2:20 **Susceptibility of the Aging Lung to Environmental Injury**
K.E. Pinkerton, PhD, Davis, CA

2:43 **Lung Infection in an Aging Population**
D. Bowdish, PhD, Hamilton, Canada

3:06 **Role of Proteostatic Reserve in Lung Diseases As We Age**
S. Budinger, MD, Chicago, IL

3:29 **Age-Driven Developmental Drift in the Pathogenesis of IPF**
M. Selman, MD, Mexico City, Mexico

3:52 **Senescence and Disrepair in the Fibrotic Lung**
M. Rojas, MD, Pittsburgh, PA

There will be a 5-minute discussion after each talk.

BASIC • CLINICAL • TRANSLATIONAL**SCIENTIFIC SYMPOSIUM****B86 "SIGNED, SEALED, DELIVERED": EXTRACELLULAR VESICLES AS MESSENGERS, BIOMARKERS, AND THERAPEUTIC VEHICLES**

Assemblies on Allergy, Immunology and Inflammation; Clinical Problems; Critical Care; Respiratory Cell and Molecular Biology; Respiratory Structure and Function

2:15 p.m. - 4:15 p.m.

Target Audience

Basic science, clinical, and translational researchers, as well as pulmonary/critical care, pulmonary hypertension, and sleep clinicians

Objectives

At the conclusion of this session, the participant will be able to:

- understand the characterization, biology, and function of extracellular vesicles in cell-cell communication;
- integrate knowledge of extracellular vesicles within pathophysiologic processes;

- recognize the unique utility and emerging role for extracellular vesicles as biomarkers or therapeutic vehicles for disease.

Extracellular vesicles (EVs) serve as vectors for cargo transfer among cells, representing a new means of cell-cell communication which has garnered tremendous interest in both basic and clinical research communities. EVs reveal important features of their source cells and alter functions of recipient cells. Thus, EVs participate in homeostasis, pathology, serve as unique biomarkers, and have therapeutic promise. Topics covered in this symposium include EV nomenclature, mechanisms of formation, release, uptake, and diagnostic and potential therapeutic utility relevant to pulmonary and critical care. The pleiotropic functions and applications of EVs are relevant to the diverse membership of the ATS.

Chairing: D.J. Schneider, MD, PhD, Ann Arbor, MI
M.A. Matthay, MD, San Francisco, CA
C.M. Lloyd, PhD, London, United Kingdom

2:15 Extracellular Vesicle Biology, Trafficking, Key Concepts and Functions

J. Lotvall, MD, PhD, Gothenburg, Sweden

2:45 Extracellular Vesicle Transfer from Macrophages to Epithelium Facilitates Homeostasis and Is Deregulated in Inflammatory Disease

M. Peters-Golden, MD, Ann Arbor, MI

3:15 Exosomal miRNA in Chronic Inflammatory Lung Disease

A.M. Wheelock, PhD, Stockholm, Sweden

3:45 Reprogramming of Tumor Associated Macrophages As a Novel Anti Cancer Therapy

J. Lee, MD, San Francisco, CA

There will be a 5-minute discussion after each talk.

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

B87 REPROGRAMMING OF LUNG TUMOR MICROENVIRONMENT: A PATH TO CANCER CARE FOR BETTER THERAPEUTIC BENEFIT

Assemblies on Thoracic Oncology; Allergy, Immunology and Inflammation; Respiratory Cell and Molecular Biology; Respiratory Structure and Function

2:15 p.m. - 4:15 p.m.

Target Audience

Clinicians and scientists who are interested in understanding the tumor microenvironmental (TME) contribution to lung cancer progression and novel therapeutic developments targeting TME in lung cancer would benefit from this symposium

Objectives

At the conclusion of this session, the participant will be able to:

- understand the tumor promoting/ tumor inhibitory properties of various tumor microenvironmental cells;
- become aware of clinical trials targeting tumor microenvironment in lung cancer;
- gain understanding of novel therapeutic interventions aimed at treating lung cancer by reprogramming “tumor microenvironmental cells”.

Lung cancer is the leading cause of cancer deaths worldwide. Although standard treatment regimens have produced promising results, outcomes for patients with lung cancer are still considered disappointing. Recent data provide evidence that the tumor environment is a leading player in carcinogenesis. Understanding the lung tumor microenvironment (TME) and the complex bidirectional interplay between the tumor and lung microenvironment in lung cancer is essential in designing effective therapies.

Chairing: R. Savai, PhD, Bad Nauheim, Germany
S.J. Moghaddam, MD, Houston, TX
A.M. Houghton, MD, Seattle, WA
C.A. Powell, MD, New York, NY

- 2:15 Lung Tumor Microenvironment: Targeting Tumor Fibroblasts**
S.M. Albelda, MD, Philadelphia, PA
- 2:39 Reprogramming of Tumor Associated Macrophages As a Novel Anti Cancer Therapy**
R. Savai, PhD, Bad Nauheim, Germany
- 3:03 Re-Educating Lung Tumor Microenvironment by Targeting Inflammatory Cytokine Network**
S.J. Moghaddam, MD, Houston, TX
- 3:27 Augmenting Antigen Presentation with Chemokines for Lung Cancer Therapy**
S. Dubinett, MD, Los Angeles, CA
- 3:51 Tumor- Lymphatic Interactions in the Lung Carcinoma Microenvironment**
M.M. Fuster, MD, San Diego, CA

There will be a 5-minute discussion after each talk.

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

B88 THE GENE-ENVIRONMENT INTERACTION IN INTERSTITIAL LUNG DISEASE

Assemblies on Environmental, Occupational and Population Health; Clinical Problems

2:15 p.m. - 4:15 p.m.

Target Audience

Clinicians caring for patients with Interstitial Lung Disease; basic, translational and population health scientists investigating genetic and/or environmental risk factors for Interstitial Lung Disease

Objectives

At the conclusion of this session, the participant will be able to:

- strengthen their clinical assessment of ILD patients, with improved environmental exposure histories and order genetic testing where available and indicated;
- acknowledge the importance of comprehensive assessments and recognize the knowledge gaps in environmental exposure assessment in ILD;

- contribute to integrated research programs that combine genetic, epigenetic and non-genetic risk factors for ILD, leading to an enhanced understanding of these diseases and ultimately, optimized patient management.

This session will present current state of the art scientific knowledge on the genetic and environmental risk factors for the development and progression of ILD, with a focus on integration of knowledge. Concepts and methods relevant to specific environmental and occupational exposure assessment will be presented. The integration of genetic and non-genetic factors will be discussed as an important tool for future research to enhance our understanding of these complex diseases.

Chairing: K.A. Johannson, MD, MPH, Calgary, Canada
M.I. Schwarz, MD, Aurora, CO
C. Redlich, MD, MPH, New Haven, CT

- 2:15 A Patient's Perspective**
Speaker To Be Announced
- 2:20 Functional Genetics of Interstitial Lung Disease**
D.A. Schwartz, MD, Aurora, CO
- 2:40 The Environment, Epigenetics, Non-Coding RNAs and Interstitial Lung Disease**
N. Kaminski, MD, New Haven, CT
- 3:00 Air Pollution and Interstitial Lung Disease**
M.B. Rice, MD, MPH, Boston, MA
- 3:20 Occupational Exposures and Interstitial Lung Disease**
C. Rose, MD, MPH, Denver, CO
- 3:40 The Exposome and Its Applications to Interstitial Lung Disease**
J.R. Balmes, MD, San Francisco, CA
- 3:55 Nature, Nurture, and Early Pulmonary Fibrosis Detection: The Way Forward**
G.M. Hunninghake, MD, Boston, MA

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

B89 IMMUNOCOMPROMISED HOST PNEUMONIA: EXPANDING RISKS AND NOVEL MANAGEMENT STRATEGIES

Assemblies on Microbiology, Tuberculosis and Pulmonary Infections; Allergy, Immunology and Inflammation; Behavioral Science and Health Services Research; Clinical Problems; Critical Care; Environmental, Occupational and Population Health; Respiratory Cell and Molecular Biology

2:15 p.m. - 4:15 p.m.

Target Audience

Basic, translational or clinical scientist who investigate mechanisms of susceptibility to infection; clinicians caring for patients with immunocompromising conditions or those with respiratory infections; scientists studying host responses to infection and antimicrobial mechanisms; environmental and public health experts who identify populations at risk for pneumonia and sources of infectious threats

Objectives

At the conclusion of this session, the participant will be able to:

- identify risks for pneumonia in populations not conventionally considered immunocompromised;
- gain new strategies to mitigate risks of pneumonia in patients at elevated risk;
- identify mechanisms of host dysfunction in patients with chronic non-pulmonary diseases.

Pneumonias are a leading cause of morbidity in all populations, but exact an extreme toll on patients with immunocompromising conditions. Advances in science and medicine have extended the spectrum of patients identified to be at high risk of pneumonia, both through an expanding array of immunosuppressive agents and regimens and through an increased ability to identify immune dysfunction in patients with chronic medical conditions not previously thought to impair host responses. This session will provide state of the art updates on diagnosis and management of immunocompromised host pneumonia with emphasis on novel mechanisms underlying immune dysfunction.

Chairing: S.E. Evans, MD, Houston, TX
M.I. Restrepo, MD, MSc, San Antonio, TX
K.A. Crothers, MD, Seattle, WA

- 2:15 HIV-Associated Pneumonia**
K.A. Crothers, MD, Seattle, WA
- 2:35 Novel Biologic Agents and Pneumonia**
J.M. Keane, MD, Dublin, Ireland
- 2:55 Pneumonia in Patients with Solid Organ Transplants**
C.A. Hage, MD, Indianapolis, IN
- 3:15 Pneumonia in Stem Cell Transplantation and Cancer Chemotherapy**
S.E. Evans, MD, Houston, TX
- 3:35 Pneumonia in the Elderly**
M.I. Restrepo, MD, MSc, San Antonio, TX
- 3:55 Pneumonia in Immunocompromising Metabolic Conditions**
S. Aliberti, MD, Milan, Italy

There will be a 5-minute discussion after each talk.

CLINICAL

SCIENTIFIC SYMPOSIUM

B90 DISCUSSION AND DEBATE IN THE MANAGEMENT OF PULMONARY EMBOLISM

Assemblies on Pulmonary Circulation; Clinical Problems; Critical Care

2:15 p.m. - 4:15 p.m.

Target Audience

Providers of lung health, pulmonary and critical care physicians and APPs, thoracic and cardiovascular surgeons; registered nurses; advanced practice nurses

Objectives

At the conclusion of this session, the participant will be able to:

- gain a better understanding of the appropriate use of thrombolysis in “intermediate risk” pulmonary embolism, and the relative risks and benefits of catheter directed vs. systemic thrombolysis;

- more appropriately utilize, or decide to forgo the use of IVC filters in the management of acute VTE;

The session will cover a number of important and evolving areas in the management of acute pulmonary embolism. We will start the session with pro-con debates regarding 2 especially controversial areas; the use of IVC filters in the management of PE and the use of systemic lysis vs. anticoagulation alone for sub-massive or “intermediate risk” PE. We will then discuss an evidence based approach to the evaluation, treatment and disposition of PE patients in the Emergency Department. Finally, we will present some case vignettes dealing with the previously discussed topics. Using “Audience Participation Devices” we will have the attendees register their management decisions. The cases will then be discussed by the panel and the audience, thus driving home the points made in the earlier discussions.

Chairing: T.M. Bull, MD, Aurora, CO
R.N. Channick, MD, Boston, MA
B. Rivera-Lebron, MD, MS, Pittsburgh, PA

- 2:15 PRO: IVC Filters Play an Important Role in the Management of PE**
V.F. Tapson, MD, West Hollywood, CA
- 2:30 CON: IVC Filters Should Rarely Be Used in Acute PE**
T.M. Bull, MD, Aurora, CO
- 2:50 PRO: Thrombolytics for Intermediate Risk PE**
S. Konstantinides, MD, PhD, Mainz, Germany
- 3:05 CON: Thrombolytics for Intermediate Risk PE**
D. Jimenez, MD, PhD, Madrid, Spain
- 3:25 PE Out of the ED**
J.A. Kline, MD, Indianapolis, IN
- 3:50 You Make the Call: Real Life Cases of PE. What Would You Do? What Was Actually Done? What Was the Outcome?**
R.N. Channick, MD, Boston, MA
B. Rivera-Lebron, MD, MS, Pittsburgh, PA

BEHAVIORAL • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

B91 IMPLEMENTATION SCIENCE IN PULMONARY, CRITICAL CARE, SLEEP AND PEDIATRIC MEDICINE: HOW SOON IS NOW?

Assemblies on Allergy, Immunology and Inflammation; Behavioral Science and Health Services Research; Clinical Problems; Critical Care; Environmental, Occupational and Population Health; Microbiology, Tuberculosis and Pulmonary Infections; Nursing; Pediatrics; Pulmonary Circulation; Pulmonary Rehabilitation; Sleep and Respiratory Neurobiology; Thoracic Oncology

2:15 p.m. - 4:15 p.m.

Target Audience

Physicians; nurses; allied health professionals; junior physicians; clinical researchers

Objectives

At the conclusion of this session, the participant will be able to:

- define terminology and tools used in implementation science;
- identify how to determine appropriate targets for implementation science across different clinical settings;
- learn new information about resources within NHLBI to promote implementation science research.

Translating evidence based care into clinical practice is a difficult and challenging endeavor. With mounting emphasis on high quality evidence based care, increasingly complex interventions and growing interest in funding implementation science efforts, clinicians and researchers alike require a firm grasp of implementation science and its application in health care. This session will introduce participants to implementation science in pulmonary, critical care, sleep, and pediatric medicine. It will provide current examples of implementation science approaches in these settings and provide practical approaches as to

how to minimize the gap between theory, research and clinical practice.

Chairing: D.K. Costa, PhD, RN, Ann Arbor, MI
C.H. Weiss, MD, Chicago, IL
M.N. Gong, MD, MS, Bronx, NY

- 2:15 Quality Improvement on Speed? Defining What Implementation Science Is and Is Not**
L.C. Feemster, MD, MSc, Seattle, WA
- 2:25 Is Implementation Local or Global? How Implementation Science Frameworks Can Guide Research and Practice**
D.K. Costa, PhD, RN, Ann Arbor, MI
- 2:35 Where's the Bulls Eye? Identifying Targets for Implementation in Pulmonary Rehabilitation**
S.J. Singh, PhD, Leicester, United Kingdom
- 2:50 Implementation During Imperfect Evidence: Lung Cancer Screening**
D.E. Midthun, MD, Rochester, MN
- 3:05 When Guidelines Aren't Enough: Barriers to Implementing Tuberculosis Guidelines for Children and Adults**
P. LoBue, MD, Atlanta, GA
- 3:20 Beyond Barriers: Strategies to Optimize Implementation in CPAP Treatment Adherence Research**
T. Weaver, PhD, RN, Chicago, IL
- 3:35 Competing Interests? Strategies for Collaborative Implementation with Multiple Stakeholders**
K.J. Cummings, MD, MPH, Morgantown, WV
- 3:50 Show Me the Money! Funding Priorities for Translating Evidence Into Practice**
L. Price, PhD, Bethesda, MD
- 4:00 Questions and Answers: Panel Discussion**
D.K. Costa, PhD, RN, Ann Arbor, MI

CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

B92 100 YEARS OF AJRCCM 1917-2017

2:15 p.m. - 4:15 p.m.

Target Audience

All ATS membership and meeting attendees including clinicians, basic scientists, epidemiologists, doctors and scientists in training and other health care professionals

Objectives

At the conclusion of this session, the participant will be able to:

- learn about the history of AJRCCM and its development to a full respiratory and critical care journal;
- understand some of the best past and current papers in AJRCCM and how they have influenced clinical practice and research;
- learn about key changes in medical publishing and how to prepare for them (e.g. data sharing).

This is the AJRCCM Centenary Symposium to celebrate 100 years of the journal. We would like to show how the journal has evolved through the years and embraced developments in medical research and publishing. We will discuss key papers in respiratory medicine and critical care that have changed medical practice and then review some of the current, recently accepted papers in the journal. The session will end with a special lecture by Dr. Jeff Drazen on developments in medical publishing and how they enhance publications.

Chairing: J.R. Balmes, MD, San Francisco, CA
R. Hubmayr, MD, Rochester, MN

- 2:15 AJRCCM at 100**
J.A. Wedzicha, MD, PhD, London, United Kingdom
- 2:30 Key Papers That Have Changed Practice: Respiratory**
P. Calverley, MBChB, Liverpool, United Kingdom
- 2:45 Key Papers That Have Changed Practice: Critical Care**
L.J. Brochard, MD, Toronto, Canada
- 3:00 AJRCCM Centenary Papers: COPD**
F.J. Martinez, MD, New York, NY

- 3:15 AJRCCM Centenary Papers: Asthma**
F.D. Martinez, MD, Tucson, AZ
- 3:30 AJRCCM Centenary Papers: Critical Care**
B.T. Thompson, MD, Boston, MA
- 3:45 Recent Developments in Medical Publishing
and a Look to the Future**
J.M. Drazen, MD, Boston, MA

2:15 p.m. - 4:15 p.m.

**Oral And Poster Presentations Of Scientific
Research And Case Reports. Abstract Sessions
Will Be Published In The Final Program.**

5:00 p.m. - 7:00 p.m.

ASSEMBLY MEMBERSHIP MEETINGS

The fourteen Assemblies are the primary groups of the American Thoracic Society. Each Assembly holds an annual Membership Meeting at the International Conference. All Assembly members and other interested individuals are invited to attend.

The Assembly Membership Meetings provide an update on the Assembly's activities via the Assembly's Leadership and provide Assembly members the chance to have input on future directions, information on how to get involved and networking opportunities. Voting results for the Assembly's future leaders will also be announced.

The Assembly Membership Meetings will be held on Monday, May 22, 2017, 5:00 p.m. - 7:00 p.m., with the exception of the Assemblies on Behavioral Science and Health Services Research and Pediatrics (see below.)

ALLERGY, IMMUNOLOGY AND INFLAMMATION

Chairing: Mitchell A. Olman, MA, MD, Cleveland, OH

BEHAVIORAL SCIENCE AND HEALTH SERVICES RESEARCH

Chairing: Christopher H. Goss, MD, MSc, Seattle, WA
This meeting will be held on Sunday, May 21st.

CLINICAL PROBLEMS

Chairing: Sanjay Sethi, MD, Buffalo, NY

CRITICAL CARE

Chairing: Carolyn S. Calfee, MD, San Francisco, CA

ENVIRONMENTAL OCCUPATIONAL AND POPULATION HEALTH

Chairing: Jack R. Harkema, DVM, PhD, East Lansing, MI

MICROBIOLOGY, TUBERCULOSIS AND PULMONARY INFECTIONS

Chairing: Kevin P. Fennelly, MD, MPH, Bethesda, MD

THORACIC ONCOLOGY

Chairing: Michael K. Gould, MD, MS, Pasadena, CA

NURSING

Chairing: Eileen G. Collins, PhD, Chicago, IL

PEDIATRICS

Chairing: James Chmiel, MD, PhD, Cleveland, OH
This meeting will be held on Sunday, May 21st.

PULMONARY CIRCULATION

Chairing: Troy Stevens, PhD, Mobile, AL

PULMONARY REHABILITATION

Chairing: Carolyn L. Rochester, MD, Cheshire, CT

RESPIRATORY CELL AND MOLECULAR BIOLOGY

Chairing: Irina Petrache, MD, Denver, CO

RESPIRATORY STRUCTURE AND FUNCTION

Chairing: Blanca Camoretti-Mercado, PhD, Tampa, FL

SLEEP AND RESPIRATORY NEUROBIOLOGY

Chairing: Susheel P. Patil, MD, PhD, Baltimore, MD

7:00 p.m. - 10:00 p.m.

ASSEMBLY DINNERS AND RECEPTIONS

Assembly members and non-members, students and fellows are invited to join us for an evening of networking, great company, and camaraderie. This is a wonderful opportunity to introduce young members and trainees to Assembly leaders, to connect with old friends and to set up new interactions and collaborations.

R Pre-registration and an additional fee are required. Seating is limited. Please register through online general registration by clicking the Register Now button above.

The following Assemblies will hold a dinner or reception on Monday May 22, 2017 from 7:00 p.m. - 10:00 p.m. immediately following the Assembly Membership Meetings.

Assembly on Allergy, Immunology and Inflammation &

Assembly on Respiratory Cell and Molecular Biology

Joint Reception

Fellow - \$30.00

Member - \$50.00

Non-Member - \$60.00

Assembly on Critical Care Reception

Fellow - \$30.00

Member - \$50.00

Non-Member - \$60.00

Assembly on Microbiology, Tuberculosis and Pulmonary Infections Reception

Fellow - \$30.00

Member - \$50.00

Non-Member - \$60.00

Assembly on Pediatrics Dinner

Fellow - \$65.00

Member - \$75.00

Non-Member - \$85.00

Assembly on Respiratory Structure and Function Reception

Fellow - \$40.00

Member - \$40.00

Non-Member - \$40.00

Assembly on Sleep and Respiratory Neurobiology Reception

Fellow - \$30.00

Member - \$50.00

Non-Member - \$60.00

Assembly on Thoracic Oncology Reception

Fellow - \$20.00

Member - \$35.00

Non-Member - \$45.00



CLINICAL

PEDIATRIC CLINICAL CORE CURRICULUM

PCC3 PEDIATRIC CLINICAL CORE CURRICULUM

Pediatric Core Curriculum Working Group

7:00 a.m. - 8:00 a.m.

Target Audience

Pediatric pulmonary and critical care physicians who work in a clinical setting and are currently engaged in maintenance of certification

Objectives

At the conclusion of this session, the participant will be able to:

- remain current with medical knowledge relevant to their practice in pediatric pulmonology;
- evaluate their understanding of key skills and content areas in pediatric pulmonology as well as receive feedback on their comprehension of a result of a pre-test/post-test comparison;
- support clinicians who are engaged in maintenance of certification activities by providing updates on subjects included in recertification requirements.

The Pediatric Core Curriculum symposia promote lifelong learning and the enhancement of the clinical judgment and skills essential for practicing pediatrician. The symposia will address topics that have been

identified by an ATS pediatric working group, which is comprised of members of the ATS Education Committee and the International Conference Committee, who have identified important areas within pediatric medicine (including severe asthma, ILD, BPD, pulmonary hypertension and pulmonary manifestations of pulmonary disease). Attendees will increase their medical knowledge as a result of attending this symposium, and this will be measured by a comparison of pre-test vs. post-test results on the corresponding maintenance of certification module. The ATS Pediatric Core Curriculum will focus on a 3-year content cycle of key medical content in the area of pediatric medicine.

Chairing: M.K. Abe, MD, Chicago, IL

7:00 BPD: Pathophysiology and NICU Management
E.G. Shepherd, MD, Columbus, OH

7:30 BPD: Outpatient Management
H.B. Panitch, MD, Philadelphia, PA

SUNRISE SEMINARS

R Registration Fee: \$50.00 (includes continental breakfast.)

Attendance is limited. Pre-registration is required.

7:00 a.m. - 8:00 a.m.

SS201 THE ROLE OF APOLIPOPROTEINS IN ASTHMA AND LUNG DISEASE
A.V. Barochia, MBBS, MHS, Bethesda, MD

SS202 BETTER "BOARDING": AN OPERATIONS APPROACH TO IMPROVING CARE AT THE ED-ICU INTERFACE
K.S. Mathews, MD, MPH, New York, NY

SS203 DECIPHERING CONNECTIVE TISSUE DISEASE SEROLOGIES IN IDIOPATHIC INTERSTITIAL PNEUMONIA
C. Johnson, MD, Baltimore, MD

SS204 EVALUATING THE PATIENT WITH SUSPECTED PULMONARY HYPERTENSION: GUIDELINES AND CONTROVERSIES
N.F. Chaisson, MD, Cleveland, OH

- SS205 LAMA, LABA, ICS AND COMBINATIONS: DEMYSTIFYING CURRENT INHALER THERAPIES IN COPD**
M. Dulohery, MD, Rochester, MN
- SS206 HOW DONOR LUNG ALLOCATION WORKS: A PRIMER FOR THE REFERRING PROVIDER**
W.M. Tsuang, MD, MHS, Cleveland, OH
- SS207 PLEURAL INFECTION: BEST PRACTICE IN DIAGNOSIS AND TREATMENT**
N.M. Rahman, MD, PhD, Oxford, United Kingdom
- SS208 MY ASYMPTOMATIC ILD PATIENT HAS POSITIVE SEROLOGIES. WHAT TO DO?**
A. Brown, MD, BSN, Atlanta, GA
- SS209 FRAILTY ASSESSMENT TOOLS FOR ICU: TRANSLATING AGING BIOLOGY TO IMPROVE CARE**
A.A. Hope, MD, MSCE, Bronx, NY
- SS210 REAL-WORLD SPIROMETRY: AVOIDING TECHNICAL PITFALLS AND CHOOSING AN INTERPRETATION ALGORITHM**
M. Townsend, PhD, Pittsburgh, PA
- SS211 EXTENSIVELY DRUG RESISTANT TUBERCULOSIS: UPDATES IN EPIDEMIOLOGY, DIAGNOSIS, AND TREATMENT**
M. O'Donnell, MD, MPH, New York, NY
- SS212 IMPLICATIONS AND MANAGEMENT OF ANXIETY, DEPRESSION, AND FATIGUE IN CHRONIC LUNG DISEASE**
M. Bors, MA, RN, Minneapolis, MN
R. Tomic, MD, Minneapolis, MN
- SS213 WHY CAN'T I GET THIS BABY OFF OXYGEN?**
D.R. Liptzin, MD, Aurora, CO
- SS214 THE BIG CLOT: HEMODYNAMICS, RISK STRATIFICATION AND TREATMENT OF MAJOR PULMONARY EMBOLISM**
H. Poor, MD, New York, NY
- SS215 MECHANOTRANSDUCTION IN LUNG DISEASE**
B.D. Southern, MD, Cleveland, OH

- SS216 THINKING OF STARTING A BRONCHIAL THERMOPLASTY PROGRAM: WHAT YOU NEED TO KNOW IN 2017**
O. Epelbaum, MD, Valhalla, NY
- SS217 INSOMNIA IN SLEEP APNEA PATIENTS: WHEN AND HOW SHOULD YOU TREAT?**
M. Grandner, PhD, Tucson, AZ
- SS218 TARGETING TUMOR-ASSOCIATED MACROPHAGES CAN BE THE PATH TO WIN THE WAR ON CANCER**
R. Savai, PhD, Bad Nauheim, Germany

FACULTY DEVELOPMENT SEMINAR

FD2 WALKING THE TIGHTROPE TO TENURE AND PROMOTION: YOUR FIRST SEVEN YEARS

R Pre-registration is required. Attendance is limited. There is no additional fee.

7:00 a.m. - 8:00 a.m.

Target Audience

Clinical and research fellows, post-doctoral fellows, residents, and junior faculty in the early stages of a career in academic pulmonary, allergy, critical care, and/or sleep medicine

Objectives

At the conclusion of this session, the participant will be able to:

- identify specific career opportunities and benchmarks and strategies to attain tenure or equivalent status in academic medicine and industry research;
- describe the differences between tenure track and non-tenure track pathways and their equivalent within academic medicine and advancement in industry;
- review how expectations of performance and benchmarks for promotion vary depending on career path.

Trainees and early career faculty must plan carefully in order to succeed in the critical first phase of their careers - the first 7 years after their initial appointment. During this crucial phase of their nascent careers, they

must establish their own professional career independent of their previous supervisors/mentors in their areas of focus that may include research, clinical care, education, and/or creative professional activity. This is in addition to the stresses of personal and family life that may sometimes overshadow professional development. There are very different expectations and benchmarks that define success within these different career paths in both academic and non-academic institutions that may not be clear to trainees or early career faculty. The goal of this session is to bring together representatives from academic institutions and

industry for an interactive panel discussion to allow attendees to explore the options for career development through a moderated interaction between the panel discussants and the attendees.

Chairing: G.P. Downey, MD, Denver, CO

Speakers: M. Peters-Golden, MD, Ann Arbor, MI
A. Morris, MD, Pittsburgh, PA
A. Rogers, MD, MPH, Palo Alto, CA
C.S. Calfee, MD, San Francisco, CA
M.B. Fessler, MD, Research Triangle Park, NC
J.J. Reilly, MD, Aurora, CO



BASIC • CLINICAL • TRANSLATIONAL

ATS KEYNOTE SERIES

The Keynote Series provides state of the art lectures on selected topics in an unopposed format to showcase major discoveries in pulmonary, critical care and sleep medicine. The speakers have been chosen by input from the members and various ATS committees with consensus built via the ATS executive committee.

Two sessions are presented each morning during the conference.
Below are the topics for the Tuesday, May 23rd series.

**K5 CHANGING FACE OF AN OLD ENEMY: NEW INSIGHTS
INTO THE PATHOGENESIS AND MANAGEMENT OF
DRUG-RESISTANT TB**

8:15 a.m. - 9:00 a.m.

Speaker: K.U.J. Dheda, MD, PhD, Cape Town, South Africa

This session will be chaired by J. Mandel, MD, La Jolla, CA

**K6 LUNG CANCER TRIALS IN THE AGE OF PRECISION
MEDICINE**

8:15 a.m. - 9:00 a.m.

Speaker: E. Vokes, MD, Chicago, IL

This session will be chaired by P.E. Parsons, MD, Burlington, VT

CLINICAL

YEAR IN REVIEW

C1 CLINICAL YEAR IN REVIEW 3

9:15 a.m. - 11:15 a.m.

Target Audience

Providers including physicians; registered nurses; advanced practice nurses; respiratory therapists; physician assistants; trainees including residents and fellows; clinical

Objectives

At the conclusion of this session, the participant will be able to:

- apply new clinical research knowledge to clinical practice;
- gain new strategies to manage the care of common conditions in pulmonary, critical care, and sleep;
- apply new findings about key conditions in pulmonary, critical care and sleep.

The annual Clinical Year in Review symposia topics are reviews of key clinical research publications over the last year. Each speaker is asked to review the 5-7 most important and influential publications on their topic in the prior year.

Chairing: D.J. Lederer, MD, MS, New York, NY
D.W. Ford, MD, MSCR, Charleston, SC
V.E. Ortega, MD, PhD, Winston-Salem, NC

9:15 TB/NTM
C.L. Daley, MD, Denver, CO

9:45 The Host Microbiome in Lung Disease
Y.J. Huang, MD, Ann Arbor, MI

10:15 Non-CF Bronchiectasis
J.D. Chalmers, MBChB, PhD, Dundee, United Kingdom

10:45 Lung Transplantation
L.G. Singer, MD, Toronto, Canada

CLINICAL • TRANSLATIONAL

CLINICAL TOPICS IN PULMONARY MEDICINE

C2 PRACTICE CHANGING CLINICAL TRIALS IN PLEURAL DISEASES: IMPACT ON DAY-TO-DAY CARE

Assemblies on Clinical Problems; Critical Care

9:15 a.m. - 11:15 a.m.

Target Audience

Clinicians and allied health professionals with clinical and research responsibilities in respiratory diseases; especially chest physicians, interventional pulmonologists, medical oncologists, respiratory nurses, thoracic surgeons, internists, general physicians and junior staff; scientists engaged in translational respiratory research

Objectives

At the conclusion of this session, the participant will be able to:

- review the latest clinical trial evidence on best management of malignant pleural effusions, especially regarding the use of indwelling pleural catheters vs pleurodesis as well as future directions in the field;
- understand and review the latest clinical trial evidence on best management of pleural infection, especially intrapleural therapy with tPA DNase, and the ongoing work on their best delivery regimes;
- review the latest research finding in mesothelioma and how it should influence clinical care.

The last five years, but particularly in the past 24 months, we have seen a significant number of multicentered clinical trials completed in pleural diseases. Their results have direct and immediate impact on day-to-day clinical practice of pleural disease management. Most of these studies have been published in high impact journals: including trials on malignant effusions, e.g. the Therapeutic Intervention in Malignant Effusion (TIME)-1 and -2 trials (both in JAMA), on mesothelioma including the SMART trial (in Lancet Oncology), the MAPPs and Meso-VATS trials (both in Lancet), and on pleural infection e.g. the Multicentre Intrapleural Sepsis Trial (MIST)-2 (in

NEJM), and on pneumothorax, e.g. the minocycline trial (in Lancet). Several large trials including the Australasian Malignant Pleural Effusion (AMPLE)-1, ASAP and MIST-3 have just been completed. The proposed session will summarize the key findings of the latest studies and ongoing ones.

Chairing: V.C. Broaddus, MD, San Francisco, CA
Y.G. Lee, MBChB, PhD, Perth, Australia

- 9:15 Breathlessness with Pleural Effusion: Latest Results on Why and How to Measure**
E. Mishra, MRCP, DPhil, Norwich, United Kingdom
- 9:30 Practice Changing Clinical Trials in Malignant Pleural Effusions**
Y.G. Lee, MBChB, PhD, Perth, Australia
- 9:55 Practice Changing Clinical Trials in Pleural Infection**
N.M. Rahman, MD, PhD, Oxford, United Kingdom
- 10:20 Practice Changing Clinical Trials in Malignant Mesothelioma**
N.A. Maskell, MD, Bristol, United Kingdom
- 10:45 Practice Changing Clinical Trials in Pneumothorax**
M. Baumann, MD, Salt Lake City, UT
- 11:00 Novel Intervention and Imaging Impacting on Pleural Management**
D.J. Feller-Kopman, MD, Baltimore, MD

There will be a 5-minute discussion after each talk.

CLINICAL

CLINICAL TOPICS IN PULMONARY MEDICINE

C3 OBESITY AND LUNG DISEASE

Assemblies on Clinical Problems; Behavioral Science and Health Services Research; Environmental, Occupational and Population Health

9:15 a.m. - 11:15 a.m.

Target Audience

Providers of lung health; registered nurses; advanced practice nurses

Objectives

At the conclusion of this session, the participant will be able to:

- gain advance clinicians knowledge about individuals with overlap of lung disease and obesity;
- integrate newly acquired knowledge into clinical practice by personalizing management of obese individuals with pulmonary diseases;
- improve patient related outcomes by delivering personalized medicine.

Obesity is known to negatively affect the lung function. In some pulmonary disorders (COPD) obesity has been viewed in the past to offer a protective role in survival. Nevertheless, the prevalence of obesity has increased alarmingly in the past years changing epidemiology and significant body of research strongly suggests negative impact of obesity on the lung health. In addition obesity is a risk factor for many chronic diseases and will advance comorbidities for pulmonary disorders leading to worse outcomes. Current guidelines lack tailored approach to obese individuals with pulmonary disorders. Nevertheless, experts in the field believe that personalized management is needed for these individuals.

Chairing: T. Beiko, MD, Charleston, SC
A.E. Dixon, MD, Burlington, VT

- 9:15 Impact of Obesity on Pulmonary Mechanics**
N. Berend, MD, Sydney, Australia
- 9:35 Asthma and Obesity**
A.E. Dixon, MD, Burlington, VT
- 9:55 COPD and Obesity**
T. Beiko, MD, Charleston, SC
- 10:15 OSA/Obesity Hypoventilation Syndrome and Obesity**
A.R. Schwartz, MD, Baltimore, MD
- 10:35 Acute Respiratory Distress Syndrome and Obesity**
A.J. Goodwin, MD, MSCR, Charleston, SC
- 10:55 Pulmonary Hypertension and Obesity**
A.R. Hemnes, MD, Nashville, TN

There will be a 5-minute discussion after each talk.

CLINICAL

CRITICAL CARE TRACK

C4 A STITCH IN TIME: CONTROVERSIES IN CRITICAL CARE BEST PRACTICES AND THEIR EFFECT ON PATIENT CENTERED OUTCOMES

Assemblies on Critical Care; Behavioral Science and Health Services Research

9:15 a.m. - 11:15 a.m.

Target Audience

Critical care clinical researchers, clinicians and trainees, registered nurses, advanced practice nurses

Objectives

At the conclusion of this session, the participant will be able to:

- improve the quality of life/health status of patients by understanding the impact of commonly used ICU therapies on survivorship;
- apply common ICU therapies (intravenous fluids, neuromuscular blockade, early mobilization) to optimize patient function after critical illness;
- gain new strategies for addressing long-term survivorship after critical illness.

The session will review the impact of three controversial intensive care unit therapies (intravenous fluids, neuromuscular blockade and early mobilization) on patient centered outcomes. The session will follow a pro-con format led by experts in these three therapies. Speakers will review the pertinent literature in support of their position and identify research gaps in our knowledge of long-term effects of ICU therapies. After the pro and con positions are presented, there will be discussion time allotted for debate between the speakers and with the audience members.

Chairing: C.L. Hough, MD, Seattle, WA
R.N. Bakhru, MD, Winston-Salem, NC
W.D. Schweickert, MD, Philadelphia, PA

9:15 PRO: Don't Hold Back Those Fluids Just Because Your New Gadget Says So
M.W. Sjoding, MD, Ann Arbor, MI

9:30 CON: Wading in the Ocean: It's Time to Stop Salt-Loading Our Patients
K. Mitchell, MD, Seattle, WA

9:45 Panel Discussion

9:55 PRO: Just a Little Neuromuscular Blockade Helps the Medicine Go Down
D.C. Files, MD, Winston-Salem, NC

10:10 CON: Muscles Can No Longer Be Collateral Damage
M.S. Herridge, MD, MPH, Toronto, Canada

10:25 Panel Discussion

10:35 CON: Moving the Unmovable
M. Moss, MD, Aurora, CO

10:50 PRO: It's Time to Get Our Patients Moving!
W.D. Schweickert, MD, Philadelphia, PA

11:05 Panel Discussion

BASIC • TRANSLATIONAL

BASIC SCIENCE CORE

C5 EARLY LIFE ENVIRONMENTAL PROGRAMMING OF CHRONIC LUNG DISEASE

Assemblies on Allergy, Immunology and Inflammation; Environmental, Occupational and Population Health; Microbiology, Tuberculosis and Pulmonary Infections; Pediatrics; Respiratory Cell and Molecular Biology; Respiratory Structure and Function

9:15 a.m. - 11:15 a.m.

Target Audience

Basic scientists, physician scientists and clinicians interested in learning about environmental factors that may affect peri- and postnatal development of immunity and lung function, ultimately predisposing pediatric populations to the development of chronic adult disease.

Objectives

At the conclusion of this session, the participant will be able to:

- describe what is currently known about normal immune and lung development during early life;

- gain an understanding of why early childhood is a window of susceptibility to environmental exposures;
- consider novel strategies to prevent or limit the detrimental respiratory/immune effects of environmental exposures.

There is growing evidence to suggest that chronic lung disease in adults originate from events that take place during peri- or post-natal development. This session will communicate recent advances in our understanding of how early life environmental exposures (air pollutants, microbes, viruses) contribute to the development of chronic lung disease in children and adults. Leading experts will discuss the distinct responses of pediatric populations to environmental exposures using experimental animal models and human studies, with an emphasis on parameters of immunity and lung function.

Chairing: L.A. Miller, PhD, Davis, CA
I.P. Lewkowich, PhD, Cincinnati, OH

- 9:15 The Intersection of the Environment and the Development of Asthma**
S.A. Cormier, PhD, Memphis, TN
- 9:35 Maternal Asthma, Air Pollutant Exposures and Neonatal Health**
P. Mendola, PhD, Bethesda, MD
- 9:55 Influence of Age and Environment on Innate Immune Function**
L.A. Miller, PhD, Davis, CA
- 10:15 Developmental Differences in the Response to Rhinovirus Infection**
M.B. Hershenson, MD, Ann Arbor, MI
- 10:35 The Early Life Microbial Environment and Asthma**
E. von Mutius, MD, MS, Munich, Germany
- 10:55 Impact of Environmental Pollutants on T Cell Populations**
K.C. Nadeau, MD, PhD, Stanford, CA

There will be a 5-minute discussion after each talk.

BEHAVIORAL • CLINICAL

SCIENTIFIC SYMPOSIUM

C6 REDUCING READMISSIONS FOR COPD: STRATEGIES, ISSUES AND RESULTS

Assemblies on Behavioral Science and Health Services Research; Clinical Problems; Nursing; Pulmonary Rehabilitation

9:15 a.m. - 11:15 a.m.

Target Audience

Multi-disciplinary providers interested in improving care for patients with COPD, including registered nurses, advanced practice nurses, respiratory therapists, pharmacists, physicians and psychologists; clinicians and researchers with an interest in quality improvement and implementation science; hospital administrators; those interested in learning about emerging evidence of effective strategies to reduce re-hospitalization for patients with COPD

Objectives

At the conclusion of this session, the participant will be able to:

- identify social determinants of health that place patients at risk for readmission after hospitalization for AECOPD;
- gain understanding about interventions that can be implemented in their clinical practice to improve quality of care for patients with COPD, with a goal of reducing readmissions;
- identify limitations of common quality improvement designs and understand newer designs that allow for valid inferences from these initiatives.

Hospitals are being penalized for excessive COPD readmission. During the 2016 conference, BSHSR sponsored a workshop to bring together experts in COPD to present their current approaches to reduce COPD readmission. We will review lessons learned from the workshop, including:

- 1) Effects of social determinants of health on readmission and the role of patient navigators to overcome disparities;

- 2) Issues of when and how to deliver scarce interventions, using pulmonary rehab as the model;
- 3) Important considerations when entering value-based partnerships with health care payers; and
- 4) Innovative mechanisms to overcome traditional silos of care delivery, including inter-professional teams and telehealth technologies.

Chairing: L.C. Feemster, MD, MSc, Seattle, WA
D.H. Au, MD, MS, Seattle, WA
V.G. Press, MD, MPH, Chicago, IL

9:15 COPD Readmission and Social Determinants of Health: What Are They, Can I Do Anything About Them?

A.S. Gershon, MD, MSc, Toronto, Canada

9:35 Improving Care Delivery by Partnering with Patient Navigators and Peer Advocates

M. Joo, MD, MPH, Chicago, IL

9:55 Pulmonary Rehabilitation: When and Where?

J. Bourbeau, MD, Montreal, Canada

10:15 A Value-Based CMS Reimbursement Demonstration Project to Reduce COPD Readmissions

M. Dransfield, MD, Birmingham, AL

10:35 A Program and Policy Level Analysis of an Inter-Professional COPD Readmissions Reduction Program

V.G. Press, MD, MPH, Chicago, IL

10:55 Health Systems Approach to Engagement and Learning

D.H. Au, MD, MS, Seattle, WA

There will be a 5-minute discussion after each talk.

BASIC • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

C7 EVOLUTION AND IMPACT OF THE MICROBIOME IN PEDIATRIC INFLAMMATORY AIRWAY DISEASES

Assemblies on Pediatrics; Respiratory Cell and Molecular Biology

9:15 a.m. - 11:15 a.m.

Target Audience

Pediatric pulmonologists, basic and translational scientists investigating the airway microbiome and its impact on the origins of lung diseases

Objectives

At the conclusion of this session, the participant will be able to:

- learn new findings about the influence of the microbiome on the development of pediatric inflammatory airway diseases;
- understand and learn new findings about the relationship of microbiome profiles and diversity to disease severity in pediatric inflammatory airway diseases;
- identify future areas of research that are needed to describe how the microbiome profile in pediatric inflammatory airway diseases might be altered to decrease the risk of disease onset or disease progression.

The airway microbiome affects the development and severity of many pediatric inflammatory airway conditions, including chronic lung disease of prematurity, asthma, cystic fibrosis, and chronic otitis media with effusion. The cross-talk between the microbiota in various locations within the airway, as well as microbiota within the intestines, also has an impact on overall pulmonary health and immunity. This session, encompassing a diverse mix of national and international experts, will focus on both local and systemic effects of the microbiome in the upper and lower airways, temporal changes, and modulation of lung health via the gastrointestinal microbiome.

Chairing: J. LiPuma, MD, Ann Arbor, MI
R.J. Freishtat, MD, MPH, Washington, DC
A. Hahn, MD, Washington, DC

9:15 The Role of the Microbiome in Chronic Lung Disease of Prematurity

S. Kotecha, PhD, Cardiff, United Kingdom

9:30 Impact of the Microbiome on Risk of Asthma Development

C. Rosas-Salazar, MD, MPH, Nashville, TN

- 9:45 Evolution of the Airway Microbiome in Infants with Cystic Fibrosis (CF)**
E. Zemanick, MD, Aurora, CO
- 10:00 The Short-Term Dynamics of the Tracheal Microbiome in Tracheostomized Patients with Lower Respiratory Infections**
M. Perez-Losada, PhD, Ashburn, VA
- 10:15 The Microbiome of Chronic Otitis Media with Effusion (OME)**
D. Preciado, MD, PhD, Washington, DC
- 10:30 The Gut-Lung Axis: How the Intestinal Microbiome Impacts the Developing Lung and Lung Disease**
N. Ubags, PhD, Epalinges, Switzerland

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

C8 PRECISION MEDICINE IN PULMONARY VASCULAR DISEASES: ARE WE READY FOR THE FUTURE?

Assemblies on Pulmonary Circulation; Behavioral Science and Health Services Research; Clinical Problems; Environmental, Occupational and Population Health; Respiratory Cell and Molecular Biology

9:15 a.m. - 11:15 a.m.

Target Audience

Medical professionals who specialize in caring for patients with pulmonary vascular disorders; research scientists interested in pulmonary vascular biology; translational scientists; industry professionals; graduates and postgraduates students interested in pulmonary vascular biology

Objectives

At the conclusion of this session, the participant will be able to:

- understand how precision medicine can improve clinical management of pulmonary vascular disorders;
- learn new findings about genomic, proteomic and metabolic techniques and their implementation into precision medicine for pulmonary vascular diseases;

- introduce the concept of pharmacogenomics and how it can help design new treatment strategies for patients.

Precision medicine is an approach that takes into account individual variability in genes, environment, and lifestyle to identify clinical phenotypes that would benefit from targeted and highly effective therapies. Given the growing advances in our understanding of the pathobiology and management of pulmonary vascular disorders such as pulmonary arterial hypertension (PAH), pulmonary embolism (PE) and chronic thromboembolic pulmonary hypertension (CTEPH), the time is ripe to discuss how a precision medicine strategy could help facilitate the translation of scientific discoveries into clinical tools that can help improve our capacity to properly identify the optimal treatment strategy for these patients.

Chairing: C.E. Ventetuolo, MD, MS, Providence, RI
M. Wilkins, MD, London, United Kingdom
R.T. Zamanian, MD, Stanford, CA

- 9:15 A Patient's Perspective**
Speaker To Be Announced
- 9:20 Precision Medicine: A Novel Paradigm to Improve Our Understanding and Management of Pulmonary Vascular Disorders**
V. De Jesus Perez, MD, Stanford, CA
- 9:35 Genetics for Pulmonary Vascular Disorders: A Blueprint for Action**
E. Austin, MD, Nashville, TN
- 9:55 Proteomics and Risk Stratification for Pulmonary Vascular Diseases: Role of Precision Medicine**
R.T. Zamanian, MD, Stanford, CA
- 10:15 Capturing the Clinical Heterogeneity of Pulmonary Vascular Diseases with Metabolomics**
M. de Perrot, MD, MSc, Toronto, Canada
- 10:35 Pharmacogenomics for Pulmonary Vascular Diseases: Role in Drug Discovery**
M. Wilkins, MD, London, United Kingdom
- 10:55 Role of a Comprehensive Electronic Medical Record in Precision Medicine: What Is Needed**
E. Brittain, MD, Nashville, TN

BASIC • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

C9 MITOCHONDRIA BIOGENESIS AND DYSFUNCTION IN PULMONARY DISEASES

Assemblies on Respiratory Cell and Molecular Biology; Allergy, Immunology and Inflammation; Environmental, Occupational and Population Health; Pulmonary Circulation; Respiratory Structure and Function

9:15 a.m. - 11:15 a.m.

Target Audience

Basic and translational scientists working lung diseases. Lung health researchers, students, fellows, residents with clinical and research backgrounds

Objectives

At the conclusion of this session, the participant will be able to:

- learn about signaling and pathways for mitochondrial biogenesis and dysfunction in pulmonary health consequences;
- understand and learn the current research findings on mitochondrial dysfunctions in various pulmonary diseases and current/future thoughts/hypotheses on mitochondrial research;
- gain strategies for targeting mitochondrial dysfunction using various therapeutic approaches in clinical settings and animal models of pulmonary diseases based on stem cell transfer of mitochondria or activation of mitochondrial biogenesis, and/or removal of damaged/impaired mitochondria by selected/targeted approaches based on signaling pathways.

Emerging evidence sheds light on new mitochondrial functions that are not related to cellular energy production, which involve mitophagy (removal of damaged/impaired mitochondria from a cell prior to cell death) and mitochondrial protein quality control in aging. Mitochondrial function is associated with fission, fusion, and mitophagy in health and disease. The goal of this symposium is to highlight the recent advances of mitochondria research in lung cell biology, particularly

in mitochondria biogenesis, dysfunctional mitophagy, redox changes, metabolism, pulmonary infections, cell signaling, and repair or rejuvenation of the damaged mitochondria upon stress in the interdisciplinary areas of pulmonary diseases (acute lung injury, pulmonary hypertension, idiopathic pulmonary fibrosis/interstitial lung diseases, and COPD).

Chairing: I. Rahman, PhD, Rochester, NY
P.J. Lee, MD, New Haven, CT
S. Meiners, PhD, Munich, Germany
M. Goldklang, MD, New York, NY

9:15 Mitochondria Dysfunction and Biogenesis in Lung Disease

A.M.K. Choi, MD, New York, NY

9:35 Mitochondrial Metabolism and Cellular Redox Signaling

N.S. Chandel, PhD, Chicago, IL

9:55 Mitochondrial Dysfunction by Pulmonary Infection

C. Piantadosi, MD, Durham, NC

10:15 Mitochondria-Nuclear Signaling and Mitosenescence in Airway Diseases and During Exacerbations

I. Rahman, PhD, Rochester, NY

10:35 Mitochondrial Biogenesis, Dysfunction, and Signaling in Pulmonary Fibrosis

A.L. Mora, MD, Pittsburgh, PA

10:55 The Role of Mitochondria in Pulmonary Vascular Remodeling

E.D. Michelakis, MD, PhD, Edmonton, Canada

There will be a 5-minute discussion after each talk.

TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

C10 POSITIVE PRESSURE + NEGATIVE ADHERENCE = HIGH PRIORITY FOR SLEEP MEDICINE

Assemblies on Sleep and Respiratory Neurobiology; Behavioral Science and Health Services Research

9:15 a.m. - 11:15 a.m.

Target Audience

Clinical providers of any discipline, including nurses, and psychologists, as well as clinical sleep researchers

Objectives

At the conclusion of this session, the participant will be able to:

- understand the implications of poor PAP adherence as an issue that affects not just individual patient care, but also the planning and interpretation of important large-scale randomized trials in the field of SDB;
- learn and understand how technological, behavioral, and/or peer-driven approaches to maximize adherence may be incorporated into routine care, and planned research studies;
- understand how routinely collected PAP adherence metrics may be incorporated into big data analytics, and how this approach may impact policies regarding minimum PAP adherence thresholds currently in place in clinical practice.

This session will provide a context for why the issue of poor PAP adherence is a major challenge facing the sleep field. Speakers will discuss the impact that poor PAP adherence has on our ability to perform robust clinical trials, as well as various interventions designed to promote PAP adherence including behavioral therapies, technological approaches, and peer support. Finally, we will discuss the opportunities our field has in being at the forefront of adherence-behavior research by using objective adherence metrics gathered via remote monitoring in big data analyses.

Chairing: J. Bakker, PhD, Boston, MA
S. Parthasarathy, MD, Tucson, AZ
T. Weaver, PhD, RN, Chicago, IL

9:15 PAP Adherence: Reflections from a PAP User
Speaker To Be Announced

9:20 Pivotal Trials and PAP Adherence: How to Mend the Achilles Heel?
S. Kuna, MD, Philadelphia, PA

9:40 Disparities in PAP Adherence: Can We Close the Gap?

S. Parthasarathy, MD, Tucson, AZ

9:59 CBT for Promoting PAP Adherence: The Awakening!

C. Stepnowsky, PhD, La Jolla, CA

10:18 Peer Support for CPAP Adherence: Step Right Up!

J. Bakker, PhD, Boston, MA

10:37 Technology Promotes PAP Adherence: Paging Dr. Watson, IBM

D. Hwang, MD, Fontana, CA

10:56 Adherence Tracking and Informatics: Big Data, Big Plans

R.J. Schwab, MD, Philadelphia, PA

There will be a 5-minute discussion after each talk.

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

C11 POLLUTION EFFECTS ON THE EPIGENOME IN THE DEVELOPMENT OF CHRONIC LUNG DISEASE

Assemblies on Respiratory Cell and Molecular Biology; Allergy, Immunology and Inflammation; Environmental, Occupational and Population Health; Respiratory Structure and Function

9:15 a.m. - 11:15 a.m.

Target Audience

Clinicians, basic scientists, environmental health scientists, public health policy makers

Objectives

At the conclusion of this session, the participant will be able to:

- understand how exposure to ambient air pollution alters individuals' epigenomic profile;
- identify mechanisms by which pollution alters the epigenetic profile in different cell types within the lung;

- understand how epigenomic changes that occur in the setting of pollution contribute to the development of chronic lung disease including asthma, COPD, and pulmonary hypertension.

Air pollution is a global health problem estimated to contribute to 6.5 million deaths annually. It is a major risk factor for a number of lung diseases, but the pathogenic mechanisms by which this occurs are not completely understood. Epigenetic modifications, which are heritable changes to DNA and chromatin that do not affect the DNA code itself, are recognized as critical to the development of many diseases and are susceptible to environmental exposures.

In this session, we will hear from junior and senior faculty members who are leaders in the field the current knowledge of how pollution induces epigenetic changes that may contribute to the development of asthma, COPD, and pulmonary hypertension.

Chairing: S.K. Huang, MD, Ann Arbor, MI
Z. Borok, MD, Los Angeles, CA
I. Yang, PhD, Aurora, CO

9:15 Epigenomic Effects of Environmental Exposures

D. Dolinoy, PhD, Ann Arbor, MI

9:35 Effect of Pollution on the Epigenetic Profile of T Cells in Asthma

K.C. Nadeau, MD, PhD, Stanford, CA

9:55 Effect of Traffic Pollution on Epigenomic Changes in Bronchial Epithelium

C. Carlsten, MD, MPH, Vancouver, Canada

10:15 Circulating Extracellular Vesicles: Novel Mediators of Environmental Effects on the Lung

A. Baccarelli, PhD, New York, NY

10:35 Role of Epigenetic Changes in the Pathogenesis of Pulmonary Hypertension

K.R. Stenmark, MD, Aurora, CO

10:55 Smoke Signaling in Epigenetic Chromatin Modifications in COPD

I.K. Sundar, PhD, Rochester, NY

CLINICAL

SCIENTIFIC SYMPOSIUM

C12 PHYSICIAN PAYMENT IN THE UNITED STATES: PAST, PRESENT AND FUTURE OR WHAT IS MACRA (MEDICARE ACCESS AND CHIP REAUTHORIZATION ACT OF 2015)

Clinical Practice Committee; Assembly on Clinical Problems; Environmental, Occupational and Population Health

9:15 a.m. - 11:15 a.m.

Target Audience

U.S. based practicing clinicians who will be faced with implementing MACRA, the new quality based physician payment system

Objectives

At the conclusion of this session, the participant will be able to:

- learn about the new CMS Quality Payment Program;
- prepare provider practice for MACRA;
- understand the quality measures required for MACRA.

This session will introduce the participants to CMS's new quality based physician reimbursement model that is designed to replace the current fee-for-service model. This new complex approach will effect all practicing physicians in the U.S. over the next 3 years.

Chairing: S. Hoffmann, MD, Morgantown, WV
K. Nicolacakis, MD, Cleveland, OH

9:15 Introduction

S. Hoffmann, MD, Morgantown, WV

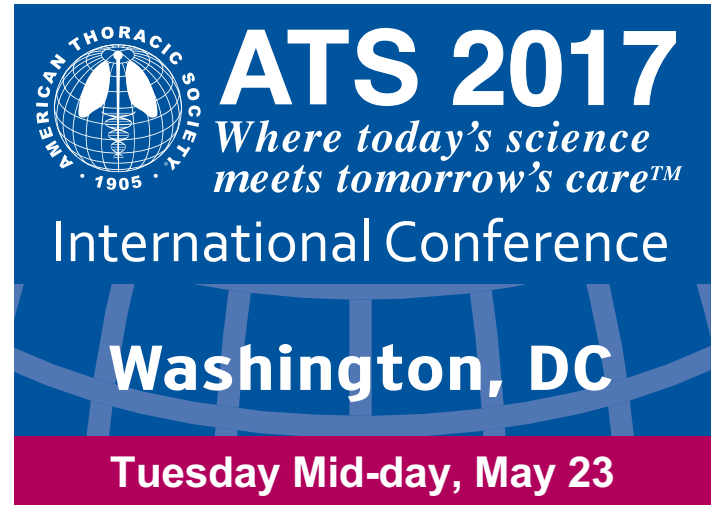
9:25 CMS Update on MACRA

K. Bryant, JD, Baltimore, MD

10:00 Tips for MIPS (The Merit-Based Incentive Payment System)

O. Hussain, DO, Melrose Park, IL

- 10:15 APMs (Advanced Alternative Payment Models) or Who's Ready for Prime Time?**
K. Nicolacakis, MD, Cleveland, OH
- 10:30 MIPS or APMs: What Is Right for You?**
S. Hoffmann, MD, Morgantown, WV
- 10:40 Big System Vs. Little Practice: What You Need to Know**
R.M. Hamrick, MD, Richmond, VA
- 10:55 Preparation and Questions and Answers: Apocalypse or Not**
K.L. Kovitz, MD, MBA, Elk Grove Village, IL



9:15 a.m. - 11:15 a.m

Oral And Poster Presentations Of Scientific Research And Case Reports Abstract Sessions Will Be Published In The Final Program.

11:45 a.m. – 1:15 p.m

ATS PLENARY SESSION

The ATS Plenary Session will feature a talk by **Marc L. Busch, PhD**, the Karl F. Landegger Professor of International Business Diplomacy at the School of Foreign Service, Georgetown University. Dr. Busch is an expert on international trade policy and law, author of the book *Trade Warriors*, and author of articles in the *American Journal of Political Science*, *American Journal of Sociology*, *British Journal of Political Science*, *Fordham International Law Journal*, *International Organization*, *Journal of Conflict Resolution*, *Journal of World Trade*, *World Politics* and *World Trade Review*. He has addressed a wide variety of governments and international institutions and has testified before the U.S. Congress on Airbus-Boeing litigation and the Canadian Senate on softwood lumber litigation. Dr. Busch will address the implications of multinational trade agreements on health care systems.

The ATS Plenary Session will also feature the introduction of the ATS slate of officers, the presentation of several awards, and remarks from ATS President **David Gozal, MD, MBA**, and ATS President-Elect **Marc Moss, MD**.

The following awards will be presented:

Outstanding Educator: **Henry Fessler, MD, Baltimore, MD**

Research Innovation and Translational Research: **Avrum Spira, MD, Msc, Boston, MA**

Outstanding Clinician: **Awardee To Be Announced**

CLINICAL

WORKSHOP

WS5 REVIEW OF THE NEW CYSTIC FIBROSIS DIAGNOSIS GUIDELINES

R **Registration Fee: \$75 (includes box lunch)**
Attendance is limited. Pre-registration is required.

Assemblies on Pediatrics; Allergy, Immunology and Inflammation; Clinical Problems

11:45 a.m. - 1:15 p.m.

Target Audience

Anyone who evaluates patients with respiratory disease

Objectives

At the conclusion of this session, the participant will be able to:

- interpret CFTR genetic testing as it applies to CF diagnosis, using CFTR2 as well as other resources;
- diagnose CF in infants with a positive CF newborn screen and to describe outcomes associated with inconclusive cases;
- apply ancillary testing in cases of suspected CF.

Historically, cystic fibrosis (CF) has been diagnosed in patients who present with a well defined phenotype and have an elevated sweat chloride. However, advances in our understanding of CF genetics and the growth of CF newborn screening have created new challenges to CF diagnosis. In response to these developments, the CF Foundation sponsored a consensus conference in October 2015 to revise the CF diagnostic guidelines, which were last updated in 2008. The goal of this workshop is to review the key changes in these guidelines.

Chairing: C.L. Ren, MD, Indianapolis, IN

11:45 Introduction

C.L. Ren, MD, Indianapolis, IN

12:00 Applying Genetic Testing to the Diagnosis of CF

P. Sosnay, MD, Baltimore, MD

12:25 Diagnostic Challenges Arising from CF Newborn Screening

C.L. Ren, MD, Indianapolis, IN

12:50 The Role of Ancillary Testing in the Diagnosis of CF

I. Sermet-Gaudelus, MD, Paris, France

BASIC • BEHAVIORAL

CLINICAL • TRANSLATIONAL

CAREER DEVELOPMENT FORUM

WS6 CAREER DEVELOPMENT WORKSHOP: HOW TO START YOUR INDEPENDENT RESEARCH LABORATORY

R This Forum is part of the ATS initiative to offer program specifically geared toward the professional development of trainees, fellows and students to aid in the pursuit of successful careers in pulmonary, critical care and sleep medicine.

Pre-registration is required. Attendance is limited. There is no additional fee.

Assemblies on Respiratory Structure and Function, Allergy, Immunology and Inflammation; Behavioral Science and Health Services Research; Clinical Problems; Critical Care; Environmental, Occupational & Population Health; Microbiology, Tuberculosis and Pulmonary Infections; Pediatrics; Pulmonary Circulation; Respiratory Cell and Molecular Biology; Sleep and Respiratory Neurobiology; Thoracic Oncology

11:45 a.m. - 1:15 p.m.

Target Audience

Graduate students, PhD, MD, post-doctoral/clinical fellows and faculty interested in identifying opportunities and obstacles in starting their independent research laboratory. Through lectures and discussion with six senior and recently hired investigators, the participants will learn successful strategies that can be employed at a variety of non-profit and for profit institutions

Objectives

At the conclusion of this session, the participant will be able to:

- learn about the key challenges and opportunities in starting a new lab at an non-profit and a for profit institution;
- understand and gain the strategies to develop the budget for his/her lab;
- learn how to manage time between setting up the lab, research, teaching and grant writing.

Successful independent research is built on a strong research laboratory. But each newly hired investigator often faces a unique set of opportunities and challenges in getting their laboratory started. To sustain productivity during this initial period, appropriate plans are needed in the processes including negotiating the job terms, staffing the laboratory, and managing the time and personnel. The participants will hear from six members of the ATS community comprising of senior investigators and recently hired investigators each from educational institutions and industrial organizations or research laboratories.

Chairing: D.T. Tambe, PhD, Mobile, AL
D. Kasahara, PhD, Boston, MA

- 11:45 Starting a New Lab at NIH**
R. Balaban, PhD, Bethesda, MD
- 11:55 Common Successful Strategies Employed in the Startup Package**
J. Solway, MD, Chicago, IL
- 12:05 Challenges and Opportunities at Large Versus Small Universities**
T. Stevens, PhD, Mobile, AL
- 12:15 Starting a New Lab in an Engineering School**
G.N. Maksym, PhD, Halifax, Canada
- 12:25 Managing to Set up a New Laboratory Together with Clinical Practice, Teaching and Grant Writing**
C.C. Hardin, MD, PhD, Boston, MA
- 12:35 Developing the Budget**
V. Anathy, PhD, Burlington, VT
- 12:45 Setting Up a New Lab Within a Pharmaceutical Industry**
Speaker To Be Announced
- 12:55 General Discussion**

CLINICAL

ADULT CLINICAL CORE CURRICULUM

CC4 SLEEP MEDICINE CLINICAL CORE CURRICULUM I

Adult Core Curriculum Working Group

11:45 a.m. - 1:15 p.m.

Target Audience

Practicing internists, subspecialists, registered nurses and advanced practice nurses in pulmonary, critical care, and sleep medicine who work in a clinical setting and are currently engaged in maintenance of certification

Objectives

At the conclusion of this session, the participant will be able to:

- remain current with medical knowledge relevant to their practice in pulmonary, critical care, and sleep medicine;
- evaluate their understanding of key skills and content areas in pulmonary, critical care and sleep medicine, as well as receive feedback on their comprehension of a result of a pre-test/post-test comparison;
- support clinicians who are engaged in maintenance of certification activities by providing updates on subjects included in recertification requirements.

The ATS Clinical Core Curriculum Symposia focus on a 3-year content cycle of key medical content in the areas of Pulmonary, Critical Care, and Sleep Medicine. The topics are also aligned with corresponding MOC Medical Knowledge modules. This symposium is intended to assist clinicians with staying current with the growth of information relevant to their medical practice, as well as provide an opportunity to evaluate individual knowledge and skills while earning MOC Medical Knowledge points.

Chairing: S. Jamil, MD, La Jolla, CA

- 11:45 Insomnia: Pharmacologic Therapies**
M.E. Billings, MD, MSc, Seattle, WA
- 12:15 Insomnia: Non-Pharmacologic Therapies**
P. Gehrman, PhD, Philadelphia, PA
- 12:45 Sleep in Psychiatric Diseases**
J.L. Martin, PhD, North Hills, CA

MEET THE PROFESSOR SEMINARS

R Registration Fee: \$70.00 (includes box lunch.)

Attendance is limited. Pre-registration is required.

12:15 p.m. - 1:15 p.m.

MP601 PRIMARY IMMUNODEFICIENCY AND PULMONARY DISEASE

A. Dosanjh, MD, San Diego, CA

MP602 LEARNING TO LEAD: TIPS FOR SUCCESS

M. Osborne, MD, PhD, Portland, OR

MP603 APPROACH TO THE PATIENT WITH REFRACTORY CHRONIC COUGH

P. Diczpinigaitis, MD, Bronx, NY

MP604 MULTIDISCIPLINARY ILD EVALUATION: USING CLINICAL AND HRCT TO MAKE A DIAGNOSIS

J. Dematte, MD, MBA, Chicago, IL

MP605 PULMONARY SYMPTOMS IN SARCOIDOSIS: EVALUATION AND MANAGEMENT

M. Judson, MD, Albany, NY

MP606 DRUG-INDUCED MIMICS OF IDIOPATHIC LUNG DISEASES

P.B. Camus, MD, Dijon, France

A.H. Limper, MD, Rochester, MN

MP607 CONNECTIVE TISSUE DISEASE AND THE LUNG: LESSONS LEARNED FROM DIFFICULT CASES

M. Kreider, MD, Philadelphia, PA

MP608 HOW DO I PREPARE MY ILD PATIENT FOR LUNG TRANSPLANT?

D.E. Antin-Ozerkis, MD, New Haven, CT

MP609 CHRONIC BRONCHITIS: NEW CONCEPTS, NEW TREATMENTS, NEW HOPE

V. Kim, MD, Philadelphia, PA

MP610 WHEEZING WHILE YOU WORK: UPDATE ON EVALUATION AND MANAGEMENT OF WORK-RELATED ASTHMA

E.N. Schachter, MD, New York, NY

MP611 BEYOND THE NTM GUIDELINES: WHAT TO DO WHEN THE STANDARD DRUGS DON'T WORK

K.N. Olivier, MD, MPH, Bethesda, MD

MP612 IN VITRO AND IN VIVO EXPOSURES TO EMERGING TOBACCO PRODUCTS: RESEARCH TO REGULATORY SCIENCE

I. Rahman, PhD, Rochester, NY

MP613 LUNG IMPEDANCE: MEASUREMENT AND INTERPRETATION

J.H.T. Bates, DSc, PhD, Burlington, VT

MP614 NONINVASIVE VENTILATION IN NEUROMUSCULAR DISEASE: BEYOND THE BASICS

L. Wolfe, MD, Chicago, IL

MP615 LUNG CANCER IN WOMEN: EPIDEMIOLOGY, RISKS, BIOLOGY AND OUTCOMES

M.P. Rivera, MD, Chapel Hill, NC

MP616 OFFICIAL ATS DOCUMENTS: HOW TO GET INVOLVED

R. Dweik, MD, Cleveland, OH

K.C. Wilson, MD, Boston, MA

MEDICAL EDUCATION SEMINAR

ME3 PLAYING TO THE CROWD: HOW TO ENGAGE YOUR AUDIENCE IN LARGE GROUP TEACHING

R Registration Fee: \$70 (includes box lunch)

Attendance is limited. Pre-registration is required.

12:15 p.m. - 1:15 p.m.

Target Audience

Medical educators, teaching physicians, physician-scientists, and providers on the multidisciplinary healthcare team, including nurses, respiratory therapists, advanced practice providers, and pharmacists within pulmonary, critical care, and sleep medicine, who seek to develop necessary skills to become more effective educators in a large group setting

Objectives

At the conclusion of this session, the participant will be able to:

- engage the learner in large group teaching sessions by implementing new strategies to engage the audience;
- create effective, interactive questions using an audience response system to improve learning in a large group setting;
- Incorporate team based learning into their large group teaching.

Teaching in a large group setting is an essential skill for physicians, educators and multidisciplinary health care providers. This session will use an interactive format to provide strategies for the educator to better engage the learner in these large group sessions. We will review techniques to enhance the delivery and presentation of educational content, demonstrate team based learning in an interactive format and effective use of audience response systems with the opportunity to learn how to create and embed questions into your presentations. Participants are encouraged to bring their own laptop and a power point presentation.

Speakers: K. Burkart, MD, New York, NY
J.W. McCallister, MD, Columbus, OH
T.S. Wang, MD, Los Angeles, CA
J.T. Poston, MD, Chicago, IL

THEMATIC SEMINAR SERIES

TSS1 EVOLVING CONCEPTS IN EARLY COPD

Registration Fee: \$170 for full series (includes box lunch)
Attendance is limited. Pre-registration is required.

This is part 3 of a 4-part series. Those registering for this seminar series will be registered for all 4 parts. The program for the full series is included with the Sunday, May 21, 12:15 p.m. program.

Tuesday 12:15 p.m. - 1:15 p.m.

Screening for COPD: Beyond the Current Guidelines
R.A. Wise, MD, Baltimore, MD

2:15 p.m. - 4:15 p.m.

Oral And Poster Presentations Of Scientific Research And Case Reports. Abstract Sessions Will Be Published In The Final Program.

ATS 2017
Where today's science meets tomorrow's care™
International Conference
Washington, DC
Tuesday Afternoon, May 23

CLINICAL

ADULT CLINICAL CORE CURRICULUM

CC5 PULMONARY CLINICAL CORE CURRICULUM II

Adult Core Curriculum Working Group

2:15 p.m. - 4:15 p.m.

Target Audience

Practicing internists and subspecialists in Pulmonary, Critical Care, and Sleep medicine who work in a clinical setting and are currently engaged in maintenance of certification

Objectives

At the conclusion of this session, the participant will be able to:

- remain current with medical knowledge relevant to their practice in pulmonary, critical care, and sleep medicine;
- evaluate their understanding of key skills and content areas in pulmonary, critical care and sleep medicine, as well as receive feedback on their comprehension of a result of a pre-test/post-test comparison;
- support clinicians who are engaged in maintenance of certification activities by providing updates on subjects included in recertification requirements.

The ATS Clinical Core Curriculum Symposia focus on a 3-year content cycle of key medical content in the areas of Pulmonary, Critical Care, and Sleep Medicine. The

provide an opportunity to evaluate individual knowledge and skills while earning MOC Medical Knowledge points.

- 2:15 Lung Cancer Screening**
N.T. Tanner, MD, MSCR, Charleston, SC
- 2:45 Lung Cancer Diagnosis**
A.V. Gonzalez, MD, MSc, Montreal, Canada
- 3:15 Lung Cancer Staging**
M. Liberman, MD, PhD, Montreal, Canada
- 3:45 Lung Cancer Treatment**
S. Shojaee, MD, Richmond, VA

CLINICAL • TRANSLATIONAL

CLINICAL TOPICS IN PULMONARY MEDICINE

C82 THE CUTTING EDGE IN LUNG TRANSPLANTATION

Assemblies on Clinical Problems; Allergy, Immunology and Inflammation

2:15 p.m. - 4:15 p.m.

Target Audience

A broad range of providers that are involved in the care of lung transplant recipients, including physicians, surgeons, and other allied health professionals and trainees interested in pursuing lung transplantation

Objectives

At the conclusion of this session, the participant will be able to:

- understand potential benefits and practical application of ex vivo lung perfusion;
- gain understanding of the heterogeneity of CLAD including how recent data supporting CLAD phenotypes has led to a revision in the approach used to diagnose and classify CLAD;
- discuss the impact of PGD on patient survival after lung transplant.

This session will discuss new information about the expanding technologies for ex vivo lung perfusion (EVLP) to improve donor lung quality, insights into prevention of primary graft dysfunction (PGD), and paradigm changes in our understanding of phenotypes

and mechanisms of chronic lung allograft dysfunction (CLAD). There will be discussion of the rapidly growing use of EVLP, new mechanistic insights to PGD etiology and prevention, and the approach to phenotypes of CLAD, including restrictive CLAD, its diagnosis, radiographic and pathological correlates. The session will also address the impact of lung microbiome and pulmonary infections upon innate immunity and CLAD development.

Chairing: S.M. Palmer, MD, MHS, Durham, NC
J.A. Belperio, MD, Los Angeles, CA

- 2:15 Ex Vivo Lung Perfusion (EVLP): Changing the Practice of Lung Transplantation for the Better**
M. Cypel, MD, MSc, Toronto, Canada
- 2:35 Rethinking Primary Graft Dysfunction and Its Prevention**
J.D. Christie, MD, MS, Philadelphia, PA
- 2:55 Lung Transplant Microbiome and Implications for CLAD**
L.P. Nicod, MD, Lausanne, Switzerland
- 3:15 Cytokine and Chemokine Signals Translate Infections to Clad**
J.A. Belperio, MD, Los Angeles, CA
- 3:35 New Insights into Clad Phenotypes, Mechanisms and Treatment**
- 3:55 Panel Discussion**

BEHAVIORAL • CLINICAL

CLINICAL TOPICS IN PULMONARY MEDICINE

C83 PEDIATRIC CHEST ROUNDS

Assemblies on Pediatrics; Allergy, Immunology and Inflammation; Clinical Problems; Critical Care; Microbiology, Tuberculosis and Pulmonary Infections; Nursing; Pulmonary Circulation; Sleep and Respiratory Neurobiology

2:15 p.m. - 4:15 p.m.

Target Audience

Pediatric pulmonologists; pediatric intensivists;

neonatologists; registered nurses; advanced practice nurses; respiratory therapists

Objectives

At the conclusion of this session, the participant will be able to:

- gain understanding and recognize the varying presentation(s) of known and rare pulmonary disorders;
- recognize pitfalls of various diagnostic methods and/or how to synthesize the clinical with laboratory information;
- identify alternative diagnoses for common and uncommon respiratory signs and symptoms.

The Pediatric Chest Rounds present diagnostically and/or therapeutically clinically challenging cases selected from the case reports submitted every year. The cases are presented by pediatric pulmonary fellows and they are discussed by senior faculty who are experts in the respective fields. The presentations are interactive giving the opportunity to the audience to participate in the decision making process.

Chairing: S. Goldfarb, MD, Philadelphia, PA
J. Harrison, MBChB, MRCP, MRCPCH,
Melbourne, Australia
J.P. Needleman, MD, Brooklyn, NY

2:15 Unusual Pediatric Respiratory Cases *Speakers and Talks To Be Announced*

There will be a 5-minute discussion after each talk.

CLINICAL

CRITICAL CARE TRACK

C84 BEG, BORROW AND STEAL: THE CHALLENGE OF CHANGING PHYSICIAN BEHAVIOR IN THE ICU

Assemblies on Critical Care; Behavioral Science and
Health Services Research; Nursing

2:15 p.m. - 4:15 p.m.

Target Audience

Critical care physicians, Trainees and early career
physicians, Nurses, Implementation science researchers

Objectives

At the conclusion of this session, the participant will be able to:

- become familiar with evidence-based interventions and approaches designed to modify physician behavior specific to critical care;
- integrate knowledge and evidence from the fields of behavioral science and psychology to recognize current ICU care practices that are no longer beneficial and different evidence-based approaches available to incentivize de-adoption;
- acquire practical approaches that can be used to change physician behavior to improve patient care and outcomes in the ICU.

It is an incontrovertible fact that patients routinely receive suboptimal care in ICUs around the U.S., internationally, and sometimes even within our own hospitals. Yet physicians demonstrate wide variation in care and are often slow to align practice patterns with guidelines. In our session, experts in behavioral psychology, implementation science, and critical care will define what is known about behavior change, offer several examples of durable clinical practices that have refused to change despite compelling evidence, and offer new insights into strategies for improvement of use to all clinicians interested in affecting change.

Chairing: M.N. Gong, MD, MS, Bronx, NY
D.K. Costa, PhD, RN, Ann Arbor, MI
J. Stevens, MD, Boston, MA

2:15 “It Depends on the Clinician”: Drivers of Variation in Resource Use in Critical Care J. Stevens, MD, Boston, MA

2:30 The Necessary Ingredients: How Improving Unit Culture Sets the Stage for Desired Physician Behavior J. Marsteller, PhD, Baltimore, MD

2:45 De-Adoption of Unsuccessful Ideas: The Durability of the Use of Pulmonary Artery Catheters K. Rowan, PhD, MSc, London, United Kingdom

3:00 Glaring Failures: Physician Incentives and Other Failed Levers of Change J. Kahn, MD, MS, Pittsburgh, PA

- 3:15 Getting Moving: Successful Strategies that Have Mobilized Patients and Clinicians**
D.K. Costa, PhD, RN, Ann Arbor, MI
- 3:30 When Changing Physician Behavior Became My Job: Practical Tools and Strategies for Improving Critical Care**
M. Howell, MD, MPH, Chicago, IL
- 3:45 Question and Answer Session**
M.N. Gong, MD, MS, Bronx, NY

BASIC

PUBLIC ADVISORY ROUNDTABLE SYMPOSIUM

C86 CLINICAL ADVANCES IN RESPIRATORY HEALTH: WHAT TO TELL YOUR PATIENTS RIGHT NOW

Public Advisory Round table; Assemblies on Clinical Problems; Sleep and Respiratory Neurobiology

2:15 p.m. - 4:15 p.m.

Target Audience

Physicians, basic and translational scientists, clinician-investigators, registered nurses, advanced practice nurses patients, caregivers and parents

Objectives

At the conclusion of this session, the participant will be able to:

- gain knowledge on the importance of air pollution on lung health;
- identify and appreciate the risks and benefits of e-cigarettes;
- improve understanding of new therapies for various diseases including ARDS, IPF and sleep apnea.

Pulmonary research has expanded rapidly over the last decade, resulting in clinical advances and changes in the treatment strategy and care for a number of disease states from rare diseases like pulmonary fibrosis to more systemic diseases like sleep apnea. This session will highlight progress and important trends among prevalent respiratory conditions as well as lung conditions caused by smoking, e-nicotine and air pollution.

Chairing: A. Malhotra, MD, La Jolla, CA
D. Drell, BS, Silver Spring, MD

- 2:15 Introduction to Session**
A. Malhotra, MD, La Jolla, CA
- 2:30 Annual PAR Awards Ceremony**
D. Drell, BS, Silver Spring, MD
- 2:40 Recent Advances: Air Pollution**
M.B. Rice, MD, MPH, Boston, MA
- 2:50 Recent Advances: Obesity/Sleep Disorders**
S.R. Patel, MD, Pittsburgh, PA
- 3:05 Recent Advances: Smoking and Electronic Nicotine Delivery Systems, E-Cigs**
L.E. Crotty Alexander, MD, San Diego, CA
- 3:20 Recent Advances: Critical Care/ Acute Respiratory Distress Syndrome**
J.R. Beitler, MD, MPH, San Diego, CA
- 3:35 Recent Advances: Idiopathic Pulmonary Fibrosis**
S. Montesi, MD, Boston, MA
- 3:50 Panel Discussion**
A. Malhotra, MD, La Jolla, CA

BASIC • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

C87 DAWN OF THE DEAD: NECROPTOSIS IN THE PATHOGENESIS OF LUNG DISEASES

Assemblies on Allergy, Immunology and Inflammation; Critical Care; Microbiology, Tuberculosis and Pulmonary Infections; Respiratory Cell and Molecular Biology

2:15 p.m. - 4:15 p.m.

Target Audience

Basic and translational scientists

Objectives

At the conclusion of this session, the participant will be able to:

- gain a basic understanding of necroptosis and the role this cell death pathway plays in regulating and perpetuating inflammation during infection;

- understand the relationship between autophagy and necroptosis;
- obtain an understanding of the relevance of necroptosis in lung disease and critical illness.

Necroptosis is a form of regulated cell death that results in the release of immunomodulatory DAMPs. Although mounting evidence suggests a critical role for necroptosis in the development of vascular disease, promotion of the tumor microenvironment and host-pathogen interactions, the importance of necroptosis in lung diseases is only beginning to be understood. This symposium will provide attendees with a basic understanding of necroptosis and its emerging role in the pathogenesis of lung diseases including COPD, ARDS and Pneumonia. Additionally, the interplay between necroptosis and other cell death pathways and the clinical use of necroptosis biomarkers will be examined.

Chairing: I. Brodsky, PhD, Philadelphia, PA
N.S. Mangalmurti, MD, Philadelphia, PA
A.M.K. Choi, MD, New York, NY

- 2:15 Necroptosis and Viral Infection**
W.J. Kaiser, PhD, San Antonio, TX
- 2:40 Necroptosis in the Regulation of Pulmonary Inflammation**
A.S. Prince, MD, New York, NY
- 3:05 Pleiotropic Functions of Necroptosis in Lung Diseases**
A.M.K. Choi, MD, New York, NY
- 3:30 Necroptosis in the Development of Lung Injury**
N.S. Mangalmurti, MD, Philadelphia, PA
- 3:55 Necroptosis: Can We Translate to Human Organ Injury Syndromes?**
M.G.S. Shashaty, MD, Philadelphia, PA

BEHAVIORAL • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

C88 COPD COMORBIDITIES: GREATER THAN THE SUM OF THE PARTS

Assemblies on Nursing; Behavioral Science and Health Services Research; Clinical Problems; Pulmonary Rehabilitation

2:15 p.m. - 4:15 p.m.

Target Audience

Physicians, nurses, physical therapists, physician assistants, physiotherapists, behavioral scientists, dieticians, respiratory therapists, respiratory care practitioners, pharmacists, involved in providing or directing patient-centered symptom management

Objectives

At the conclusion of this session, the participant will be able to:

- develop understanding of selected, prevalent comorbidities associated with COPD;
- develop knowledge in adjustment to care approach and health care delivery related to the presence of multiple comorbidities.

COPD is a complex multi-component disease characterized by chronic systemic inflammation that frequently coexists with multiple comorbidities. Comorbidities in COPD are common at any stage of the disease, are important determinants of outcome and contribute to significant economic consequences. Despite this disease management strategies fail to provide clear recommendations on how comorbidities should be identified, assessed and managed in the presence of COPD. This session will address these gaps.

Chairing: R.T. Disler, PhD, RN, Sydney, Australia
R. Kalhan, MD, MS, Chicago, IL
V.M. McDonald, PhD, New Lambton Heights, Australia

- 2:15 Comorbidities in COPD: The Cardiovascular COPD Conundrum**
L. Vanfleteren, MD, PhD, Horn, Netherlands

- 2:40 Cognition As a Key Influence on COPD Self-Management and Intervention Efficacy**
R.T. Disler, PhD, RN, Sydney, Australia
- 2:58 Targeting Obesity in COPD**
V.M. McDonald, PhD, New Lambton Heights, Australia
- 3:16 The Influence of Skeletal-Muscular Dysfunction on Pulmonary Disease Function and Management**
F. Maltais, MD, Quebec, Canada
- 3:34 Anxiety, Depression and Psychological and COPD: Association and Impact on Management**
M. Milic, MD, Washington, DC

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

C89 NON-CYSTIC FIBROSIS BRONCHIECTASIS AND NONTUBERCULOUS MYCOBACTERIA INFECTION: CURRENT KNOWLEDGE AND RECENT ADVANCES

Assemblies on Microbiology, Tuberculosis and Pulmonary Infections; Clinical Problems

2:15 p.m. - 4:15 p.m.

Target Audience

Pulmonologists, nurses, respiratory therapists, post graduate trainees, advanced practitioners

Objectives

At the conclusion of this session, the participant will be able to:

- learn new findings about the lung microbiome;
- gain new or better strategies to treat non-CF bronchiectasis, including inhaled antibiotics and macrolides;
- gain understanding of new or better strategies to treat nontuberculous mycobacteria infections, or refer patients to experts.

Management of non-CF bronchiectasis (NCFB) and prevention of exacerbations remains challenging because

of a paucity of evidence-based management strategies. There have been recent advances in strategies to manage bacterial infections such as *Pseudomonas aeruginosa*. However, treatment of nontuberculous mycobacteria (NTM) remains substantially more complex. This session will review our current knowledge of microbiome and colonizing bacteria, existing and evolving therapies, and results from recent global phase 3 trials of inhaled antibiotics for NCFB.

Chairing: K.L. Winthrop, MD, MPH, Portland, OR
G. Tino, MD, Philadelphia, PA
C.L. Daley, MD, Denver, CO

- 2:15 A Patient's Perspective**
Speaker To Be Announced
- 2:20 Lung Microbiome in Patients with Non-Cystic Fibrosis Bronchiectasis**
J.D. Chalmers, MBChB, PhD, Dundee, United Kingdom
- 2:39 Epidemiology of Non-Cystic Fibrosis Bronchiectasis and Colonizing Bacteria**
K.N. Olivier, MD, MPH, Bethesda, MD
- 2:58 Current Management of Non-Cystic Fibrosis Bronchiectasis**
A.E. O'Donnell, MD, Washington, DC
- 3:17 Surgical Management of Non-Cystic Fibrosis Bronchiectasis and Nontuberculous Mycobacteria**
J.D. Mitchell, MD, Aurora, CO
- 3:36 New Inhaled Antibiotics for Non-Cystic Fibrosis Bronchiectasis**
T.R. Aksamit, MD, Rochester, MN
- 3:55 New Evidence for the Treatment of Nontuberculous Mycobacteria**
D.E. Griffith, MD, Tyler, TX

There will be a 5-minute discussion after each talk.

BEHAVIORAL • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

**C90 PULMONARY REHABILITATION
ACROSS HEALTH CARE SETTINGS**

Assemblies on Pulmonary Rehabilitation; Clinical Problems; Critical Care; Nursing

2:15 p.m. - 4:15 p.m.

Target Audience

All clinicians with an interest in pulmonary rehabilitation, thoracic surgeons, critical care intensivists, clinical trainees, providers of pulmonary rehabilitation services, clinical researchers

Objectives

At the conclusion of this session, the participant will be able to:

- become familiar with providing pulmonary rehabilitation in different health care settings;
- learn how to deal with these settings in clinical practice in order to optimize PR programs;
- discuss novel clinical research opportunities in the field of pulmonary rehabilitation.

Pulmonary rehabilitation (PR) is a standard of care for symptomatic patients with chronic respiratory diseases and is a main example of personalized therapy. In the course of their disease, patients will be diagnosed, hopefully at an early stage, and (some of them) will develop towards severe end-stage disease. In between, exacerbations and hospitalizations and even a stay at the ICU can happen. Through this whole spectrum of health care, rehabilitation programs need to be adapted to these specific situations. Addressing the specific patient situation in the health care spectrum will contribute to improved impact and more effective implementation of PR by health care professionals.

Chairing: M.L. Moy, MD, MSc, Boston, MA
R. Goldstein, MD, Toronto, Canada

2:15 Early Outpatient Rehabilitation in Newly Diagnosed Patients with Chronic Respiratory Disease
F. Franssen, MD, PhD, Horn, Netherlands

- 2:35 Hospital-Based Early Mobility and Pulmonary Rehabilitation in Patients Hospitalized for Acute Exacerbations**
N.J. Greening, MBBS, PhD, Leicester, United Kingdom
- 2:55 Long-Term Inpatient Pulmonary Rehabilitation in the Most Severe Patients**
L. Vanfleteren, MD, PhD, Horn, Netherlands
- 3:15 Early Mobilization of Respiratory Patients in Intensive Care Units**
D. Needham, MD, Baltimore, MD
- 3:35 Pulmonary Rehabilitation in the Pre- and Postoperative Setting in Patients Undergoing Lung Surgery**
M. Maddocks, PhD, London, United Kingdom
- 3:55 Pulmonary Rehabilitation, Physical Activity and Exercise in Nursing Home Residents with Lung Disease**
R.S. Novitch, MD, White Plains, NY

CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

C91 TACKLING SEVERE PNEUMONIA AND SEPSIS: WHAT IS READY FOR PRIME TIME?

Assemblies on Critical Care; Microbiology, Tuberculosis and Pulmonary Infections

2:15 p.m. - 4:15 p.m.

Target Audience

All health care professionals providing care to critically ill patients, including residents, fellows, mid-level providers and critical care physicians

Objectives

At the conclusion of this session, the participant will be able to:

- appropriately determine the best approach to diagnosis in patients with severe respiratory infections;
- determine which patients with severe respiratory infections and sepsis are most likely to benefit from corticosteroid therapy;

- use antibiotics most effectively in patients with risks for infection with antibiotic resistant organisms.

Severe pneumonia and sepsis are important clinical problems for pulmonary and critical care providers. These conditions are a leading cause of hospitalization, mortality and resource consumption. This session highlights recent advances in diagnostics and therapeutics for these patients. The session addresses advances in diagnostics for severe respiratory infections and new data regarding immunomodulatory therapy, particularly the uncertainty in using glucocorticoid therapy, which will be presented via a pro-con debate. Several trials to date have shown conflicting results and we anticipate completion of the HYPRESS and ADRENAL trials by next year. Recent data suggests that immunosuppression may be common in sepsis, and reversing immunosuppression, rather than suppressing exaggerated inflammation may be necessary in some patients. Understanding this heterogeneity of the host response and optimal approaches for immunomodulation is important for clinicians. Finally, the session will discuss how precision medicine approaches can be used to resolve these uncertainties and help clinicians manage these patients.

Chairing: S. Yende, MD, MS, Pittsburgh, PA
M.L. Metersky, MD, Farmington, CT
G.W. Waterer, MBBS, PhD, MBA, Perth, Australia

- 2:15 MDR/XDR Pathogens: Older Drugs of Questionable Efficacy or Newer Expensive Drugs**
R.G. Wunderink, MD, Chicago, IL
- 2:35 PRO: Patients with Severe Pneumonia and Patients with Septic Shock Should Be Treated with Corticosteroids**
A. Torres, MD, Barcelona, Spain
- 2:55 CON: Patients with Severe Pneumonia and Patients with Septic Shock Should Be Treated with Corticosteroids**
R. Hotchkiss, MD, St. Louis, MO
- 3:15 Beyond Steroids: New Immunomodulatory Interventions for Severe Pneumonia and Septic Shock**
T. Welte, MD, Hannover, Germany

3:35 Care Models for Survivors of Severe Pneumonia and Sepsis

S. Yende, MD, MS, Pittsburgh, PA

3:55 Cutting Edge Diagnostics for Severe Respiratory Infections

G.W. Waterer, MBBS, PhD, MBA, Perth, Australia

CLINICAL

SCIENTIFIC SYMPOSIUM

C92 STATE OF THE ART ON THORACIC IMAGING AND RADIOGRAPHIC METRICS IN THE QUANTIFICATION OF LUNG DISEASE

Assembly on Respiratory Structure, and Function, the American College of Radiology

2:15 p.m. - 4:15 p.m.

Target Audience

Those desiring an understanding of how to extract quantitative information from imaging studies. Providers of lung health; clinical trial investigators; basic and applied investigators who utilize imaging techniques; thoracic surgeons; radiologists and radiology technical staff; allied health workers

Objectives

At the conclusion of this session, the participant will be able to:

- learn new findings about screening for lung cancer and how machine learning techniques can increase the accuracy of detecting lung nodules;
- learn new findings about advances in CT imaging of pulmonary fibrosis and how CT-derived metrics can serve as biomarkers of diffuse interstitial lung disease;
- learn new findings about recent advances in CT quantification of vascular pathology in COPD.

Thoracic imaging is widely used in the diagnosis and monitoring of lung diseases. Imaging results are typically reported qualitatively. This session will describe the most advanced capabilities of imaging modalities for assessment of pulmonary nodules, and of pulmonary parenchymal and vascular disease. Each topic will include a clinically-focused talk and one based on

quantitative characterization of radiographic data to facilitate screening, diagnosis, phenotyping, and monitoring of lung disease. After attending this session, the learner will appreciate the state of the art capabilities of imaging modalities in terms of accurate and precise radiologic assessment of major lung diseases.

Chairing: D.A. Lynch, MD, Denver, CO
C. Hsia, MD, Dallas, TX
S.R. Hopkins, MD, PhD, La Jolla, CA

2:15 Lung Cancer Screening by CT: Current Status and Future Direction
E.A. Kazerooni, MD, Ann Arbor, MI

2:35 Machine Learning As a Tool for Increasing the Accuracy and Efficiency of Radiological Discussions: Application to Lung Nodules
B. van Ginneken, PhD, Nijmegen, Netherlands

2:55 Advances in CT Imaging of Pulmonary Fibrosis
D.A. Lynch, MD, Denver, CO

3:15 CT-Derived Metrics for Assessing Complex Parenchymal Patterns in Diffuse Parenchymal Lung Disease
J.G. Goldin, MD, PhD, Santa Monica, CA

3:35 Imaging Pressure and Prognosis in Pulmonary Hypertension
G. Kicska, MD, PhD, Seattle, WA

3:55 Recent Advances in CT Quantification of Vascular Pathology in COPD
E.A. Hoffman, PhD, Iowa City, IA

4:30 p.m.-6:30 p.m.

SECTION MEMBERSHIP MEETING

The Section meetings are open to all ATS members and other interested individuals. Items to be discussed include the Sections' current projects and future directions.

MEDICAL EDUCATION

Chairing: Alison S. Clay, MD, Durham, NC
Jennifer W. McCallister, MD, Columbus, OH

TERRORISM AND INHALATION DISASTERS

Chairing: Sadis Matalon, PhD, Sc.D. (Hon.),
Birmingham, AL
Carl W. White, MD, Denver, CO

2:15 p.m. - 4:15 p.m.

Oral And Poster Presentations Of Scientific Research And Case Reports. Abstract Sessions Will Be Published In The Final Program.



CLINICAL

PEDIATRIC CLINICAL CORE CURRICULUM

PCC4 PEDIATRIC CLINICAL CORE CURRICULUM

Pediatric Core Curriculum Working Group

7:00 a.m. - 8:00 a.m.

Target Audience

Pediatric pulmonary and critical care physicians who work in a clinical setting and are currently engaged in maintenance of certification

Objectives

At the conclusion of this session, the participant will be able to:

- remain current with medical knowledge relevant to their practice in pediatric pulmonology;
- evaluate their understanding of key skills and content areas in pediatric pulmonology as well as receive feedback on their comprehension of a result of a pre-test/post-test comparison;
- support clinicians who are engaged in maintenance of certification activities by providing updates on subjects included in recertification requirements.

The Pediatric Core Curriculum symposia promote lifelong learning and the enhancement of the clinical judgment and skills essential for practicing pediatrician. The symposia will address topics that have been

identified by an ATS pediatric working group, which is comprised of members of the ATS Education Committee and the International Conference Committee, who have identified important areas within pediatric medicine (including severe asthma, ILD, BPD, pulmonary hypertension and pulmonary manifestations of pulmonary disease). Attendees will increase their medical knowledge as a result of attending this symposium, and this will be measured by a comparison of pre-test vs. post-test results on the corresponding maintenance of certification module. The ATS Pediatric Core Curriculum will focus on a 3-year content cycle of key medical content in the area of pediatric medicine.

Chairing: A. Horani, MD, St. Louis, MO

7:00 Pulmonary Hypertension

E. Austin, MD, Nashville, TN

7:30 Pulmonary Manifestations of Rheumatologic Diseases

M. Kitcharoensakkul, MD, St. Louis, MO

SUNRISE SEMINARS

Registration Fee: \$50.00 (includes continental breakfast.)
Attendance is limited. Pre-registration is required.

7:00 a.m. - 8:00 a.m.

SS301 THE ROLE OF TRPV4 IN LUNG DISEASE: A TRP TO NEW THERAPEUTICS

R.G. Scheraga, MD, Cleveland, OH

SS302 DIFFUSE CYSTIC LUNG DISEASE: EVALUATION AND MANAGEMENT

L. Ho, MD, Seattle, WA

SS303 TO TREAT OR NOT TO TREAT: CASES IN SARCOIDOSIS

M. Gulati, MD, New Haven, CT

SS304 A PRACTICAL APPROACH TO THE PATIENT WITH INTERSTITIAL LUNG DISEASE: DIAGNOSIS AND MANAGEMENT

A.J. Podolanczuk, MD, New York, NY

SS305 RHEUMATOID ARTHRITIS-ASSOCIATED INTERSTITIAL LUNG DISEASE: CLINICAL ASSESSMENT, PROGNOSIS, AND MANAGEMENT

Z. Yunt, MD, Denver, CO

SS306 QUANTITATIVE LUNG IMAGING IN COPD: AN UPDATE FOR CLINICIANS

A.A. Diaz, MD, MPH, Boston, MA

SS307 CONTROVERSIES IN PLEURAL DISEASE MANAGEMENT: A PRO/CON DEBATE

O. Epelbaum, MD, Valhalla, NY

B. Husta, MD, New York, NY

SS308 CHALLENGES IN PULMONARY FUNCTION TESTS: A CASE BASED APPROACH

M. Sala, MD, Chicago, IL

SS309 HYPEROXIA IN CRITICAL CARE: WHY SHOULD WE CARE?

S. Pannu, MD, MSc, Columbus, OH

SS310 IMPLICATION OF SMALL AIRWAYS DISEASE IN OCCUPATIONAL EXPOSURES

R.C. Stansbury, MD, Morgantown, WV

SS311 LATENT TB INFECTION: CURRENT DIAGNOSTICS AND MANAGEMENT

P. Escalante, MD, Rochester, MN

SS312 PATIENT EXPERIENCE IN PULMONARY ARTERIAL HYPERTENSION

L. Matura, PhD, RN, Philadelphia, PA

SS313 CARDIOPULMONARY EXERCISE TESTING IN CHILDREN: WHAT A PROVIDER NEEDS TO KNOW

R. Bhatia, MD, Akron, OH

SS314 ADVANCED HEMODYNAMIC INTERROGATION OF THE PULMONARY CIRCULATION

A. Tonelli, MD, MSc, Cleveland, OH

SS315 (RE)-BUILDING LUNGS FOR TRANSPLANTATION: ADVANCES AND CHALLENGES IN WHOLE ORGAN BIOENGINEERING

S.E. Gilpin, PhD, Boston, MA

SS316 NEW APPROACHES IN LUNG BIOLOGY ENABLED BY THE PRECISION CUT LUNG SLICE

R. Krishnan, PhD, Boston, MA

J.E. Bourke, PhD, Clayton, Australia

SS317 THE INTERFACE MATTERS: COMPARING DIFFERENT MASKS FOR OBSTRUCTIVE SLEEP APNEA TREATMENT

P. Genta, MD, Sao Paulo, Brazil

FACULTY DEVELOPMENT SEMINAR

FD3 STRATEGIES FOR FELLOWS AND EARLY CAREER FACULTY TO GET CLOSER TO WORK/LIFE BALANCE

 **Pre-registration is required.**

Attendance is limited. There is no additional fee.

7:00 a.m. - 8:00 a.m.

Target Audience

Clinical and research fellows, post-doctoral fellows, residents, and junior faculty in the early stages of a career in academic pulmonary, allergy, critical care, and/or sleep medicine

Objectives

At the conclusion of this session, the participant will be able to:

- identify areas of priority in their academic, personal, and family roles and responsibilities;
- understand there is no easy fix or one size fits all solution to the issue of work-life balance;
- identify strategies and practical ideas for how to balance both career and family obligations.

The demands of working in academic medicine are strenuous, exacerbated by the challenge of having to choose between time for your work, your family and yourself. This seminar will provide valuable insight and practical real-life strategies on balancing family life while developing a successful academic career. This session will feature a panel of successful faculty with experience in work-life balance at both a personal and professional level. This session will be divided into two

components. First, participants will hear strategies and perspective from the panel. Subsequently, participants will have the opportunity to engage one-on-one with panelists in an interactive discussion.

Chairing: M.N. Ballinger, PhD, Columbus, OH

Speakers: J.M. Keane, MD, Dublin, Ireland
A. Wang, MD, La Jolla, CA
B.B. Moore, PhD, Ann Arbor, MI
J.R. Curtis, MD, MPH, Seattle, WA
M. Kraft, MD, Tucson, AZ

THEMATIC SEMINAR SERIES

TSS1 EVOLVING CONCEPTS IN EARLY COPD

R **Registration Fee: \$170 for full series**
(includes continental breakfast)

Attendance is limited. Pre-registration is required.

This is part 4 of a 4-part series. Those registering for this seminar series will be registered for all 4 parts. The program for the full series is included with the Sunday, May 21, 12:15 p.m. program.

Wednesday 7:00 a.m. - 8:00 a.m.

**Chronic Bronchitis Without Airflow Obstruction:
Epidemiology, Phenotype, and Clinical
Consequences**

C. Martinez, MD, MPH, Ann Arbor, MI



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ATS KEYNOTE SERIES

The Keynote Series provides state of the art lectures on selected topics in an unopposed format to showcase major discoveries in pulmonary, critical care and sleep medicine. The speakers have been chosen by input from the members and various ATS committees with consensus built via the ATS executive committee.

Two sessions are presented each morning during the conference.
Below are the topics for the Wednesday, May 24th series.

**K7 CLIMATE CHANGE AND GLOBAL WARMING:
A GEOLOGICAL PERSPECTIVE**

8:15 a.m. - 9:00 a.m.

Speaker: K. Johnson, PhD, Washington, DC

This session will be chaired by A. Malhotra, MD, La Jolla, CA

**K8 HYPOXIA-INDUCIBLE FACTORS IN PHYSIOLOGY AND
MEDICINE**

8:15 a.m. - 9:00 a.m.

Speaker: G. Semenza, MD, PhD, Baltimore, MD

This session will be chaired by D. Gozal, MD, Chicago, IL

CLINICAL

YEAR IN REVIEW

D1 CLINICAL YEAR IN REVIEW 4

9:15 a.m. - 11:15 a.m.

Target Audience

Providers including physicians; registered nurses; advanced practice nurses; respiratory therapists; physician assistants; trainees including residents and fellows; clinical researchers

Objectives

At the conclusion of this session, the participant will be able to:

- apply new clinical research knowledge to clinical practice;
- gain new strategies to manage the care of common conditions in pulmonary, critical care, and sleep;
- apply new findings about key conditions in pulmonary, critical care and sleep.

The annual Clinical Year in Review symposia topics are reviews of key clinical research publications over the last year. Each speaker is asked to review the 5-7 most important and influential publications on their topic in the prior year.

Chairing: D.J. Lederer, MD, MS, New York, NY
D.W. Ford, MD, MSCR, Charleston, SC
V.E. Ortega, MD, PhD, Winston-Salem, NC

9:15 Lung Cancer
L.T. Tanoue, MD, New Haven, CT

9:45 Thoracic Imaging
S. Walsh, MD, London, United Kingdom

10:15 Health Disparities
J. Roman, MD, Louisville, KY

10:45 Palliative Care
R.A. Mularski, MD, MSHS, MCR, Portland, OR

CLINICAL

CLINICAL TOPICS IN PULMONARY MEDICINE

D2 BRONCHOSCOPIC LUNG VOLUME REDUCTION: IS IT FINALLY A REALITY?

Assemblies on Clinical Problems; Nursing; Pulmonary Rehabilitation; Respiratory Structure and Function

9:15 a.m. - 11:15 a.m.

Target Audience

Clinicians, clinical researchers, nurses, trainees in pulmonary medicine and research

Objectives

At the conclusion of this session, the participant will be able to:

- understand why hyperinflation is important in patients with COPD;
- become knowledgeable of the different forms of bronchoscopic lung reduction;
- recognize the differences between the various types of bronchoscopic lung reduction procedures and how one is more applicable than the other one in an individual patient profile.

Hyperinflation is a major complication of COPD especially for patients who have predominantly emphysema as a structural cause of their disease. It affects patient's exercise performance, quality of life, and contributes to increase mortality. Lung volume reduction surgery has been shown to be effective treatment in selected patients in improving lung function, quality of life and in a select subgroup survival. Bronchoscopic lung volume reduction which includes a variety of techniques plus other endoscopic treatments that can produce lung denervation have been recently demonstrated to have clinical benefit in some clinical trials that are focused on small numbers of patients followed for short periods of time. Recently, large randomized prospective randomized controlled trials have been conducted with a variety of bronchoscopic treatments that show promise to treat hyperinflation and improve patient outcome. In this session, leading international experts will discuss a variety of bronchoscopic lung reduction techniques and

provide an up-to-date summary of new findings and new directions in the exploration of these therapies to treat the hyperinflated COPD patient.

Chairing: G.J. Criner, MD, Philadelphia, PA
F.J.F. Herth, MD, Heidelberg, Germany
F.C. Sciurba, MD, Pittsburgh, PA

9:15 Physiologic and Functional Basis for Lung Reduction

F.C. Sciurba, MD, Pittsburgh, PA

9:30 Selections of Patients for Bronchoscopic Lung Reduction

G.J. Criner, MD, Philadelphia, PA

9:45 Efficacy of Endobronchial Valve Treatment for Heterogenous or Homogeneous Emphysema

K. Klooster, PhD, Groningen, Netherlands

10:00 Efficacy and Mechanism of Implantable Lung Coils in Advanced Emphysema

P. Shah, MD, London, United Kingdom

10:15 Application of Sequential Bilateral Segmental Vapor Ablation Therapy in Advanced Emphysema: Efficacy and Safety

F.J.F. Herth, MD, Heidelberg, Germany

10:30 Total Lung Denervation: Impact on Lung Function, Dyspnea and Exercise Performance

D. Slebos, MD, PhD, Groningen, Netherlands

10:45 Integration of BLVR with LVRS and Transplant: Which Therapy for Which Patient

D. Gompelmann, MD, Heidelberg, Germany

11:00 Panel Discussion

G.J. Criner, MD, Philadelphia, PA
F.C. Sciurba, MD, Pittsburgh, PA
F.J.F. Herth, MD, Heidelberg, Germany

CLINICAL • TRANSLATIONAL

CLINICAL TOPICS IN PULMONARY MEDICINE

D3 DIAGNOSTIC DILEMMAS IN HYPERSENSITIVITY PNEUMONIA AND THE CLINICAL-RADIOLOGIC-PATHOLOGIC MULTIDISCIPLINARY STANDARD

Assemblies on Clinical Problems; Allergy, Immunology and Inflammation; Environmental, Occupational and Population Health

9:15 a.m. - 11:15 a.m.

Target Audience

Clinicians, researchers, trainees, and other health care providers at all levels with an interest in clinical and translational research and interstitial lung disease

Objectives

At the conclusion of this session, the participant will be able to:

- understand the clinical features of hypersensitivity pneumonia and current classification patients from a phenotypic standpoint;
- incorporate available diagnostic tests in the evaluation of a patient suspected of having hypersensitivity pneumonia;
- improve ability to counsel patients with regard to treatment and prognosis.

Hypersensitivity pneumonia (HP) is a commonly considered diagnosis when evaluating acute and chronic interstitial pulmonary syndromes, but making a confident diagnosis is hindered by the lack of validated diagnostic criteria. The multidisciplinary clinical-radiologic-pathologic approach can aid clinicians in accurately diagnosing interstitial lung diseases. In the case of HP, conflicting information or uncertainty about the relevance of various findings within each of these categories is problematic. This session will highlight current evidence and deficits in knowledge within each of these categories, and review the pathologic basis, treatment, and prognosis of the disease.

Chairing: M. Salisbury, MD, Ann Arbor, MI
G. Raghu, MD, Seattle, WA
K.A. Johannson, MD, MPH, Calgary, Canada

9:15 Disease Definition, Clinical Features, Phenotypes, and a Case Presentation
G. Raghu, MD, Seattle, WA

9:35 Pathobiology of Hypersensitivity Pneumonia: Evidence for Genetic and/or Immunologic Mediation of Disease
M. Selman, MD, Mexico City, Mexico

- 9:55 Imaging in Diagnosis of Hypersensitivity Pneumonia: Sufficient to Make a Diagnosis in the Correct Clinical Setting?**
D.A. Lynch, MD, Denver, CO
- 10:15 Role of Bronchoscopy, BAL, and Transbronchial Biopsy in HP**
M. Vasakova, MD, PhD, Prague, Czech Republic
- 10:30 Histopathology in Diagnosis of HP: Distinctive Features and Mimics**
J.L. Myers, MD, Ann Arbor, MI
- 10:45 Environmental Evaluation: Challenges in Antigen Identification**
E. Fernandez Perez, MD, Denver, CO
- 11:00 Treatment of HP and Wrap-Up**
M. Salisbury, MD, Ann Arbor, MI

There will be a 5-minute discussion after each talk

BEHAVIORAL • CLINICAL • TRANSLATIONAL

CRITICAL CARE TRACK

D4 BALANCING PERSONALIZATION AND PROTOCOL IN THE ICU

Assemblies on Critical Care; Clinical Problems

9:15 a.m. - 11:15 a.m.

Target Audience

Clinicians caring for critically ill patients; investigators planning clinical trials to improve the care of sepsis, ARDS, and general ICU supportive care; trainees of critical care medicine

Objectives

At the conclusion of this session, the participant will be able to:

- identify clinical practice protocols that have improved patient outcomes;
- identify areas where uncertainty exists regarding adhering to a protocol compared to personalizing care;
- improve understanding of the concept of how treatment effects heterogeneity, and how this could impact patient outcomes.

This session will consider two potentially conflicting goals that challenge intensive care unit clinicians and researchers:

the desire to standardize care by protocolizing best practices, and the desire to personalize care to each patient's individual physiology. The session will highlight advances in critical care outcomes that have been achieved through the adoption of protocols while acknowledging opportunities to improve care by a precision approach even when such personalization may violate protocols. The session will have broad appeal to trainees, clinicians, and scientists because it will blend evidence and expert opinion, and will highlight areas where uncertainty exists.

Chairing: N.J. Meyer, MD, MS, Philadelphia, PA
S. Yende, MD, MS, Pittsburgh, PA

- 9:15 Contextualizing the Precision Medicine Initiative for the ICU**
N.J. Meyer, MD, MS, Philadelphia, PA
- 9:30 A Case for Protocolization: Applying a Business Mindset to ICU Care**
H.B. Gershengorn, MD, Bronx, NY
- 9:45 Personalizing Lung Protection in ARDS with Tidal Volume Strategy and Neuromuscular Blockade**
J.R. Beitler, MD, MPH, San Diego, CA
- 10:05 Personalizing Hemodynamic Management in the Post-ProMISE/ProCESS Era**
M. Singer, MBBS, MD, London, United Kingdom
- 10:25 Sedation and Mobilization: Can We Personalize Protocols to Maximize Benefit?**
W.D. Schweickert, MD, Philadelphia, PA
- 10:45 On the Horizon: Precision Immunotherapy Trials in Sepsis**
S. Yende, MD, MS, Pittsburgh, PA
- 11:00 Panel Discussion**
N.J. Meyer, MD, MS, Philadelphia, PA
H.B. Gershengorn, MD, Bronx, NY

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SCIENTIFIC SYMPOSIUM

D5 PREVENTING ASTHMA ONSET IN CHILDREN BY IMMUNOMODULATION USING BACTERIA OR BACTERIAL EXTRACTS

Assemblies on Pediatrics; Allergy, Immunology and Inflammation; Respiratory Cell and Molecular Biology

9:15 a.m. - 11:15 a.m.

Target Audience

Researchers and clinicians interested in the prevention of asthma

Objectives

At the conclusion of this session, the participant will be able to:

- integrate the information on how exposure to bacteria/bacterial extracts can reverse immune system deficits in asthmatic children;
- learn new findings on the clinical efficacy of bacterial immuno-modulating agents on clinical outcomes in asthmatic children;
- improved understanding of asthma prevention strategies.

Research into the primary prevention of the onset of asthma in children has been unsuccessful. Yet, we know asthma can be prevented, as it is rare in developing countries and in children from traditional farming communities. This and recent knowledge that bacterial lysates can both enhance deficient immune system responses in asthmatics and prevent asthma exacerbations strongly suggests that early life exposure to bacteria/bacterial products could prevent the development of asthma. A large new NIH study will explore this exciting possibility over the next 5 years. This symposium will examine scientific and clinical evidence that this approach can prevent asthma.

Chairing: P.N. Le Souef, MD, MBBS, Subiaco, Australia
W.W. Busse, MD, Madison, WI

9:15 **A Patient's Perspective**
Speaker To Be Announced

9:20 **The Effect of Bacterial Immunomodulation on Immune System Responses in Young Children**
I. Laing, PhD, Subiaco, Australia

9:43 **Does Exposure to Bacteria and Bacterial Lysates Reduce Wheeze in Children?**
P.N. Le Souef, MD, MBBS, Subiaco, Australia

10:06 **A Systems Biology Approach to Understanding Immune System Responses to Bacteria**
R. Hancock, PhD, Vancouver, Canada

10:29 **Short and Long-Term Effects of Viruses Versus Bacteria on Immune Responses in Asthma**
S. Johnston, MD, MBBS, PhD, London, United Kingdom

10:52 **Translational Medicine and Asthma Prevention in Children Using Bacteria or Bacterial Lysates**
F.D. Martinez, MD, Tucson, AZ

There will be a 5-minute discussion after each talk.

BASIC • BEHAVIORAL CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D6 SLEEP AND HEALTH: A PUBLIC HEALTH CALL TO ACTION

Assemblies on Sleep and Respiratory Neurobiology; Behavioral Science and Health Services Research; Clinical Problems; Environmental, Occupational and Population Health

9:15 a.m. - 11:15 a.m.

Target Audience

Clinicians who treat any medical conditions for which sleep is a relevant factor, and researchers who study sleep, cardiometabolic health, and/or epidemiology

Objectives

At the conclusion of this session, the participant will be able to:

- better understand the prevalence of insufficient sleep and sleep disorders and relevance for public health and policy;
- understand the relationship between insufficient sleep and cardiometabolic disease risk and be able to apply this to improve patient care;
- gain a better understanding of the policy implications of insufficient sleep for school children and for other groups, and become better equipped to assist in the development and implementation of these policy initiatives.

This session focuses on some of the most pressing public health concerns regarding sleep health. Sleep is a biological requirement for human life, but insufficient sleep is experienced by approximately 1/3 of U.S. adults and a large portion of U.S. children and adolescents. In addition, sleep disorders are highly prevalent, with up to 10-17% of men and 3-9% of women over 30 having sleep apnea and approximately 5-15% having an insomnia disorder. These issues are associated with cardiometabolic risk, functional deficits, and mortality. These issues need to be addressed and dealt with in the community as well as the clinic. This is a public health problem. This session addresses many of the major public health and public policy issues relevant to population sleep health.

Chairing: M. Grandner, PhD, Tucson, AZ
E. Tasali, MD, Chicago, IL

- 9:15 Sleep and Health: Are We Getting Enough Sleep?**
M. Grandner, PhD, Tucson, AZ
- 9:40 Sleep and the Public Health Epidemic of Obesity**
J. Chaput, PhD, Ottawa, Canada
- 10:05 Sleep and Health Equity: Implications for Health Disparities and Policy**
N. Williams, EdD, New York, NY
- 10:30 Delayed School Start Times: Impact on Sleep and Public Health**
M.L. Chen, MD, Seattle, WA
- 10:55 Patient Presentation**
Speaker To Be Announced

BASIC • BEHAVIORAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D7 AIR POLLUTION AND PSYCHOSOCIAL STRESS AND THE ORIGINS OF LUNG DISEASE

Assemblies on Environmental, Occupational and Population Health; Behavioral Science and Health Services Research

9:15 a.m. - 11:15 a.m.

Target Audience

Basic and clinical pulmonary scientists and behavioral scientists

Objectives

At the conclusion of this session, the participant will be able to:

- improve the quality of life/health status patients by recognizing how psychosocial stressors impact negative health outcomes associated with air pollution exposure;
- integrate new treatment options in discussing how to manage asthma/allergic disease by employing psychosocial stressor reduction strategies such as a diet, exercise, relaxation;
- learn new findings about the importance of psychosocial stressors and how they impact the association between air pollution and lung disease.

Social and psychological stressors may lead directly to poor health outcomes. They may also increase susceptibility to air pollution through alterations in immune function and biological systems (McEwen and Seeman 1999) known to affect specific respiratory diseases like asthma and allergic disorders. Thus, the most pollution-exposed communities may also be more susceptible because of higher prevalence of social stressors (Lipfert 2004). The combination of chemical and non-chemical stressors may be an important factor in asthma and allergy disparities. Disentangling social and physical environmental risks is becoming a priority area of research for NIEHS Environmental Public Health and EPA policy guided research. This symposium will present current evidence of the

interactions and potential synergies between psychosocial and environmental stressors, effects on susceptible populations such as those with pre-existing lung disease, and potential methods of intervention to improve overall population health.

Chairing: N.E. Alexis, PhD, Chapel Hill, NC
R.J. Laumbach, MD, MPH, Piscataway, NJ

9:15 Overview of Evidence for Interactions Between Psychosocial Stress and Air Pollution in Asthma/Allergy

R. Wright, MD, MPH, New York, NY

9:40 Epidemiologic and Epigenetic Evidence of Links Between Air Pollution, Stress and Negative Respiratory Health Outcomes

J. Clougherty, MSc, ScD, Pittsburgh, PA

10:05 Children Cohort Studies of Interaction of Acute Stress and Susceptibility to Air Pollution in Asthma and Allergic Disease

K. Shankardass, PhD, Toronto, Canada

10:30 Stress Response Studies Using Animal Models

U. Kodavanti, PhD, Chapel Hill, NC

10:55 Intervention Studies to Mitigate Effects of Stress Environmental Lung Disease

P. Lehrer, PhD, Piscataway, NJ

There will be a 5-minute discussion after each talk.

BASIC • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D8 THE NEXT NEXT-GENERATION: FUNCTION, MODELING AND MECHANISM AND THE LUNG MICROBIOME

Assemblies on Microbiology, Tuberculosis and Pulmonary Infections; Allergy, Immunology and Inflammation

9:15 a.m. - 11:15 a.m.

Target Audience

Clinicians and research scientists interested in innovative approaches that move lung microbiome research from descriptive to mechanistic pathophysiological research

Objectives

At the conclusion of this session, the participant will be able to:

- understand the role of microbial communities in the lung by exploring microbial community function through the integration of complementary 'omics such as transcriptomics and metabolomics. Audience will understand microbial community function, transcending the antiquated pathogen/commensal paradigm;
- gain understanding how the host responds to complex microbial communities in health and disease. Audience will appreciate the applications of broad molecular techniques beyond 16s rRNA gene sequencing in the characterization of host responses;
- understand the need and utility of in vivo and ex vivo models of disease that combine classical basic science techniques with complex microbial community characterization for investigating mechanisms of disease and therapeutic targets. Audience will be encouraged to prioritize mechanistic approaches to lung microbiome study for future progress.

The lung microbiome field is rapidly evolving beyond mere description of respiratory microbiota into the integrative study of the mechanisms of microbial disease pathogenesis. This scientific symposium will reveal how diverse methodologies can complement microbial community sequencing to unfold the microbiome's role in the pathogenesis of diverse respiratory diseases. Speakers will demonstrate how multi-omic approaches and animal modeling can elucidate host-microbe and microbe-microbe interactions within the dynamic microbial ecosystem of the diseased respiratory tract.

Chairing: R.P. Dickson, MD, Ann Arbor, MI
L. Segal, MD, New York, NY
A. Morris, MD, MS, Pittsburgh, PA

9:15 Host Immune Response: The Inflammatory Response to the Microbiome in Health and Airway Diseases

L. Segal, MD, New York, NY

9:40 Microbe-Microbe Interactions: Relevance of the Upper Respiratory Ecosystem in Pathogen Acquisition and Behavior

D. Bogaert, MD, PhD, Utrecht, Netherlands

- 10:05 Epidemiology: The Microbiome and the Prevention of Childhood Asthma**
E. von Mutius, MD, MS, Munich, Germany
- 10:30 Animal Modeling: The Microbiome and the Acute Respiratory Distress Syndrome**
R.P. Dickson, MD, Ann Arbor, MI
- 10:55 Metabolomics: The Oral Microbiome in Pulmonary Hypertension**
C.D. Koch, MD, Pittsburgh, PA

There will be a 5-minute discussion after each talk.

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D9 SCIENTIFIC PROMISE AND TRANSLATIONAL CHALLENGES IN LUNG REGENERATIVE MEDICINE

Assemblies on Respiratory Cell and Molecular Biology; Behavioral Science and Health Services Research; Clinical Problems; Respiratory Structure and Function

9:15 a.m. - 11:15 a.m.

Target Audience

Basic scientists, clinicians, and trainees with an interest in the role of stem cells in respiratory development and disease; those who set policy for government institutions such as the NIH or FDA

Objectives

At the conclusion of this session, the participant will be able to:

- review the current understanding and provide latest updates in the mechanisms regulating the activation of stem and progenitor cells both in lung repair after injury and from pluripotent stem cells.
- improve knowledge of potential translation of regenerative medical advances for the treatment of lung diseases;
- improve understanding of ethical dilemmas and regulatory challenges posed by advances in biomedical research.

This session will evaluate recent progress made in deciphering the signaling pathways governing the regulation and function of lung stem cells as well as ethical, and policy issues surrounding stem cell biology, stem cell transplantation, and their therapeutic application to lung disease.

Chairing: A.L. Firth, PhD, Los Angeles, CA
A. Wilson, MD, Boston, MA
Z. Borok, MD, Los Angeles, CA

- 9:15 Epithelial-Mesenchymal-Niche Interactions Regulating Alveolar Type II Cells**
C. Barkauskas, MD, Durham, NC
- 9:35 Dynamics of Lineage Negative Epithelial Cell Notch Signaling in Lung Injury**
H. Chapman, MD, San Francisco, CA
- 9:55 Hippo/Yap Regulation of Lung Stem Cells and Development**
X. Varelas, PhD, Boston, MA
- 10:15 Regulation of iPSC Differentiation to Lung Stem Cells**
A.L. Firth, PhD, Los Angeles, CA
- 10:35 Challenges and Controversies in Bringing Regenerative Products to Market: The Japanese Experience**
D. Sipp, BA, Kobe, Japan
- 10:55 Translating Stem Cell Science to the Clinical Arena**
G. Gibbons, MD, Bethesda, MD

BEHAVIORAL • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D10 ENVIRONMENTAL POLLUTION AND THE GLOBAL RISE IN COPD FOOTPRINT

Membership Committee; Assemblies on Allergy, Immunology and Inflammation; Behavioral Science and Health Services Research; Clinical Problems; Environmental, Occupational and Population Health; Pediatrics; Respiratory Cell and Molecular Biology; Respiratory Structure and Function

9:15 a.m. - 11:15 a.m.

Target Audience

Early career scientists and physicians, clinician educators, clinician scholars, trainees, nurses, junior and mid-level faculty

Objectives

At the conclusion of this session, the participant will be able to:

- define the epidemiology of COPD and environmental risk factors world-wide;
- identify commonalities and differences in environmental hazard exposures and their impact on respiratory symptoms across populations;
- identify major obstacles and opportunities in risk reduction measures to impact on COPD footprint.

This symposium will highlight the epidemiology of environmental exposures and the global rise in COPD footprint. The symposium will provide the perspective of leaders and future leaders within the field of international respiratory health, identify commonalities and differences in modifiable, environmental risk factors, and provide potential strategies for risk reduction in the global community.

Chairing: Y.N. Mageto, MD, MPH, Burlington, VT
B.R. Celli, MD, Boston, MA
A.S. Buist, MD, Portland, OR

- 9:15 Epidemiology of Environmental Exposures and the Global Rise in COPD Footprint**
K.J. Mortimer, PhD, Liverpool, United Kingdom
- 9:35 Biomass Smoke Exposure, Clinical Expression and Natural History: An Enemy We Need to Defeat**
A. Ramirez-Venegas, MD, Mexico City, Mexico
- 9:55 Burning of Biomass Fuels and Resulting Obstructive Disease: Effective Intervention with Limited Resources**
S. Salvi, MD, PhD, Pune, India
- 10:15 Progression from Asthma to Chronic Obstructive Pulmonary Disease (COPD): Is Air Pollution a Risk Factor?**
T. To, PhD, Toronto, Canada

- 10:35 To Screen or Not to Screen - That Is the Question: If Hamlet Could Understand COPD**
D.H. Au, MD, MS, Seattle, WA
- 10:55 Environmental Hazard Exposures and Respiratory Symptoms in the Guangzhou Institute of Respiratory Disease COPD Cohort**
R. Chen, MD, PhD, Guangzhou, China

9:15 a.m. - 11:15 a.m

Oral And Poster Presentations Of Scientific Research And Case Reports. Abstract Sessions Will Be Published In The Final Program.



CLINICAL

WORKSHOP

WS7 MOLECULAR DIAGNOSTICS FOR ACUTE PNEUMONIA: PRACTICAL IMPACT AND FUTURE HORIZONS

R Registration Fee: \$75 (includes box lunch)
Attendance is limited. Pre-registration is required.

Assemblies on Microbiology, Tuberculosis and Pulmonary Infections; Clinical Problems; Critical Care

11:45 a.m. - 1:15 p.m.

Target Audience

Pulmonologists, critical care physicians, hospitalists, microbiologists, infectious disease specialists, and infection control specialists seeking to update their knowledge of the latest molecular assays as well as emerging diagnostic technologies for the microbial etiology of acute pneumonia

Objectives

At the conclusion of this session, the participant will be able to:

- learn new findings about novel molecular diagnostic tests for acute pneumonia;
- diagnose patients with acute pneumonia;
- gain new strategies to manage the care of patients with CAP or VAP.

This session will provide attendees with a cutting edge review of novel diagnostic technologies that can be used to facilitate rapid and accurate identification and characterization of the etiology of acute pneumonia. Individual speakers will 1) describe the scientific basis of the latest molecular tests for rapid identification of viral and bacterial pathogens and review the use of automated functional approaches for rapid antimicrobial susceptibility testing; 2) provide a perspective from the clinical microbiology laboratory on the advantages and challenges of implementing and integrating these new and emerging methodologies into clinical practice; and 3) assess the clinical utility of the approved molecular techniques for rapid identification of viral and bacterial pathogens that cause community-acquired pneumonia.

Chairing: R. Nusrat, MD, Princeton, NJ
S.T. Qureshi, MD, Montreal, Canada

11:45 Molecular Testing for Acute Pneumonia Diagnosis

M.H. Kollef, MD, St. Louis, MO

12:05 Emerging Diagnostic Technologies for Ventilator-Associated Pneumonia

I.S. Douglas, MD, Denver, CO

12:25 Novel Pneumonia Diagnostics: View from the Clinical Microbiology Laboratory

R. Patel, MD, Rochester, MN

12:45 Molecular Diagnosis of Community Acquired Pneumonia

R.G. Wunderink, MD, Chicago, IL

1:05 Panel Discussion

BASIC • BEHAVIORAL

CLINICAL • TRANSLATIONAL

CAREER DEVELOPMENT FORUM

WS8 PREPARING FOR ENTERING THE GRANT SHARK TANK: ATTAINING EARLY CAREER FUNDING

R This Forum is part of the ATS initiative to offer program specifically geared toward the professional

development of trainees, fellows and students to aid in the pursuit of successful careers in pulmonary, critical care and sleep medicine.

Pre-registration is required. Attendance is limited. There is no additional fee.

Assembly on Respiratory Structure and Function

11:45 a.m. - 1:15 p.m.

Target Audience

Graduate students, PhD, MD, post-doctoral/clinical fellows and faculty interested in gaining insight into early career funding mechanisms and learning tips for successful applications. This interactive session is designed to attract grant applicants to understand the funding process in U.S./international agencies or foundations to enhance success in attaining early career funding

Objectives

At the conclusion of this session, the participant will be able to:

- understand the advantages and challenge of seeking federal, industry, or foundation, funding;
- gain a greater understanding of the criteria used to identify innovative and outstanding grant applications;
- discover the most common pitfalls, which can lead to lack of success in obtaining grants.

Early career investigators are faced with a challenging research funding climate. In order to succeed in obtaining support, they must have a clear understanding of funding mechanisms available and how to navigate the application process in order to excel with innovative proposals. A NIH official, a representative from the American Association for the Advancement of Science, two highly experienced, internationally recognized senior scientists, and a recently awardee investigator will review and discuss available career development grant opportunities with particular focus on K-awards, private grant mechanisms and international funding options. This will be followed by Questions and Answers. We will also provide an information booklet with a brief overview of international grant details, deadlines, and resources for locating funding.

Chairing: C.R. Kliment, MD, PhD, Baltimore, MD
K. Jetmalani, PhD, Sydney, Australia

11:45 NIH Awards

W. Wang, PhD, Bethesda, MD

12:05 K Awards and Foundation Mechanisms

L. Smith, MD, Chicago, IL

12:30 International Funding Mechanisms

A.J. Halayko, PhD, Winnipeg, Canada

12:45 Navigating Early Career Funding

J. Englert, MD, Columbus, OH

1:00 General Discussion

**CENTER FOR TOBACCO PRODUCTS (CTP),
U.S. FOOD AND DRUG ADMINISTRATION**

L21 TOWARDS A FDA COMPREHENSIVE NICOTINE REGULATORY POLICY: HOW DO ELECTRONIC NICOTINE DELIVERY SYSTEMS FIT?

12:15 p.m. - 1:15 p.m.

Target Audience

Clinicians trying to advise patients about nicotine and electronic nicotine delivery systems; Anyone interested in nicotine policy

Objectives

At the conclusion of this session, the participant will be able to:

- understand FDA's Center for Tobacco Products strategic priorities and the need for a comprehensive FDA regulatory nicotine policy;
- evaluate whether electronic nicotine delivery systems have a role in FDA regulatory nicotine policy.

Tobacco harm reduction and the continuum of risk are concepts that have been the subject of ongoing discussion and debate within the tobacco research and public health community. Points of view vary regarding approaches to reduce tobacco-caused morbidity and mortality. One of the five strategic priorities of the Food and Drug Administration's Center for Tobacco Products is the need for a Comprehensive FDA Regulatory Nicotine Policy. This strategic priority aims to establish an integrated, FDA-wide policy on nicotine containing

products that is public health based. This strategic priority has implications for tobacco, drug, and device regulatory policy. This session will provide an overview of tobacco harm reduction and the continuum of risk, a summary of nicotine science, and considerations regarding how electronic nicotine delivery systems (ENDS) fit into a comprehensive nicotine regulatory policy.

Chairing: P. Callahan-Lyon, MD, Silver Spring, MD

12:15 Setting the Stage

M. Zeller, JD, Silver Spring, MD

12:35 Science of Nicotine

C. Reissig, PhD, Silver Spring, MD

12:55 Electronic Nicotine Delivery Systems in Context

P. Callahan-Lyon, MD, Silver Spring, MD

**NATIONAL AERONAUTICS
AND SPACE ADMINISTRATION**

L22 NASA'S SATELLITES AND THEIR USE IN STUDYING HEALTH AND AIR QUALITY: HIGHLIGHT FROM THE NASA HEALTH AND AIR QUALITY APPLIED SCIENCES TEAM

12:15 p.m. - 1:15 p.m.

Target Audience

Pulmonary health researchers and clinicians interested in needed environmental data on health and Air Quality, wildfires and overview of the NASA Health and Air Quality Applied Sciences Team (H-AQAST); those interested in understanding the geographic, environmental, and meteorological differences in pulmonary disease

Objectives

At the conclusion of this session, the participant will be able to:

- gain knowledge about ongoing NASA projects related to performance lung and cardiac disease;
- provide a synopsis of a project using observations of earth's environment and public health applications that are of interest to pulmonary clinicians and researchers;

- provide an overview of the NASA Health and Air Quality Program relating to public health applications that are of interest to pulmonary clinicians and researchers.

Speakers will highlight the newly formed NASA Health and Air Quality Team that is studying environmental health as well as air quality. These researchers will provide an overview of the Health and Air Quality Program and the types of projects that will benefit attendees. They will identify sources for information about the satellite data as well as possibly find new medical resources within the attendees of the American Thoracic Society International Conference.

Chairing: S.M. Estes, MS, Huntsville, AL

12:15 Overview of NASA's Public Health Program

J.A. Haynes, MS, Washington, DC

12:30 The NASA Health and Air Quality Applied Sciences Team (H-AQAST)

T. Holloway, PhD, Madison, WI

12:45 A Multi-Pollutant, Satellite-Based Health-Air Quality Index

B. Duncan, PhD, Greenbelt, MD

1:00 Air Quality Forecasting and Reanalysis

D. Tong, PhD, Fairfax, VA

**NATIONAL CENTER FOR
ENVIRONMENTAL HEALTH, CDC**

L23 PROMOTING ACCESS TO GUIDELINES-BASED CARE FOR PEOPLE WITH ASTHMA

12:15 p.m. - 1:15 p.m.

Target Audience

Physicians, nurses, respiratory therapists, asthma educators

Objectives

At the conclusion of this session, the participant will be able to:

- improve quality of asthma care provided to patients;
- recognize the role of non-governmental organizations in asthma control.

CDC's National Asthma Control Program has partnered with national non-governmental organizations (NGOs) to promote access to guidelines-based asthma care using health education and communication strategies that will result in measurable impacts. The NGOs will provide clear and consistent guidance on the delivery of asthma education for people with asthma, health professionals, and on the interactions between these two groups. As a result, audiences will have the knowledge and skills to demand appropriate care (people with asthma) or deliver it (health care providers), and schools and communities will have the capacity to promote policies, systems, and environments that support people with asthma.

Chairing: P.L. Garbe, DVM, MPH, Atlanta, GA

12:15 Reducing the Burden of Asthma in Adults

B. Kaplan, MPH, Washington, DC

12:30 Building Blocks for Better Breathing: A Comprehensive Approach to Promote Quality Care for Asthma According to the NAEPP Guidelines

T. Winders, MBA, Vienna, VA

12:45 Creating Asthma-Friendly Environments and Promoting Access to Guidelines-Based Care for Children with Asthma

T. Bobbitt, MA, MS, Washington, DC

1:00 Developing and Disseminating an Educational Intervention for the Medically Underserved

M. Bloomrosen, MBA, MBI, Landover, GA

**PATIENT CENTERED OUTCOME
RESEARCH INSTITUTE (PCORI)**

**L24 PATIENT-CENTERED OUTCOME
RESEARCH INSTITUTE (PCORI):
PCORNET AND EVIDENCE TO ACTION
NETWORKS UPDATE**

12:15 p.m. - 1:15 p.m.

Target Audience

Clinicians (physicians, nurses, fellows, residents), researchers, administrators and policymakers: anyone involved in delivery of care and the science of patient-centered research

Objectives

At the conclusion of this session, the participant will be able to:

- understand funding comparative effectiveness research;
- learn from PCORI official what network activities are ongoing.

A PCORI official will introduce summaries of PCORI funded projects in pulmonary, critical care and sleep disorders. The PCORI officials will update the unique evidence to action network activities in asthma and transition of care, and also review activities and collaboration opportunities in PCORnet. At the panel discussion, PCORI officials and PCORI funded researchers will discuss question from audience related to PCORI activities. The purpose of the session will be to raise awareness of PCORI activities relevant to patient centered care for patients with pulmonary, critical care, and sleep disorders.

Chairing: K. Sumino, MD, MPH, St. Louis, MO

12:15 Patient-Centered Comparative Effectiveness Research to Reduce Asthma Disparities and Improve Adherence to Asthma Guidelines

A. Anise, MHS, Washington, DC

12:27 Accessing PCORnet's Data and Network Resources

R. Fleurence, PhD, Washington, DC

12:39 Transitional Care Evidence to Action Network: Approaches, Accomplishments, Opportunities in Transitional Care Research

C. Parry, PhD, MSW, Washington, DC

12:51 Wrap Up and Panel Discussion

K. Sumino, MD, MPH, St. Louis, MO

A. Anise, MHS, Washington, DC

R. Fleurence, PhD, Washington, DC

C. Parry, PhD, MSW, Washington, DC

C.E. Cox, MD, MPH, Durham, NC

S. Parthasarathy, MD, Tucson, AZ

**NATIONAL HEART, LUNG, AND BLOOD INSTITUTE,
DIVISION OF LUNG DISEASES, NIH**

**L25 THE PULMONARY TRIALS
COOPERATIVE (PTC): PURPOSE,
STRUCTURE AND CURRENT TRIALS**

12:15 p.m. - 1:15 p.m.

Target Audience

Multiple groups, patients, clinical researchers, pulmonologists, health care providers

Objectives

At the conclusion of this session, the participant will be able to:

- learning new findings and ideas about treatment of COPD and IPF;
- learning new strategies to conduct clinical trials.

The presenters will illustrate what is the NHLBI-funded Pulmonary Trials Cooperative (PTC). They will describe in detail its purpose, structure and functions. The four trials currently undergoing execution will be presented describing for each of the protocols and the background behind them.

Chairing: S. Wisniewski, PhD, Pittsburgh, PA
A. Punturieri, MD, PhD, Bethesda, MD

12:15 PTC: NEMO and PLGs
S. Wisniewski, PhD, Pittsburgh, PA

12:27 INSIGHT COPD
D.H. Au, MD, MS, Seattle, WA

12:39 LEEP
R.A. Wise, MD, Baltimore, MD

12:51 RETHINC
M.K. Han, MD, MS, Ann Arbor, MI

1:03 CleanUP IPF
F.J. Martinez, MD, New York, NY

**NATIONAL HEART, LUNG, AND BLOOD INSTITUTE,
DIVISION OF LUNG DISEASES, NIH**

**L26 NHLBI-FUNDED RESOURCES FOR
IMPROVING LONG-TERM OUTCOMES
CLINICAL RESEARCH FOR ACUTE
RESPIRATORY FAILURE**

12:15 p.m. - 1:15 p.m.

Target Audience

Practicing critical care clinicians and clinical researchers; fellows, students, nurses, and other medical professionals and others interested in long-term outcomes and clinical research would also benefit from this session

Objectives

At the conclusion of this session, the participant will be able to:

- learn what instruments are recommended and the resources available for assessing acute respiratory failure survivors' long-term physical, cognitive, and mental health outcomes;
- understand methods and resources available for maximizing cohort retention;
- understand statistical methods and resources available to analyze longitudinal outcomes in the presence of high patient mortality.

This session will provide an overview of NHLBI-funded resources for improving long-term outcomes research in acute respiratory failure clinical studies. This session will cover research and resources in the following areas: 1) instruments for measuring acute respiratory failure survivors' long-term physical, cognitive, and mental health outcomes; 2) methods for maximizing retention of acute respiratory failure survivors in long-term research studies; and 3) statistical methods for analyzing long-term outcomes in the presence of high patient mortality.

Chairing: D. Needham, MD, Baltimore, MD
L. Reineck, MD, Bethesda, MD

**12:15 Outcome Measures for Acute Respiratory
Failure Survivors: An Overview**
D. Needham, MD, Baltimore, MD

12:27 Understanding Important Outcomes to ICU Survivors Using Qualitative Methods

M.N. Eakin, PhD, Baltimore, MD

12:39 Reaching International Consensus on Long-Term Outcomes Measures for Acute Respiratory Failure

A.E. Turnbull, DVM, MPH, PhD, Baltimore, MD

12:51 Understanding and Improving Cohort Retention in Long-Term Outcome Studies

V. Dinglas, MPH, Baltimore, MD

1:03 Statistical Methods for Evaluating Patient Outcomes in the Presence of a Competing Risk of Mortality

E. Colantuoni, PhD, Baltimore, MD

**NATIONAL HEART, LUNG, AND BLOOD INSTITUTE,
DIVISION OF LUNG DISEASES, NIH**

L27 FEDERAL RESOURCES TO TRANSLATE RESEARCH FROM LAB TO PATIENTS

12:15 p.m. - 1:15 p.m.

Target Audience

Academic and clinical researchers developing new biomedical technologies (therapeutics, diagnostics, medical devices, etc.), entrepreneurs

Objectives

At the conclusion of this session, the participant will be able to:

- understand the processes involved in product development;
- access resources that may be useful for scientists considering product development;
- appreciate how a scientific discovery is applicable to the care of patients.

The National Heart, Lung, and Blood Institute (NHLBI) has many resources available to help innovators translate scientific discoveries into products that improve human health. Many of the resources are managed through the Office of Translational Alliances and Coordination (OTAC). This presentation will provide an overview of NHLBI resources for product

development as well as specific examples of how these resources may be leveraged to advance care for those with lung disease or sleep disorders.

Chairing: K. Marek, PhD, Bethesda, MD
P. Noel, PhD, Bethesda, MD

12:15 NHLBI Mechanisms to Accelerate Translational Science

P. Noel, PhD, Bethesda, MD

12:25 SBIR and STTR Lung Research and Funding Opportunities

J. Shieh, PhD, Bethesda, MD

12:35 NHLBI/OTAC Translational Science Resources

M.J. MacMahon, PhD, Bethesda, MD

12:45 Novel Drug-Device Development for Neonatal Pulmonary Disease

R. Segal, PhD, Warrington, PA

1:00 Developing a New Therapy for Asthma
Speaker To Be Announced

**NATIONAL HEART, LUNG, AND BLOOD INSTITUTE,
DIVISION OF LUNG DISEASES, NIH**

L28 BUILDING KNOWLEDGE WITH DESIGN FROM THE ENVIRONMENTAL INFLUENCES ON CHILD HEALTH OUTCOMES (ECHO)

12:15 p.m. - 1:15 p.m.

Target Audience

Health providers, trainees, established and early career investigators

Objectives

At the conclusion of this session, the participant will be able to:

- understand that respiratory outcomes can be impacted by exposures prenatal and early postnatal life;
- learn and understand how multi-level exposures can be measured from biological samples;

- understand measures of patient and parent reported respiratory outcomes as well as validated asthma outcomes.

The NIH-supported Environmental Influences on Child Health Outcomes (ECHO) program supports multiple, synergistic, longitudinal studies using existing cohort populations to investigate influences of environmental exposures (physical, chemical, biological, social, behavioral, natural and built environments) on child health and development, including respiratory outcomes. The multiple cohorts will share standardized core data elements from about 50,000 children. These core elements will include analyses through the Children's Health Exposure Analysis Resource (CHEAR), Patient/Person (parent and child) Reported Outcomes (PROs), and genetics. This session will focus on evidence of developmental origins of health and disease, the design of ECHO, and how researchers can leverage ECHO.

Chairing: C.J. Blaisdell, MD, Rockville, MD

12:15 Overview of ECHO

M.W. Gillman, MD, Bethesda, MD

12:30 Children's Health Exposure Analysis Resource (CHEAR) for Data Science

S. Teitelbaum, PhD, New York, NY

12:45 Patient Reported Outcomes Research Resource Center Core (ECHO PRO Core)

R. Gershon, MD, Chicago, IL

1:00 Early Exposures and ECHO Asthma Outcomes

J.E. Gern, MD, Madison, WI

**DEPARTMENT OF LABOR/HEALTH
RESOURCES SERVICES ADMINISTRATION**

**L29 THE LUNG HEALTH COST OF ENERGY:
CARING FOR COAL, URANIUM, AND
NUCLEAR INDUSTRY WORKERS**

12:15 p.m. - 1:15 p.m.

Target Audience

Clinicians who treat, or are interested in treating, pulmonary disease in coal, uranium, and nuclear weapons workers. This may be of particular interest to clinicians working in areas with large numbers of active and retired coal miners or uranium and nuclear industry workers and areas affected by nuclear weapons testing

Objectives

At the conclusion of this session, the participant will be able to:

- describe the services and funding available through the Black Lung Clinics Program and the Radiation Exposure Screening and Education Program;
- learn about the unique challenges of caring for coal and uranium workers in a clinical setting;
- better treat and/or refer coal, uranium, and nuclear weapons worker patients suffering from occupational lung disease.

Attendees will learn about the Black Lung and Radiation Exposure Screening and Education Programs administered by the Health Resources and Services Administration (HRSA); the Department of Labor (DOL) and Department of Justice (DOJ) claims processes for coal and uranium and nuclear weapons workers; and the challenges and opportunities providers who treat these populations face.

Attendees will also be able to describe the mission of the Federal Black Lung program, the Energy Employees Occupational Illness Compensation Program Act and the Radiation Exposure Compensation Act; the statutory requirements for conducting a complete pulmonary evaluation to determine disability; and the need for additional diagnostic providers to conduct disability evaluations for the programs.

Chairing: A. Hutchings, MA, MPH, Rockville, MD
M. Chance, JD, Washington, DC

12:15 Overview of HRSA's Black Lung and Radiation Exposure Screening and Education Programs

J. Burges, MPH, Rockville, MD

A. Hutchings, MA, MPH, Rockville, MD

12:25 Overview of DOJ and DOL Claims Processes for Coal, Uranium, and Nuclear Industry Workers

M. Chance, JD, Washington, DC

R. Leiton, MPA, Washington, DC

12:40 A Physician Perspective on Caring for Coal Workers

R.A. Cohen, MD, Chicago, IL

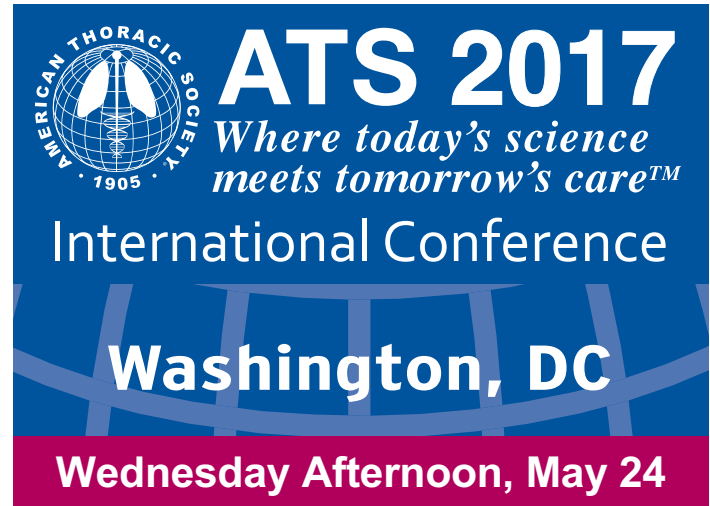
12:50 A Physician Perspective on Caring for Uranium and Nuclear Industry Workers

A. Sood, MD, MPH, Albuquerque, NM

1:00 Question and Answer

A. Hutchings, MA, MPH, Rockville, MD

M. Chance, JD, Washington, DC



CLINICAL

ADULT CLINICAL CORE CURRICULUM

CC6 SLEEP MEDICINE CLINICAL CORE CURRICULUM II

Adult Core Curriculum Working Group

1:30 p.m. - 3:30 p.m.

Target Audience

Practicing internists and subspecialists in Pulmonary, Critical Care, and Sleep medicine who work in a clinical setting and are currently engaged in maintenance of certification

Objectives

At the conclusion of this session, the participant will be able to:

- remain current with medical knowledge relevant to their practice in pulmonary, critical care, and sleep medicine;
- evaluate their understanding of key skills and content areas in pulmonary, critical care and sleep medicine, as well as receive feedback on their comprehension of a result of a pre-test/post-test comparison;
- support clinicians who are engaged in maintenance of certification activities by providing updates on subjects included in recertification requirements.

The ATS Clinical Core Curriculum Symposia focus on a 3-year content cycle of key medical content in the

areas of Pulmonary, Critical Care, and Sleep Medicine. The topics are also aligned with corresponding MOC Medical Knowledge modules. This symposium is intended to assist clinicians with staying current with the growth of information relevant to their medical practice, as well as provide an opportunity to evaluate individual knowledge and skills while earning MOC Medical Knowledge points.

Chairing: T.S. Wang, MD, Los Angeles, CA

1:30 OSA: Diagnosis

M. Kaminska, MD, Montreal, Canada

2:00 OSA: PAP Therapies

L. Wolfe, MD, Chicago, IL

2:30 OSA: Non-PAP Therapies

T.C. Hammond, MD, Los Angeles, CA

3:00 CSA Therapy

J.S. Balachandran, MD, Mequon, WI

BEHAVIORAL • CLINICAL • TRANSLATIONAL

CLINICAL TOPICS IN PULMONARY MEDICINE

D82 PUTTING THE 2017 GOLD COPD RECOMMENDATIONS INTO CLINICAL PRACTICE

Assemblies on Clinical Problems; Behavioral Science and Health Services Research; Critical Care; Environmental, Occupational and Population Health; Microbiology, Tuberculosis and Pulmonary Infections; Nursing; Respiratory Cell and Molecular Biology; Respiratory Structure and Function; Sleep and Respiratory Neurobiology; Thoracic Oncology

1:30 p.m. - 3:30 p.m.

Target Audience

Everyone who takes care of the COPD patient and does research and COPD, this includes physicians, trainees, researchers, registered nurses, advanced practice nurses, respiratory physical therapist and those involved in hospital administration

Objectives

At the conclusion of this session, the participant will be able to:

- gain knowledge and better understand what is defined by the term COPD;
- approach the diagnosis and assessment of the severity of COPD in order to provide optimal care;
- recognize and be aware of new recommendations for therapy in patients with stable COPD as well as those in an exacerbated state.

COPD is a major contributor to morbidity and mortality in patients with lung disease throughout the world. The global initiative of obstructive lung disease (GOLD) has been a leader in developing recommendations based on published data to direct the definition assessment and overall treatment of patients with COPD. The overall objective of GOLD is to disseminate knowledge about state of the art COPD care to improve the overall care of patients with COPD. GOLD will soon publish a major revision of recommendations for COPD care, the first major revision in 5 years. This session will take those recommendations and present them in a meaningful way to make them applicable for clinical care. As a result, participants will be able to understand current recommendations for state of the art care of the COPD patient.

Chairing: G.J. Criner, MD, Philadelphia, PA
B.R. Celli, MD, Boston, MA
C. Vogelmeier, MD, Marburg, Germany
R. Rodriguez-Roisin, MD, PhD, Barcelona, Spain
A. Agusti, MD, Barcelona, Spain

1:30 What Is COPD?

R. Rodriguez-Roisin, MD, PhD, Barcelona, Spain

1:45 The Diagnosis and Assessment of COPD

C. Vogelmeier, MD, Marburg, Germany

2:00 Overview of Therapeutic Options in COPD

N. Roche, MD, Paris, France

2:15 Treatment of Stable COPD

G.J. Criner, MD, Philadelphia, PA

2:30 Definition and Management of Acute Exacerbations

J.A. Wedzicha, MD, PhD, London, United Kingdom

2:45 Comorbidities and COPD
L.M. Fabbri, MD, Modena, Italy

3:00 Asthma-COPD Overlap
B.R. Celli, MD, Boston, MA

3:15 Future Needs and Summary of New Recommendations
A. Agusti, MD, Barcelona, Spain

BASIC • CLINICAL • TRANSLATIONAL

CLINICAL TOPICS IN PULMONARY MEDICINE

D83 INNOVATIVE CLINICAL TRIALS IN PULMONARY FIBROSIS AND BEYOND

Assemblies on Clinical Problems; Allergy, Immunology and Inflammation; Respiratory Cell and Molecular Biology

1:30 p.m. - 3:30 p.m.

Target Audience

Clinical researchers, clinicians, basic science researchers

Objectives

At the conclusion of this session, the participant will be able to:

- learn the rationale of different clinical trial designs in IPF;
- learn novel clinical trial designs employed in cancer;
- leverage genomic data in IPF as markers of clinical responsiveness in clinical trials.

FDA-approved therapies are now available for the treatment of Idiopathic Pulmonary Fibrosis (IPF) and are currently being studied in other fibrotic diseases. We are now seeing several clinical trials in fibrosis based on novel rationales or employ innovative outcome measures. This session is designed to introduce some of these novel studies and to introduce the audience to adaptive clinical trial design, which is currently being studied in breast cancer. This design may help leverage the enormous amount of genomic data in pulmonary fibrosis to personalize therapy for patients.

Chairing: D. Kass, MD, Pittsburgh, PA
S.K. Danoff, MD, PhD, Baltimore, MD

1:30 Autoantibody Reduction Therapy in IPF
S. Duncan, MD, Birmingham, AL

1:55 Novel Endpoints in Fibrosis: Gene Expression Analysis of Skin Before and After Treatment with Fresolimumab
R. Lafyatis, MD, Pittsburgh, PA

2:20 Using Data from the Large IPF Trials to Test Novel Hypotheses
M. Kreuter, MD, Heidelberg, Germany

2:45 When a Genomics Expert Tries to Develop a Drug: Lessons from the NHLBI CADET Program
N. Kaminski, MD, New Haven, CT

3:05 Is Adaptive Clinical Trial Design Possible in IPF?
C. Mehta, PhD, Cambridge, MA

CLINICAL • TRANSLATIONAL

CRITICAL CARE TRACK

D84 50 YEARS OF ARDS: LOOKING BACK, AND AHEAD

Assemblies on Critical Care; Clinical Problems; Nursing; Pediatrics; Respiratory Structure and Function

1:30 p.m. - 3:30 p.m.

Target Audience

People providing care to critically ill patients at risk for, and with, ARDS, including clinicians, researchers, and administrators.

Objectives

At the conclusion of this session, the participant will be able to:

- apply evidence-based management to patients with ARDS.
- Learn new findings about the definition, epidemiology, and management of ARDS.

This session will review ARDS epidemiology and management from its original description in 1967 to present, as well as discuss current and future interventions that may improve patient-important outcomes in this devastating syndrome.

Chairing: E. Fan, MD, PhD, Toronto, Canada
D. Brodie, MD, New York, NY

- 1:30 A Patient's Perspective**
Speaker To Be Announced
- 1:35 A Half Century of ARDS: Progress and Setbacks**
A. Slutsky, MD, Toronto, Canada
- 1:45 Changing Definitions: Progress?**
G.D. Rubenfeld, MD, MSc, Toronto, Canada
- 2:05 Mechanical Ventilation in ARDS: Has Anything Changed in 50 Years?**
E. Fan, MD, PhD, Toronto, Canada
- 2:25 A Ventilator-Free Future? Extracorporeal Support for ARDS**
D. Brodie, MD, New York, NY
- 2:45 Shifting to Prevention: PETAL**
R.G. Brower, MD, Baltimore, MD
- 3:05 Predictions for ARDS 2067: What Will the Future Bring?**
C.S. Calfee, MD, San Francisco, CA
- 3:25 Panel Discussion**

CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D85 RECOGNITION, DIAGNOSIS AND MANAGEMENT OF INDOLENT LUNG CANCER

Assemblies on Thoracic Oncology; Clinical Problems

1:30 p.m. - 3:30 p.m.

Target Audience

Academic and private practice pulmonary specialists and thoracic surgeons evaluating and treating patients with indeterminate persistent sub-solid opacities or pulmonary nodules of the lung adenocarcinoma spectrum. Pulmonary Fellows, medical residents and medical students. PA, NP and nursing providers caring for patients with these lesions

Objectives

At the conclusion of this session, the participant will be able to:

- recognize “indolent” lung cancers;
- develop an approach to the diagnosis, risk stratification and management of indolent lung cancers;
- understand the potential impact of overtreatment of indolent lung cancers and improve patient communication.

Increasing use of screening and clinical chest CT scans results in increased detection of persistent sub-solid opacities most commonly representing lung adenocarcinomas (AC). Consequently, the number of surgically resected lung adenocarcinomas increased significantly. A subgroup, AIS/MIA, has almost complete (100%) post-surgical disease-free survival. In the NLST cohort 18% of the detected cancers, almost exclusively AC, were “overdiagnosed” and overtreated. Similarly to prostate and breast cancer there is a potentially large subset of “indolent” lung cancers. This concept is not well known. The prospective identification, risk stratification and individualized management of these lesions may significantly decrease treatment-related morbidity, mortality and health care costs. This session will comprehensively address these issues.

Chairing: G.A. Silvestri, MD, MS, Charleston, SC
F. Maldonado, MD, Nashville, TN

- 1:30 Population-Based Screening for Cancer: Hope and Hype**
L. Esserman, MD, MBA, San Francisco, CA
- 1:50 Epidemiology of “Indolent” Lung Cancers**
Speaker To Be Announced
- 2:10 Risk Stratification of Lung Lesions Prior to Therapy: Where Do We Stand?**
T. Peikert, MD, Rochester, MN
- 2:30 To Treat or Not To Treat “Indolent” Lung Cancers?**
F.C. Detterbeck, MD, New Haven, CT
- 2:50 What's the Cost of Overtreatment? and How Do I Tell My Patient About Their “Overdiagnosed” Lung Cancer?**
G.A. Silvestri, MD, MS, Charleston, SC

3:10 Interactive Case Presentation
F. Maldonado, MD, Nashville, TN

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D86 INTERACTIONS BETWEEN FAT AND FLOW

Assemblies on Respiratory Structure and Function; Clinical Problems; Environmental, Occupational and Population Health; Sleep and Respiratory Neurobiology

1:30 p.m. - 3:30 p.m.

Target Audience

Translational Investigators, clinicians taking care of obese patients

Objectives

At the conclusion of this session, the participant will be able to:

- understand the effect of obesity on pulmonary physiology and pathophysiology;
- have new strategies for the management of mechanical ventilation in critically ill patients;
- understand the interactions between obesity and air pollutants such as ozone.

Epidemiological data suggest there has been a major shift in the presentation and underlying pathogenesis of many pulmonary diseases in patients with obesity. This session will discuss the pathophysiology of airway disease in obesity, and the implications this has for treatment of obese patients.

Chairing: A.E. Dixon, MD, Burlington, VT
J.H.T. Bates, DSc, PhD, Burlington, VT

1:30 Fat and Flow: The Effects of the Obesity Epidemic on Lung Disease
A.E. Dixon, MD, Burlington, VT

1:40 Ozone and Obesity
S. Shore, PhD, Boston, MA

2:05 Pathogenesis of Obstructive Sleep Apnea in Obesity
S. Patil, MD, Baltimore, MD

2:25 Effects of Obesity on Airway Function and Ventilation
G. King, MBChB, PhD, St. Leonards, Australia

2:50 Mechanical Ventilation of Obese Patients
L. Berra, MD, Boston, MA

3:10 The Mechanical Consequences of Obesity on Airways Responsiveness
J.H.T. Bates, DSc, PhD, Burlington, VT

There will be a 5-minute discussion after each talk.

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D87 OBESITY AND CHRONIC RESPIRATORY DISEASES IN CHILDREN: RECENT ADVANCES AND CLINICAL IMPLICATIONS

Assemblies on Pediatrics; Allergy, Immunology and Inflammation; Behavioral Science and Health Services Research; Environmental, Occupational and Population Health; Respiratory Cell and Molecular Biology; Sleep and Respiratory Neurobiology

1:30 p.m. - 3:30 p.m.

Target Audience

Pediatricians, primary care providers, and pulmonary/sleep specialists taking care of children with chronic respiratory and sleep disorders, as well as providers taking care of these patients as they transition to young adults. Whose main research focus is on the mechanisms and pathophysiology of chronic pediatric respiratory disorders

Objectives

At the conclusion of this session, the participant will be able to:

- understand how obesity affects the risk and severity of chronic respiratory diseases in children;
- understand new findings on the mechanisms that lead from obesity to childhood asthma, sleep disorders, and others diseases of the lung;
- identify these patients and treat them in a personalized manner to improve their quality of life.

Mounting evidence over the past 10-15 years has demonstrated an association between obesity and chronic respiratory conditions in children, including asthma and sleep disorders. In this session, we will review current epidemiological and experimental evidence for these associations. We will then discuss proposed mechanisms including epigenetic regulation, the role of obesity-related metabolic changes, and alterations in the microbiome that may underlie both obesity and childhood respiratory diseases. Next, we will focus on important management considerations for these patients, as well as on the transition to adolescence and adulthood. Finally, we will discuss unanswered questions and propose directions for future research in the field.

Chairing: E. Forno, MD, MPH, Pittsburgh, PA
I. Narang, MD, Toronto, Canada
S. Saglani, MD, MBChB, London,
United Kingdom

- 1:30 Lung Function in Obese Youth with and Without Asthma**
E. Forno, MD, MPH, Pittsburgh, PA
- 1:50 Obesity-Related Epigenetic Reprogramming of Airway Cells and Remodeling in Lower Airway Disease**
R.J. Freishtat, MD, MPH, Washington, DC
- 2:10 Obesity and Sleep Disorders**
H. Jalou, MD, Indianapolis, IN
- 2:30 Sleep Disorders: Therapeutic Management and Transition to Adulthood**
I. Narang, MD, Toronto, Canada
- 2:50 The Microbiome: A Link Between Obesity and Lung Disease?**
N. Ubags, PhD, Epalinges, Switzerland
- 3:10 Session Summary, Unanswered Questions, and Future Directions**
S. Saglani, MD, MBChB, London, United Kingdom

There will be a 5-minute discussion after each talk.

BASIC • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D88 LIFE IN THE FAST LANE: USE OF PLURIPOTENT STEM CELLS IN PULMONARY DISEASE

Assemblies on Pulmonary Circulation; Critical Care; Respiratory Cell and Molecular Biology; Respiratory Structure and Function

1:30 p.m. - 3:30 p.m.

Target Audience

Clinicians (especially internists, pulmonologists/intensivists, and cardiologists) interested in personalized medicine and scientists interested in lung and heart development

Objectives

At the conclusion of this session, the participant will be able to:

- improve their knowledge on embryologic development of heart and lung;
- learn new techniques to study lung disease in a dish;
- know the advantages and disadvantages of the use of induced pluripotent stem cells.

This session will focus on the applicability of cell culture model systems to study pathophysiological alterations in pulmonary disease and right heart failure. Because animal models do not fully replicate the clinical phenotypes of pulmonary diseases (e.g. pulmonary hypertension, pulmonary edema, cystic fibrosis), alternative methods have been suggested to use. The most promising new tool is induced pluripotent stem cells. During the session, we will discuss the molecular determinants of heart and lung development, knowledge that is essential for the development of clinical relevant disease models. Subsequently, we will discuss the most practical and efficient substrate for the generation of induced pluripotent stem cells. Finally, the applicability of pluripotent cell technique in modeling pulmonary hypertension, pulmonary edema, cystic fibrosis and right heart failure will be addressed

Chairing: E.F. Spiekerkoetter, MD, Palo Alto, CA
F. De Man, PhD, Amsterdam, Netherlands
J.D. West, PhD, Nashville, TN

- 1:30 Molecular Determinants of Heart and Lung Development**
E. Morrisey, PhD, Philadelphia, PA
- 1:50 Modeling of Cystic Fibrosis by Lung Organoids**
J. Spence, PhD, Ann Arbor, MI
- 2:10 Pulmonary Hypertension Research in the Era of Pluripotency**
M. Rabinovitch, MD, Stanford, CA
- 2:30 New Insights into BMPR2 Mutations in PAH From Patient-Derived Induced Pluripotent Stem Cells**
A.A. Rana, PhD, Cambridge, United Kingdom
- 2:50 To the Heart of the Matter: Could Pluripotent Stem Cells be Used to Model Right Heart Failure?**
F. De Man, PhD, Amsterdam, Netherlands

BASIC • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D89 OF MICE AND MEN: MECHANISMS OF GRANULOMATOUS INFLAMMATION

Assemblies on Allergy, Immunology and Inflammation; Microbiology, Tuberculosis and Pulmonary Infections

1:30 p.m. - 3:30 p.m.

Target Audience

Physicians and scientists interested in granulomatous lung diseases as well as lung immunology; clinicians who care for patients with infectious and noninfectious granulomatous lung diseases

Objectives

At the conclusion of this session, the participant will be able to:

- understand the generation of the granuloma;
- understand the generation of an adaptive immune response and the consequences of failure to eradicate the stimulating antigen;

- understanding the mechanisms that result in eventual fibrosis development.

Recently, significant advances in our understanding of the formation of granulomas in both infectious and noninfectious granulomatous lung disease have occurred. This symposium brings together world-class immunologists (including those from the NIH) to discuss these advances. The symposium will bring together scientist investigating both infectious and noninfectious granulomatous lung diseases to delineate common themes. In addition, it addresses gene-environment interactions, which is the science core for this ATS meeting.

Chairing: A.I. Sperling, PhD, Chicago, IL
L. Koth, MD, San Francisco, CA

- 1:30 Live Imaging of Anti-Mycobacterial Immunity**
R.N. Germain, MD, PhD, Bethesda, MD
- 1:50 Dynamics of Granuloma Formation in Tuberculosis**
J. Flynn, PhD, Pittsburgh, PA
- 2:10 Gene-Environment Interactions in Chronic Beryllium Disease**
A.P. Fontenot, MD, Aurora, CO
- 2:30 Mechanisms of Granuloma-Induced Fibrosis**
T. Wynn, PhD, Bethesda, MD
- 2:50 Immune Dysfunction in Sarcoidosis**
W. Drake, MD, Nashville, TN
- 3:10 Lessons Learned from Lofgren's Syndrome**
J. Grunewald, MD, PhD, Stockholm, Sweden

BEHAVIORAL • CLINICAL

SCIENTIFIC SYMPOSIUM

D90 NUDGES IN THE ICU: WHEN AND HOW SHOULD INTENSIVISTS GUIDE SURROGATES' DECISIONS?

Assemblies on Behavioral Science and Health Services Research; Critical Care; Nursing; Pediatrics

1:30 p.m. - 3:30 p.m.

Target Audience

Adult and pediatric critical care clinicians; behavioral science researchers; registered nurses; advanced practice nurses;

Objectives

At the conclusion of this session, the participant will be able to:

- discuss and understand principles of behavioral economics (a.k.a. decision psychology) that physicians might employ to ethically and effectively guide end-of-life decision-making in the ICU;
- clarify misconceptions about the meaning and importance of patient autonomy and informed assent among ICU patients lacking decisional capacity;
- discuss special considerations when deploying behavioral economics with pediatric patients and their parent surrogates.

This session will address the use of behavioral economics and “nudges” in the ICU to guide surrogate decision-making. In particular, it will explore methods for effectively deploying nudges—tools for clinicians to use in the ICU—and an ethical framework within which to do so that adequately balances autonomy and paternal beneficence.

Chairing: G.L. Anesi, MD, MBE, Philadelphia, PA
J.N. Mansoori, MD, Aurora, CO
S.D. Halpern, MD, PhD, Philadelphia, PA

1:30 Behavioral Economics, Choice Architecture, and Nudges in the ICU

G.L. Anesi, MD, MBE, Philadelphia, PA

1:50 Intensivists’ Use of Informed Assent When Patients Lack Capacity

J.R. Curtis, MD, MPH, Seattle, WA

2:10 Default to DNR?

R.D. Stapleton, MD, PhD, Burlington, VT

2:30 Integrated ICU Team Communications and the Nursing Perspective

D.K. Costa, PhD, RN, Ann Arbor, MI

2:50 The (Ambiguous) Role of Autonomy in Surrogate Decision-Making

D.B. White, MD, Pittsburgh, PA

3:10 Helping Parents with Decisions About Periviable Infants

M.F. Haward, MD, Bronx, NY

BEHAVIORAL • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D91 ATS CLINICAL PRACTICE GUIDELINES: CLINICAL PRACTICE ON THE CUTTING EDGE

Documents Development and Implementation Committee; Assemblies on Behavioral Science and Health Services Research; Clinical Problems; Critical Care; Nursing; Pulmonary Rehabilitation; Quality Improvement and Implementation Committee

1:30 p.m. - 3:30 p.m.

Target Audience

Physicians, nurses, respiratory therapists, and others who care for adults who are mechanically ventilated, have acute respiratory distress syndrome (ARDS), or have an exacerbation of COPD

Objectives

At the conclusion of this session, the participant will be able to:

- understand how evidence is used to inform diagnostic and treatment recommendations;
- apply clinical recommendations from recently published guidelines in clinical practice, improving patient outcomes;
- obtain new strategies to manage and prevent COPD exacerbations, to mechanically ventilation patients with ARDS, and to liberate patients from mechanical ventilation.

This session is as the third annual scientific symposium highlighting ATS clinical practice guidelines, as originally requested by the ATS Executive Committee several years ago to highlight recently approved or published ATS evidence-based clinical practice guidelines. This year’s symposium will highlight guidelines on mechanical ventilation in acute respiratory distress syndrome, liberation from

mechanical ventilation, and treatment of chronic obstructive pulmonary disease (COPD) exacerbation. Speakers will describe the clinical recommendations formulated by the guideline panels, discuss the rationale for each, and critically review the evidence supporting each recommendation. Speakers will also describe how the guidelines provide the foundation for improving care. Speakers include the chairs of the panels that developed the guidelines.

Chairing: R. Dweik, MD, Cleveland, OH
R.C. Hyzy, MD, Ann Arbor, MI
C.C. Thomson, MD, MPH, Cambridge, MA

- 1:30 Welcome**
R. Dweik, MD, Cleveland, OH
- 1:35 Grading Strength of Recommendations and Quality of Evidence**
K.C. Wilson, MD, Boston, MA
- 1:45 ATS/SCCM/ESICM Guidelines on Mechanical Ventilation in ARDS**
E. Fan, MD, PhD, Toronto, Canada
- 2:05 ATS/CHEST Guidelines on Liberation from Mechanical Ventilation**
J. Truwit, MD, Milwaukee, WI
- 2:25 ATS/ERS Guidelines on the Treatment of COPD Exacerbations**
M. Miravittles, MD, PhD, Barcelona, Spain
- 2:45 Late Breaking Guidelines**
R. Dweik, MD, Cleveland, OH
- 3:05 Guidelines to Performance Measures**
C.H. Weiss, MD, Chicago, IL
- 3:25 Closing**
C.C. Thomson, MD, MPH, Cambridge, MA

There will be a 5-minute discussion after each talk.

2:15 p.m. - 4:15 p.m.

Oral And Poster Presentations Of Scientific Research And Case Reports. Abstract Sessions Will Be Published In The Final Program.

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