



Where today's science meets tomorrow's care™

Advance Program



ATS 2018
*Where today's science
meets tomorrow's care™*

May 18- May 23, 2018
San Diego, CA
conference.thoracic.org



Sunovion is a leading pharmaceutical company dedicated to discovering, developing and bringing to market therapeutic products that advance the science of medicine.

Our inspiration is understanding our patients' stories. Every day, we are focused on delivering novel solutions that allow people with COPD to improve their breathing and enjoy their life.

We provide a broad range of maintenance medicines and delivery devices designed with the individualized needs and lifestyles of people living with COPD in mind – across various severities of that disease.

Visit Us at Booth #2315 to learn more about our therapy options for your patients with COPD.

Visit www.SunovionProFile.com for fast convenient access to product information, sample requests and access to patient and practice materials. With Sunovion ProFile you can find what you need, when you need it.



TABLE OF CONTENTS

ATS 2018 INTERNATIONAL CONFERENCE MAY 18-23, SAN DIEGO

This is the virtual Advance Program for the ATS 2018 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, scientific and educational sessions to be held at the International Conference confirmed as of December 13, 2017.

The Advance Program is published by the ATS as a service to attendees. While every effort is made to ensure accuracy, ATS makes no warranties, expressed or implied, related to the information. Information contained herein is subject to change without notice.

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**
- 18 Saturday Postgraduate Courses**
- 37 Sunday Conference Sessions**
- 68 Monday Conference Sessions**
- 105 Tuesday Conference Sessions**
- 131 Wednesday Conference Sessions**

The Advance Program is published by the ATS as a service to attendees. While every effort is made to ensure accuracy, ATS makes no warranties, expressed or implied, related to the information. Information contained herein is subject to change without notice.

INVITATIONS FOR THE 2018 PROGRAM ARE NOW BEING SENT.
For details, please contact Vlada O'Hara at vohara@thoracic.org

American Thoracic Society

The ATS Would Like to Acknowledge its 2017 Corporate Members



BENEFACTOR



PATRON



SUPPORTER



Thank you for your support.



We help the world breathe®
PULMONARY • CRITICAL CARE • SLEEP

CORPORATE MEMBERSHIP PROGRAM
For more information, please visit www.thoracic.org

ATS 2018 INTERNATIONAL CONFERENCE DISCLOSURES OF CONFERENCE PLANNERS

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

Debra M. Boyer, MD, Chair
Jason T. Poston, MD,
Vice Chair
Mark K. Abe, MD
Shozab Ahmed, MBBS
William G. Carlos, MD
Josalyn L. Cho, MD
Alison S. Clay, MD
Walter D. Conwell, MD

Basak Coruh, MD
Daniel R. Crouch, MD, MS
Charles Dela Cruz, MD, PhD
DorAnne M. Donesky, PhD,
ANP-BC
Garth Garrison, MD
Margaret M. Hayes, MD
Amjad Horani, MD
Shazia M. Jamil, MD

Jack Kelly
Denay P. Kirkpatrick, DNP
Hrishikesh S. Kulkarni, MD
Abigail R. Lara, MD
Patrick Lyons, MD
Samir Makani, MD
Jakob I. McSparron, MD
Paul E. Moore, MD
Viswam S. Nair, MSCR, MD

Susan Pasnick, MD
Hetal J. Patel, MD
Jessica E. Pittman, MD, MPH
Jordan S. Rettig, MD
Leopoldo N. Segal, MD
Mark D. Siegel, MD
Carolyn H. Welsh, MD

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

Tisha S. Wang, MD, Vice Chair:
Theravance Biopharma Inc.
(Advisory Committee)

Caralee E. Caplan-Shaw, MD:
AristaMD (Consultant);
Cohero Health (Consultant;
Stocks, Stock Options);
Myriad Genetic Laboratories
(Spouse-Consultant); Veran
Medical Technologies, Inc.
(Food/Beverage Only); Bard
Peripheral Vascular, Inc.

(Spouse-Food/Beverage Only);
Cook Incorporated (Food/
Beverage Only, Spouse-CME
Speaker); MedImmune, LLC,
Novartis Pharma AG and Teva
Pharmaceuticals USA, Inc.
(Research Support)

Colleen L. Channick, MD:
Actelion Pharmaceuticals US,
Inc. and Bayer HealthCare
Pharmaceuticals Inc. (Spouse-
Consultant); Medtronic, Inc.

and Olympus Corporation of the
Americas (Consultant)

Jeremy E. Orr, MD:
ResMed Corp (Other transfers
of value unrelated to service
rendered)

Samaan Rafeq, MD:
Boston Scientific (Consultant,
Speaker)

Mary E. Streck, MD:
Boehringer Ingelheim

Pharmaceuticals, Inc. (Data
and Safety Monitoring Board,
Research Support); Gilead
Sciences Inc, InterMune, Inc.,
MedImmune LLC, and Vertex
Pharmaceuticals Incorporated
(Research Support)

Bishoy Zakhary, MD:
ELSO ECMO Training Courses
and ACCP (Course Instructor)

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

Jess Mandel, MD, Chair
Eric S. White, MD, MS,
Chair Appointee
Alison K. Bauer, PhD
Vinicio De Jesus Perez, MD
Michelle Eakin, PhD
Laura C. Feemster, MSc, MD

Andrew P. Fontenot, MD
Michelle N. Gong, MD, MS
Jill L. Guttormson, PhD, MD, RN
Tillie-Louise Hackett, PhD
Leila Kheirandish-Gozal, MD, MS
Patty Lee, MD

Tricia D. LeVan, PhD
William Man, MD, PhD
Benjamin D. Medoff, MD
Sangeeta Mehta, MD
Paul E. Moore, MD
Patrick Nana-Sinkam, MD

Chun Seow, PhD
Christopher G. Slatore, MD
Esra Tasali, MD
Judith Tate, PhD, RN
Rachel Thomson, MBBS
Lisa R. Young, MD

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

Brian W. Carlin, MD:
AstraZeneca and Nonin
(Advisory Committee);
Sunovion (Advisory Committee,
Speaker); Monaghan Medical
Corporation (Consultant,
Speaker); Boehringer Ingelheim
b.v. and GlaxoSmithKline, LLC
(Speaker)

Harold R. Collard, MD:
AstraZeneca AB, Genentech,
Inc., GlaxoSmithKline, LLC,
Grunenthal USA Inc and UCB
Biosciences Inc. (Advisory
Committee); Aeolus, aTyr

Pharmaceuticals, Bayer
HealthCare Pharmaceuticals
Inc., Biogen Idec Inc.,
Boehringer Ingelheim
Pharmaceuticals, Inc., Bristol-
Myers Squibb Company, Genoa,
Gilead Sciences Inc, Global
Blood Therapeutics, FibroGen,
ImmuneWorks, InterMune,
Inc., MedImmune, LLC, Moerae
Matrix, Navitor, Patara, Patient
Like Me, Pharmakea, Prometic,
Pulmatrix, Unity and Veracyte
(Consultant)

Sharon D.M. Dell, MD:
Novartis Pharmaceuticals
Corporation and Vertex
Pharmaceuticals Incorporated
(Consultant)

Tim Lahm, MD:
Bayer HealthCare
Pharmaceuticals Inc. (Research
Support, Speaker)

Mark L. Metersky, MD:
Aradigm (Research Support,
Consultant); Bayer, EBSCO,
Grifols, S.A. and Insmad
(Consultant)

Frank C. Sciruba, MD:
Boehringer Ingelheim b.v.,
Pulmonx Corporation,
Spiration, Inc. (Research
Support); BTG (Research
Support, Consultant)

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



ATS 2018
Where today's science
meets tomorrow's care™

**International Conference
San Diego, CA**

Friday, May 18

CLINICAL

POSTGRADUATE COURSE

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 two 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, MSCR, Salt Lake City, UT
X. Monnet, MD, PhD, Le Kremlin-Bicetre, France

8:00 Welcome and Introduction to Critical Care Ultrasound: Training and Competency

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

PG1A CRITICAL CARE ULTRASOUND AND ECHOCARDIOGRAPHY I

This is part 1 of a two-part course which includes PG1B on Saturday, May 19. Those registering for PG1A will be registered for PG1A and PG1B.

R 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.

- 8:15 Basic Physics, Artifacts, Knobology**
Z. Shaman, MD, Cleveland, OH
- 8:45 Transthoracic Windows and Views**
S. Nikravan-Weber, MD, Stanford, CA
- 9:15 Basic Evaluation of LV Systolic Function, Measurement of Cardiac Output**
S. Price, MBBS, London, United Kingdom
- 9:45 Basic Evaluation of RV Size and Function, Pulmonary Embolus**
D. Pradhan, MD, New York, NY
- 10:15 Break**
- 10:30 Practical Skills Session: Hands-On Station I**
- Apical Window**
L. Rapoport, MD, Santa Clara, CA
V.A. Dinh, MD, Loma Linda, CA
E. Teo, MD, Atlanta, GA
P.K. Mohabir, MD, Stanford, CA
S. Price, MBBS, London, United Kingdom
- Parasternal Window**
X. Monnet, MD, PhD Le Kremlin-Bicetre, France
T. Brakke, MD, Omaha, NE
Z. Shaman, MD, Cleveland, OH
A. Leibowitz, MD, Boston, MA
L. Grecu, MD, Stony Brook, NY
- Subcostal Window**
G. Allen, MD, Burlington, VT
J. Kasal, MD, St. Louis, MO
D. Pradhan, MD, New York, NY
S. Nikravan-Weber, MD, Stanford, CA
S. Cha, MD, Baltimore, MD
- 12:00 Lunch and Clinical Cases I**
L. Grecu, MD, Stony Brook, NY
- 12:45 Chest Ultrasound**
P.K. Mohabir, MD, Stanford, CA
- 1:15 Basic Valvulopathy**
T. Brakke, MD, Omaha, NE
- 1:45 Basic Assessment of Diastolic Function**
A. Leibowitz, MD, Boston, MA
- 2:15 Break**

- 2:30 Practical Skills Session: Hands-On Station II**
- Lung Ultrasound (Model and Mannequin)**
L. Rapoport, MD, Santa Clara, CA
Z. Shaman, MD, Cleveland, OH
D. Pradhan, MD, New York, NY
P.K. Mohabir, MD, Stanford, CA
G. Allen, MD, Burlington, VT
- Diastolic Measurements**
T. Brakke, MD, Omaha, NE
S. Price, MBBS, London, United Kingdom
X. Monnet, MD, PhD Le Kremlin-Bicetre, France
A. Leibowitz, MD, Boston, MA
S. Nikravan-Weber, MD, Stanford, CA
- 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
S. Cha, MD, Baltimore, MD

CLINICAL • TRANSLATIONAL

POSTGRADUATE COURSE

PG2 EXPANDING HORIZONS IN SUPPORT FOR RESPIRATORY FAILURE: ECMO AND BEYOND

- 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 Critical Care; Clinical Problems; Nursing; Pediatrics; Pulmonary Circulation

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

Target Audience

Those who have interest in developing an ECMO program or simply learning about ECMO, will benefit from this session. Clinical staff such as physicians, nurses, NPs and PAs, perfusionists, respiratory therapists, and PTs/OTs, who treat ECMO patients

Objectives

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

- apply best practices to patient selection and integrate ECMO into existing treatment pathways for severe respiratory failure. Appropriate patient selection for ECMO is key to provide safe and quality care to critically ill patients;
- gain understanding of the physiology of ECMO support and learn contemporary management of patients receiving ECMO, (ventilator, anticoagulation, transfusions, etc.), all critical components to successful and safe use of ECMO;
- recognize and manage common ECMO-related events and emergency scenarios. The learner will be better able to troubleshoot these events. This will improve the safety and quality of care provided to patients supported with ECMO.

Extracorporeal membrane oxygenation (ECMO) allows for gas exchange and hemodynamic support in patients failing conventional mechanical ventilation and is an evolving way of treating patients with severe respiratory failure. This session will incorporate multidisciplinary didactic and simulation sessions to educate the learner on optimal use of ECMO and tackle the challenges and questions raised surrounding its use, including patient selection, use of the ventilator during ECMO, treating unique patient populations (such as pregnant patients or those awaiting lung transplantation), physical rehabilitation during ECMO, troubleshooting common problems, and others.

Chairing: H.J. Dalton, MD, Falls Church, VA
C. Agerstrand, MD, New York, NY

8:00 Introduction

H.J. Dalton, MD, Falls Church, VA

8:05 Roadmap to ECMO: Respiratory Failure Management and Patient Selection

E. Fan, MD, PhD, Toronto, Canada

8:35 Outcomes in Patients Treated with ECMO: What We Know and What We Don't

D. Brodie, MD, New York, NY

9:05 ECMO in Special Populations

C. Agerstrand, MD, New York, NY

9:35 Ventilator Management of the VV ECMO Patient
A. Combes, MD, PhD, Paris, France

10:05 Break

10:25 New Modalities for Support: ECCO2R and Others
A. Pesenti, MD, Milan, Italy

10:55 ECMO for Lung Transplantation: How to Select Patients and Optimize Management, Pre and Post
D. Hayes, MD, MS, MEd, Columbus, OH

11:25 Can You Really Ambulate Patients and How?
C.L. Hodgson, PhD, Victoria, Australia

11:55 LUNCH

12:40 Simulation Station 1
D. Hayes, MD, MS, MEd, Columbus, OH
T. Preston, CCP, Columbus, OH

1:10 Simulation Station 2
M. Desai, MD, Falls Church, VA
T. Friedrich, RN, MSN, Rochester, MN

1:40 Simulation Station 3
B. Patel, MD, Phoenix, AZ
H.E. Callisen, PA, Phoenix, AZ
G.J. Schears, MD, Rochester, MN

2:10 Break

2:30 Simulation Station 4
C. Alwardt, CCP, PhD, Rochester, MN
D. Brodie, MD, New York, NY

3:00 Simulation Station 5
C. Agerstrand, MD, New York, NY
D. Apsel, CCP, New York, NY

3:30 Simulation Station 6 ECPR in the ED
Z. Shinar, MD, San Diego, CA

CLINICAL

POSTGRADUATE COURSE

PG3 ADVANCED PAP THERAPY: TREATMENT OF SLEEP DISORDERED BREATHING BEYOND OSA

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 Sleep and Respiratory Neurobiology;
Clinical Problems; Pulmonary Rehabilitation; Medical
Education Section**

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

Target Audience

Physicians in sleep medicine, pulmonary, cardiology, pediatrics and possibly critical care; physicians in training (sleep and pulmonary fellows); advanced practice nurses, physician assistants, respiratory therapists, sleep technologists

Objectives

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

- Identify the indications for and limitations of various PAP devices in the management of obstructive and central sleep apnea syndromes and sleep-related hypoventilation;
- develop new strategies to manage the care of central sleep apnea, in heart failure or chronic opioid patients, as well as new tools for managing sleep disordered breathing with hypoventilation in chronic lung disease and neuromuscular disease;
- determine proper initial settings, adjust settings in an office based environment, trouble shoot common problems and interpret adherence data from various PAP devices used to treat a wide spectrum of OSA and CSA syndromes.

This hands-on course consists of a morning interactive didactic session, case-based break-out sessions and a final afternoon session with opportunities to experiment with different advanced PAP devices. The focus is the management of sleep disordered breathing incorporating recent findings and addressing current gaps in guidelines. The lectures will review pathophysiology and epidemiology, but primarily explore the different treatment approaches and PAP modalities, including OSA with auto-PAP, central sleep apnea and sleep-related hypoventilation sub-types. Participants will next break into small groups of 10 for case studies (selecting 3 cases out of 6 to discuss) with faculty leader. Finally they will have four hands-on experiences with different advanced modality PAP devices.

Chairing: M.E. Billings, MD, MSc, Seattle, WA
G.W. Pien, MD, MS, Baltimore, MD

8:00 Welcome/Introduction

M.E. Billings, MD, MSc, Seattle, WA

8:05 Auto-Titration Devices for OSA: Beyond the Basics

G.W. Pien, MD, MS, Baltimore, MD

8:30 Management of Central Sleep Apnea Syndromes

M.T. Naughton, MD, Prahran, Australia

9:15 Management of Sleep-Related Hypoventilation

L.F. Wolfe, MD, Chicago, IL

10:00 Break

10:15 Breakout Session 1

J.O. Benditt, MD, Seattle, WA

10:30 Breakout Session 2

S.P. Patil, MD, PhD, Baltimore, MD

10:45 Breakout Session 3

N. Freedman, MD, Grayslake, IL

11:00 Breakout Session 4

R.J. Schwab, MD, Philadelphia, PA

11:15 Breakout Session 5

I. Gurubhagavatula, MD, MPH, Philadelphia, PA

11:30 Breakout Session 6

E.C. Parsons, MD, MSc, Seattle, WA

11:45 LUNCH

12:35 Station 1: Auto-Titrating Devices

B. Fields, MD, Atlanta, GA

- 1:20 Station 2: Adaptive Servo-Ventilation**
R.J. Schwab, MD, Philadelphia, PA
- 2:05 Break**
- 2:20 Station 3: Average Volume Assured Pressure Support**
V.K. Kapur, MD, MPH, Seattle, WA
- 3:05 Station 4: Non-Invasive Positive Pressure Ventilation**
B.N. Palen, MD, Seattle, WA
- 3:50 Wrap-up**
M.E. Billings, MD, MSc, Seattle, WA

BASIC • CLINICAL • TRANSLATIONAL

POSTGRADUATE COURSE

PG4 ASTHMA STATE OF THE ART 2018

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.

Assembly on Allergy, Immunology and Inflammation

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

Target Audience

Pulmonary and allergy physicians, physicians in training, and advanced practice providers who are focused on care of patients with asthma. Clinical, translational, and basic science researchers involved in studies of asthma pathogenesis and therapy

Objectives

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

- improve knowledge on the origins of asthma and its pathophysiology;
- diagnose different asthma phenotypes;
- gain new strategies to manage difficult asthma cases.

This session will provide a comprehensive review of the latest knowledge on asthma pathogenesis, clinical science and therapy. Discussion of newly developed

therapies for asthma will be emphasized. The program will have three interactive sections: a journal club on recent papers, clinical controversies, and an expert panel discussion of difficult clinical cases.

Chairing: B.D. Medoff, MD, Boston, MA
P. Akuthota, MD, La Jolla, CA
M. Kraft, MD, Tucson, AZ

- 8:00 Introduction**
M. Kraft, MD, Tucson, AZ
- 8:05 Early Life Events and the Origins of Asthma**
F.D. Martinez, MD, Tucson, AZ
- 8:35 Asthma Endotypes: A New Approach to Characterizing Disease**
S.E. Wenzel, MD, Pittsburgh, PA
- 9:05 The Immunologic Basis of Asthma**
P. Vijayanand, MBBS, PhD, La Jolla, CA
- 9:35 The Role of Lung Structural Cells in Asthma**
J.L. Ingram, PhD, Durham, NC
- 10:05 Break**
- 10:20 Research Highlights from the Recent Literature**
P. Akuthota, MD, La Jolla, CA
R.A. Rahimi, MD, PhD, Boston, MA
J.L. Cho, MD, Boston, MA
- 10:50 Severe Asthma and Non-Eosinophilic Asthma**
M. Kraft, MD, Tucson, AZ
- 11:20 Asthma Exacerbations: Mechanisms and Treatment**
L.C. Denlinger, MD, PhD, Madison, WI
- 11:50 LUNCH**
- 12:45 Obesity and Asthma**
N. Lugogo, MD, Durham, NC
- 1:15 Clinical Controversies in Asthma - ACO**
B.D. Medoff, MD, Boston, MA
M. Van Den Berge, MD, Groningen, Netherlands
S. Christenson, MD, San Francisco, CA
- 2:00 Emerging Biologic Therapies in Asthma**
G.M. Gauvreau, PhD, Hamilton, Canada
- 2:30 Break**

2:45 Bronchial Thermoplasty for Asthma
S. Khatri, MD, MS, Cleveland, OH

3:15 Case Studies
M. Kraft, MD, Tucson, AZ

CLINICAL

POSTGRADUATE COURSE

PG5 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; Quality Improvement 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 QI 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 participants with practical tools that serve as the foundation of quality improvement. Participants will attend practical, case-based lectures on quality improvement methodology, followed by hands-on experience with the tools in interactive breakout sessions on 3 different processes of care.

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

8:00 Introduction

A. Amaral, MD, Toronto, Canada

8:10 QI Planning: Where Do I Start? Identifying the Problem that Requires a Solution

V. Liu, MD, MS, Oakland, CA

8:30 QI Planning: Understanding the Problem: Process Mapping and Fishbone Diagrams

W.D. Schweickert, MD, Merion Station, PA

9:00 Breakout Session 1: Process Mapping and Fishbone Diagrams

10:00 Break

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

C.T.L. Hough, MD, MSc, Seattle, WA

10:30 QI Implementation: Show Me the Data, Implementation and Patient-Centered Outcomes

A. Amaral, MD, Toronto, Canada

10:50 Breakout Session 2: PDSA Cycles and Defining Metrics

11:50 LUNCH

12:50 QI Implementation: Implementation Strategies 101

J. Stevens, MD, MS, Boston, MA

1:10 QI Implementation: Leading and Managing Implementation

M.E. Mikkelsen, MSCE, MD, Wynnewood, PA

- 1:30 QI Implementation: Change Management and Sustaining Improvements**
D.W. Ford, MD, Charleston, SC
- 1:50 Breakout Session 3: Lessons Learned from Multi-Stakeholder Engagement**
- 2:50 Break**
- 3:00 Meet the Experts: Opportunity to Query Content Experts with Specific Questions Relevant to Topic/Institution**
- 3:30 Debrief and Wrap-Up**

CLINICAL

POSTGRADUATE COURSE

PG6 SARCOIDOSIS UPDATE

 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

Physicians, trainees, nurses, respiratory therapists, and licensed independent practitioners (e.g. PA, NP) who diagnose or treat sarcoidosis patients

Objectives

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

- Appropriately assess systemic sarcoidosis manifestations, including use of testing to diagnose organ involvement and assessment of the likelihood that a patient-related symptom is due to sarcoidosis;
- More appropriately use activity markers and clinical features to determine when to treat patients, and to provide better prognostic information that will inform the aggressiveness of follow-up testing and therapy;

- Implement diagnostic and treatment strategies for neurologic and cardiac sarcoidosis.

This course is designed to provide foundational knowledge about the diagnosis and management of sarcoidosis, and also to update more experienced practitioners about evolving trends in a comprehensive approach to sarcoidosis. There will be a substantial focus on extrapulmonary manifestations of sarcoidosis.

Chairing: D.A. Culver, DO, Cleveland, OH
J.C. Grutters, MD, Nieuwegein, Netherlands

- 8:00 Diagnosing Sarcoidosis**
R.P. Baughman, MD, Cincinnati, OH
- 8:30 Radiologic Manifestations of Sarcoidosis and Its Mimickers**
S.L.F. Walsh, MD, PhD, London, United Kingdom
- 8:55 Assessment and Treatment of Pulmonary Sarcoidosis**
W.E. James, MD, Charleston, SC
- 9:20 Rheumatologist's Approach to Immunosuppression**
Speaker To Be Announced
- 9:50 Break**
- 10:10 Activity Markers and Assessing Prognosis**
J.C. Grutters, MD, Nieuwegein, Netherlands
- 10:35 Complicated Pulmonary Sarcoidosis**
S.D. Nathan, MD, Falls Church, VA
- 11:05 PRO: Routine, Repeated and Intense Comprehensive Screening**
A.U. Wells, MD, London, United Kingdom
- 11:20 CON: Routine, Repeated and Intense Comprehensive Screening**
D.A. Culver, DO, Cleveland, OH
- 11:35 Improving Quality of Life in Sarcoidosis**
M. Wijsenbeek, MD, PhD, Rotterdam, Netherlands
- 12:00 LUNCH**
- 12:50 Neurosarcoidosis: Diagnosis and Treatment**
J. Tavee, MD, Chicago, IL
- 1:20 Minisymposium: Recognition and Diagnosis of Cardiac Sarcoidosis**
E. Joyce, MD, PhD, Cleveland, OH

- 1:40 Minisymposium: Imaging Tests in Cardiac Sarcoidosis**
R. Blankstein, MD, Boston, MA
- 2:00 Minisymposium: Should All Cardiac Sarcoidosis Be Treated, and How?**
N.Y. Hamzeh, MD, Denver, CO
- 2:20 Break**
- 2:40 Update on Pathogenesis**
L. Koth, MD, San Francisco, CA
- 3:05 Systems Biology: The Next Frontier**
C. Montgomery, PhD, Oklahoma City, OK
- 3:30 What New Ideas Are Changing Our Practice?**
M.A. Judson, MD, Albany, NY

CLINICAL

POSTGRADUATE COURSE

PG7 PLEURAL DISEASE 2018 - EVIDENCE BASED BEST PRACTICE IN INVESTIGATIONS AND MANAGEMENT

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.

Assemblies on Clinical Problems; Pulmonary Infections and Tuberculosis ; Thoracic Oncology

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

Target Audience

Specialists and trainees in pulmonary and critical care medicine, infectious disease physicians, intensivists, general practitioners, research scientists and related health care professionals including surgeons and nurses

Objectives

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

- describe the investigation of patients with pleural disease, including pleural fluid analysis, radiology and the role of invasive diagnostic strategies;

- understand and describe current evidence and best practice in assessment and management of infectious pleural disease, including tuberculosis and bacterial etiologies;
- describe diagnosis and management of malignant pleural disease, including pleural fluid management strategies.

This session will describe the modern, evidence based approach to the broad range of Pleural Disease, from recognized world experts. The session will provide a strong base from which clinicians can go on to provide excellent, rational and evidence based patient focused care in pleural disease.

Chairing: N. Rahman, BM BCH, MSc, Oxford, United Kingdom
Y.C.G. Lee, MBChB, PhD, Perth, Australia

- 8:00 Introduction**
N. Rahman, BM BCH, MSc, Oxford, United Kingdom
- 8:10 Analysis of Pleural Fluid**
Y.C.G. Lee, MBChB, PhD, Perth, Australia
- 8:50 Modern Imaging of the Pleura - CXR, CT and MRI**
Speaker To Be Announced
- 9:30 Thoracic Ultrasound in Pleural Disease - Basic to Advanced**
I. Psallidas, PhD, Athens, Greece
- 10:10 Break**
- 10:20 Pleural Interventions and Manometry**
D.J. Feller-Kopman, MD, Baltimore, MD
- 11:00 Management of Empyema**
N. Rahman, BM BCH, MSc, Oxford, United Kingdom
- 11:40 LUNCH**
- 12:30 Other Common and Unusual Pleural Diseases: Key Management Points**
C.F.N. Koegelenberg, MD, PhD, Cape Town, South Africa
- 1:10 Pneumothorax Management**
S. Walker, MD, Bristol, United Kingdom
- 1:50 Management of Malignant Pleural Effusion**
N. Maskell, MD, Bristol, United Kingdom

- 2:30 *Break*
- 2:40 **Mesothelioma- from Trials to Current Practice**
D.H. Sterman, MD, New York, NY
- 3:20 **Pleural Disease in the Critically Sick Patient**
F. Maldonado, MD, Nashville, TN

CLINICAL

POSTGRADUATE COURSE

PG8 A PHYSIOLOGIC APPROACH TO MECHANICAL VENTILATION

 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; Respiratory Structure and Function

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

Target Audience

Clinicians who care for mechanically ventilated patients in the ICU. This session will also be of interests to students, fellows and researchers who wish to better understand the physiologic basis of common ventilatory strategies

Objectives

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

- Apply appropriate oxygen targets for mechanically ventilated patients;
- More appropriately choose candidates for prone ventilation;
- Develop a better understanding of heart lung interactions in mechanical ventilation.

This course is focused on the bedside management of mechanical ventilation and will stress a physiologic approach to managing the ventilator and interpreting the effects of interventions. We will cover appropriate oxygenation goals, uses and physiologic effects of

PEEP, heart-lung interaction as it relates to mechanical ventilation, the physiology of prone ventilation in severe ARDS, management of the flow-limited patient including status asthmaticus and severe obstructive disease, and patient-ventilator synchrony. We will explore controversies in the physiologic literature concerning these techniques and critically examine common clinical rationales for their use. The session will conclude with small group case discussions in which participants will apply the principles covered in the didactic sessions.

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

8:00 Introduction to the Physiology of Mechanical Ventilation

C.C. Hardin, MD, PhD, Boston, MA

8:40 Oxygenation, V/Q and Gas Exchange in Mechanical Ventilation

S.R. Hopkins, MD, PhD, La Jolla, CA

9:20 Heart-Lung Interaction in Mechanical Ventilation

S.A. Magder, MD, Montreal, Canada

10:20 *Break*

10:40 Physiologic Effects of PEEP

S. Sharma, MD, Aurora, CO

11:20 Patient-Ventilator Synchrony and Ventilator Waveforms

B.T. Thompson, MD, Boston, MA

12:00 *LUNCH*

12:40 Physiology of Ventilation in Severe Asthma

D.R. Hess, PhD, Boston, MA

1:20 Physiology of Prone Ventilation

I.S. Douglas, MD, Denver, CO

2:00 *Break*

2:20 Case Discussions

K. Hibbert, MD, Boston, MA

CLINICAL

POSTGRADUATE COURSE

PG9 DOES MY PATIENT HAVE ENVIRONMENTAL OR OCCUPATIONAL LUNG DISEASE?

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.

Assemblies on Environmental, Occupational and Population Health; Clinical Problems

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

Target Audience

Clinicians, trainees and allied health personnel

Objectives

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

- diagnose lung disease due to or exacerbated by environmental and occupational exposures, leading to broader differential diagnoses, larger toolbox for managing this type of lung disease, and improved patient outcomes;
- gain new findings about emerging exposures such as e-cigarettes that cause lung disease, and have new strategies to manage the care of common exposures such as indoor allergen and mold exposure;
- gain new strategies to assess for lung diseases due to environmental and occupational exposures, including using a multi-disciplinary approach with the input of radiologists, pathologists, and occupational health practitioners.

The contribution of environmental and occupational exposures to the burden of many common lung diseases is under appreciated. Failure to recognize these contributions can lead to misdiagnosis or suboptimal treatment. Many clinicians are often unsure of how to respond to patient questions regarding whether exposures

caused their lung disease. This highly interactive session will provide a multi-disciplinary approach to the diagnosis and treatment of environmental and occupational lung diseases, teach clinicians about environmental contributors to common lung diseases, and update the audience on emerging exposure related lung diseases.

Chairing: P.S. Lai, MPH, MD, Boston, MA
Y.T. Huang, MHS, MD, Durham, NC

8:00 Opening Remarks

P.S. Lai, MPH, MD, Boston, MA

8:05 Where Do I Begin? A Clinician's Approach

D.C. Christiani, MD, MPH, MS, Boston, MA

8:35 Test or Remediate? A Diagnostic Approach

Y.T. Huang, MHS, MD, Durham, NC

9:05 How Will Imaging Help? A Radiologist's Approach

S. Hobbs, MD, Lexington, KY

9:35 When Should I Biopsy? A Pathologist's Approach

F.H.Y. Green, MD, Calgary, Canada

10:05 Break

10:15 Asthma + COPD: When Is It Work Related?

S.M. Tarlo, MBBS, Toronto, Canada

10:50 Hypersensitivity Pneumonitis - Diagnosis, Treatment, and Prognosis

F. Morell, MD, PhD, Barcelona, Spain

11:25 Is It Sarcoidosis?

L.A. Maier, MSPH, MD, Denver, CO

12:00 LUNCH

12:20 Fibrotic Interstitial Lung Disease

M. Gulati, MD, MPH, New Haven, CT

12:55 Lung Cancer and Mesothelioma

S. Markowitz, MD, DrPH, Flushing, NY

1:30 Doc Is It the Mold? Indoor Microbial and Allergen Exposures

W. Phipatanakul, MD, Boston, MA

2:05 From E-Cigarettes to Hookahs - How Bad Are They?

C.S. Calfee, MD, San Francisco, CA

- 2:40** *Break*
- 2:50** **Lung Diseases from the War on Terror**
C.S. Rose, MD, MPH, Denver, CO
- 3:25** **Have We Outsourced Our Lung Diseases to LMICs? Global Disparities in Occupational and Environmental Lung Diseases**
B. Nemery, MD, PhD, Leuven, Belgium

CLINICAL

POSTGRADUATE COURSE

PG10 DIFFICULT CLINICAL PROBLEMS IN PULMONARY AND CRITICAL CARE INFECTIONS

 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 Infections and Tuberculosis; Clinical Problems; Critical Care

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

Target Audience

Clinicians managing patients with pulmonary and critical care acquired infections

Objectives

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

- gain a much greater understanding of the range of pulmonary infections that can occur in immunocompetent and immunocompromised hosts;
- better appreciate the evidence supporting different treatment strategies in pulmonary infections;
- have a much better knowledge of new diagnostic tests, treatments and outcome measures that can be applied in their local setting.

This course will provide clinicians with a broad overview and an update of the current challenging

issues in the management of pulmonary and critical care infections, including typical bacterial pneumonia, mycobacterial, fungal, and viral infections as well as general approaches to infections in the immunocompromised host.

Chairing: C.A. Hage, MD, Indianapolis, IN
K.A. Crothers, MD, Seattle, WA
G.W. Waterer, MBBS, MBA, PhD, Perth, Australia

- 8:00** **What Are the Big Changes in the New VAP/HAP Treatment Guidelines?**
M.L. Metersky, MD, Farmington, CT
- 8:25** **What Is New in the Management of CAP in 2018**
G.W. Waterer, MBBS, MBA, PhD, Perth, Australia
- 8:50** **Antimicrobial Stewardship: Implications and Practical Guide for the Pulmonary Critical Care Providers**
R.G. Wunderink, MD, Chicago, IL
- 9:15** **Panel Discussion**
- 9:30** *Break*
- 9:45** **Practical Guide for the Management of Bronchiectasis, Current Update**
J.D. Chalmers, MD, PhD, Dundee, United Kingdom
- 10:10** **Updates on the Management of NTM Lung Infections**
R. Thomson, MBBS, PhD, Greenslopes, Australia
- 10:35** **Tuberculosis: What Is New in the Diagnosis and New Treatment Options**
C.L. Daley, MD, Denver, CO
- 11:00** **Panel Discussion**
- 11:15** *LUNCH*
- 12:15** **Empyema and Other Pleural Infections-Diagnosis and Management in 2018**
Y.C.G. Lee, MBChB, PhD, Perth, Australia
- 12:40** **Emerging Viral Respiratory Tract Infections of Global Significance**
D.S. Hui, MD, MBBS, Shatin, Hong Kong

- 1:05 Vaccines for Respiratory Infection - Who Should Get What and When?**
M. Griffin, MD, MPH, Nashville, TN
- 1:30 Panel Discussion**
- 1:45 Break**
- 2:00 Pneumonia in Patients Treated with Anti-TNF Therapy and Other Novel Biologics**
K.L. Winthrop, MD, MPH, Portland, OR
- 2:25 Pulmonary Infections and Respiratory Microbiome Alterations in HIV/AIDS**
K.A. Crothers, MD, Seattle, WA
- 2:50 Pneumonia in the Solid Organ Transplant Recipients**
C.A. Hage, MD, Indianapolis, IN
- 3:15 Pneumonia in Patients with Hematologic Malignancies and HSCT Recipients**
S.E. Evans, MD, Houston, TX
- 3:40 Panel Discussion**

CLINICAL • TRANSLATIONAL

POSTGRADUATE COURSE

PG11 GENETIC PULMONARY 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

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

Assemblies on Pediatrics; Allergy, Immunology and Inflammation; Respiratory Cell and Molecular Biology; Genetics and Genomics Section

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

Target Audience

All pulmonary physicians, pulmonary physician assistants, pulmonary fellows who care for patients with respiratory disease

Objectives

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

- recognize and diagnose genetic lung diseases including short telomere syndrome, primary, ciliary dyskinesia, surfactant deficiency, LAM and BHD;
- integrate new treatment options in discussing HHT, CF, Duchenne muscular dystrophy or LAM with patients;
- apply basic principles of genetics and genotype-phenotype correlation, together with current classification of genetic variants to better interpret genetic test results.

This course will provide attendees with a comprehensive overview of the ever increasing role of genetics in the practice of pulmonary medicine. Regardless of background, attendees will come away from this course with a solid understanding of the basic principles of clinical genetics; they will understand when to suspect genetic disease in patients with lung disease and will be able to determine if testing in these patients is warranted; they will learn how to interpret genetic test results, and determine when further investigations are required. The course will conclude with an interactive case-based session.

Chairing: B.A. Raby, MPH, MD, Boston, MA
T.B. Kinane, MBChB, MD, Boston, MA
L. Yonker, MD, Boston, MA

- 8:00 Introduction**
B.A. Raby, MPH, MD, Boston, MA
- 8:10 Gene Panels, Whole Exome Sequencing and Whole Exome Sequencing - Nuts And Bolts**
M.M. Wurfel, MD, PhD, Seattle, WA
- 9:05 Sequence Interpretation: Is My Mutation Pathogenic?**
A. Hamvas, MD, Chicago, IL
- 9:35 The Use of Pluripotent Stem Cell to Determine if Mutations Are Pathogenic**
F.J. Hawkins, ChB, MB, Boston, MA
- 10:05 Genetic Counseling: Why It Matters**
N. Carmichael, MS, Boston, MA
- 10:35 Break**
- 10:45 Pulmonary Vasculopathies: From PPH to HHT**
W. Chung, MD, PhD, New York, NY

11:15 Pediatric Interstitial Lung Disease: How Rapid Genetic Screening Is Changing Clinical Practice
L.M. Noguee, MD, Baltimore, MD

11:45 Interstitial Lung Disease: Telomeres, Surfactant, and All That MUC
C.K. Garcia, MD, PhD, Dallas, TX

12:15 LUNCH

1:00 Bronchiectasis: Time for a New Diagnostic Genetic Algorithm
B.A. Raby, MPH, MD, Boston, MA

1:30 Emphysema: Alpha-1-Antitrypsin Deficiency and Beyond
M.L. Brantly, MD, Gainesville, FL

2:00 Rare Lung Disease: A Genetic Approach
J. Kropski, MD, Nashville, TN

2:30 Break

2:40 Muscular Disease: Why Genetics Matters
T.B. Kinane, MBChB, MD, Boston, MA

3:10 Case Presentations
L. Yonker, MD, Boston, MA

3:50 Concluding Remarks
T.B. Kinane, MBChB, MD, Boston, MA

BASIC • CLINICAL • TRANSLATIONAL

POSTGRADUATE COURSE

PG12 PEDIATRIC RESPIRATORY PHYSIOLOGY: TESTS OF LUNG FUNCTION AND DISEASES THEY TEST FOR

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.

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

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:

- Learn how physiologic measurements can be used to change interventions and enhance outcomes
- Apply several basic respiratory principles to the diagnosis and management of common pediatric respiratory disorders
- 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 a test of lung function and the physiological principles underlying the test, and then the companion talk will review how that test demonstrates pathophysiology relating to a particular pediatric respiratory disease. An interactive format, using questions from the speakers and audience touchpads 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 Spirometry and Forced Oscillation Technique
J.L. Allen, MD, Philadelphia, PA

8:35 Childhood Determinants of Adult Lung Disease
T.W. Guilbert, MD, Cincinnati, OH

9:10 The Multiple Breath Washout Technique
P. Robinson, MD, PhD, Westmead, Australia

9:45 Break

9:55 Cystic Fibrosis: Structure and Function
S.M. Stick, MB BCh, Perth, Australia

10:30 Exhaled Gases
B.M. Gaston, MD, Cleveland, OH

- 11:05 Asthma and Exhaled Nitric Oxide**
A.B. Chang, MBBS, PhD, Herston, Australia
- 11:40 LUNCH**
- 12:20 Diffusing Capacity**
G. Kurland, MD, Pittsburgh, PA
- 12:55 Sickle Cell Disease and the Lung**
R.T. Cohen, MD, MPH, Boston, MA
- 1:30 Tidal Mechanics of the Respiratory System**
J. Needleman, MD, Brooklyn, NY
- 2:05 Break**
- 2:15 Mechanics of Breathing and Respiratory Failure**
H.B. Panitch, MD, Philadelphia, PA
- 2:50 Tests of Respiratory Muscle Strength**
T.G. Keens, MD, Los Angeles, CA
- 3:25 Chest Wall and Neuromuscular Disorders**
G.J. Redding, MD, Seattle, WA

CLINICAL

POSTGRADUATE COURSE

PG13 FORGOTTEN AND CONTROVERSIAL TOPICS IN PULMONARY HYPERTENSION

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.

Assemblies on Pulmonary Circulation; Clinical Problems; Respiratory Structure and Function

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

Target Audience

General pulmonologists/cardiologists as well as physician extenders with an interest in PH and specialists in the field

Objectives

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

- learn about the lesser known topics related to pulmonary hypertension including exercise pulmonary hypertension, PVOD/PCH, non-scleroderma connective tissue disease, sarcoidosis and renal failure;
- recognize the controversies regarding whether Sickle Cell Anemia should be classified as group 1 PAH and how should PH related to lung disease should be medically managed. We will also discuss gender and race inequality in pulmonary hypertension;
- learn about advanced RV assessment, PA compliance and RV:PA coupling, when to use parenteral prostacyclin, and use of DPG in the evaluation of mixed pre and post-capillary pulmonary hypertension.

There are multiple challenges and unanswered questions encountered by clinicians that evaluate, diagnose and treat patients with suspected or confirmed pulmonary vascular disease (mainly pulmonary hypertension). This course will provide a deep dive into the diagnosis and therapeutics of pulmonary hypertension supported by the literature and balanced with personal clinical experience. We have created this course specifically to address issues where uncertainty and/or controversy exists as well as highlight emerging areas that are just being incorporated into clinical practice. We seek to address the diagnostic and treatment dilemmas posed by these various clinical entities through literature review, sharing of expert opinion, and review of recent guidelines and their applicability to the multiple different nuanced presentations of pulmonary hypertension.

Chairing: M.G. Risbano, MD, MA, Pittsburgh, PA
G.A. Heresi, MD, Cleveland, OH
H.J. Ford, MD, Chapel Hill, NC

8:00 Exercise Pulmonary Hypertension: Are We There Yet?

M.G. Risbano, MD, MA, Pittsburgh, PA

8:30 Advanced RV Assessment, PA Compliance and RV:PA Coupling

M. Simon, MD, Pittsburgh, PA

9:00 The Other CTD-PAH: Beyond Scleroderma
S.H. Visovatti, MD, MA, Ann Arbor, MI

- 9:30 DPG? TPG? The Confusing World of Mixed Pre and Post-Capillary PH**
I.M. Lang, MD, MA, Vienna, Austria
- 10:00 Break**
- 10:20 Normal Hemodynamics with CTED?**
G.A. Heresi, MD, Cleveland, OH
- 10:50 PVOD or PCH or PAH, You Be the Judge!**
D. Montani, MD, PhD, Le Kremlin Bicetre, France
- 11:20 What Do We Really Do with PH in Lung Disease? A Pro-Con Debate**
J.A. Barbera, MD, Barcelona, Spain
S.D. Nathan, MD, Falls Church, VA
- 12:00 LUNCH**
- 1:00 Sickle-Cell Disease Should Not Be Classified as Group 1 PAH: A Pro-Con Debate**
M. Humbert, MD, PhD, Bicetre, France
- 1:20 Sickle-Cell Disease Should Be Classified as Group 1 PAH: A Pro-Con Debate**
E.S. Klings, MD, Boston, MA
- 1:40 Sarcoid PH**
H.J. Ford, MD, Chapel Hill, NC
- 2:10 Break**
- 2:30 When to Use Parenteral Prostacyclins?**
A. Hemnes, MD, Nashville, TN
- 3:00 Renal Failure and PH**
M.M. Chakinala, MD, St. Louis, MO
- 3:30 The Minority Report: Gender and Race Inequality in PH**
V. De Jesus Perez, MD, Palo Alto, CA

BASIC • TRANSLATIONAL

POSTGRADUATE COURSE

PG14 ARE YOUR MITOCHONDRIA HAPPY? A BEGINNERS GUIDE TO ASSESSING MITOCHONDRIAL FUNCTION AT THE BENCH

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

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

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

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

Target Audience

Basic and clinical researchers interested in learning about cutting edge methods to measure mitochondrial metabolism in cells and tissues

Objectives

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

- understand mitochondrial metabolism in cells in particularly cells relevant to lung biology and disease;
- learn about Seahorse technology as a way to assess mitochondrial respiration and function;
- understand the importance of assessing mitochondrial health and function in model systems and how to detect extracellular markers of mitochondrial dysfunction.

This session will discuss best practice methods to study mitochondrial function in cells and tissues. Mitochondrial function and glycolysis play critical roles in a variety of cellular processes, including cellular activation, proliferation, differentiation, cell death, and disease progression. Specific signatures of mitochondrial dysfunction that are associated with disease pathogenesis and/or progression are

becoming increasingly important. In particular, the centrality of mitochondria in the pathological processes and clinical phenotypes associated with a range of lung diseases including chronic obstructive pulmonary disease, pulmonary fibrosis, acute lung injury, asthma and lung cancer is emerging. Understanding the molecular mechanisms regulating the mitochondrial processes of lung cells will help to better define phenotypes and clinical manifestations associated with respiratory disease and to identify potential diagnostic and therapeutic targets. In this session, attendees will discover how real-time, live cell analysis can provide a complete picture of mitochondrial phenotype and function in model systems and in human disease, with a particular focus on diseases area.

Chairing: M.N. Gillespie, PhD, Mobile, AL
S.M. Cloonan, PhD, New York, NY
A.L. Mora, MD, Pittsburgh, PA

- 8:00 Introduction and General Welcome**
S.M. Cloonan, PhD, New York, NY
- 8:15 An Introduction to Lung Biology and Disease**
S. Meiners, PhD, BSc, Munich, Germany
- 8:45 Mitochondrial Biogenesis in Lung Biology and Disease**
G.S. Shadel, PhD, BSc, New Haven, CT
- 9:15 Signals from Mitochondria to the Cell in Health and Disease**
P.T. Schumacker, PhD, Chicago, IL
- 9:45 Break**
- 10:00 Hallmarks of Pulmonary Hypertension: Mesenchymal and Inflammatory Cell Metabolic Reprogramming**
A. D'Alessandro, PhD, Aurora, CO
- 10:30 Metabolic Profiling of Endogenous and Circulating Metabolites**
J.A. Howrylak, MD, Lancaster, PA
- 11:00 Mitochondrial Function and Immunometabolism**
A. Ray, PhD, Pittsburgh, PA
- 11:30 Bioenergetic Health Profiling of Circulating Peripheral Blood Monocytes and Immune Cells**
V. Darley-Usmar, PhD, Birmingham, AL

- 12:00 Lunch Round Table Journal Club**
M.N. Gillespie, PhD, Mobile, AL
- 1:00 Station 1. Designing a Seahorse Experiment. Assessment of Bioenergetic Function in Primary Lung Epithelial Cells**
A.J. Janocha, BS, Cleveland, OH
- 1:40 Station 2. Hands-on Demonstration of Seahorse**
L. Torres, MD, New York, NY
- 2:20 Break**
- 2:40 Station 3. Assays to Assess Mitochondrial Integrity: How to Know If Your Mitochondria Are Sick?**
A.L. Mora, MD, Pittsburgh, PA
M. Bueno, PhD, Pittsburgh, PA
- 3:20 Station 4. Measuring the Mitochondrial Danger Signal Extracellular mtDNA in Human Plasma**
K. Nakahira, MD, PhD, New York, NY

CLINICAL

POSTGRADUATE COURSE

PG15 PULMONARY FUNCTION AND CARDIOPULMONARY EXERCISE TESTING: CLINICAL UPDATES FOR 2018 AND CASE CONFERENCE

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.

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 updates in lung function testing from the new technical standards published this past year and will provide hands-on experience in small group settings with the interpretation and reporting of pulmonary function and cardiopulmonary exercise test results. We will combine didactic lectures with case-based instruction, and we will offer participants the opportunity to bring their own complex cases for review by an expert team of clinicians and physiologists. We will use a team approach to facilitating the small group discussions including content experts and pulmonary function laboratory medical directors from around the world.

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

8:00 Introduction

C. Oropez, MD, MHS, Tucson, AZ

8:15 Just Breathe: Updates in Spirometry Reporting and Interpretation

B.H. Culver, MD, Seattle, WA

8:45 Size Matters: Lung Volume Measurement, Reporting, and Interpretation

B. Borg, BS, Prahran, Australia

9:15 Diffusion Minus the Confusion: Updates in DLCO Measurement, Reporting, and Interpretation

C. Oropez, MD, MHS, Tucson, AZ

9:45 Kids Count: Special Considerations for Pediatric Pulmonary Function Testing

D.J. Weiner, MD, Pittsburgh, PA

10:15 Break**10:30 Airway Challenge Updates: What's New in Bronchoprovocation Testing**

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

11:15 Make the Case: Pulmonary Function Testing

M.C. McCormack, MHS, MD, Baltimore, MD

12:15 LUNCH**12:45 Ready, Set, Go: Patient Evaluation and Exercise Protocols for Cardiopulmonary Exercise Testing**

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

1:15 Data Overload in Cardiopulmonary Exercise Testing: Examining and Interpreting the Results

C.G. Irvin, PhD, Burlington, VT

1:45 Case Conference: PFT and CPET in Clinical Practice

D.A. Kaminsky, MD, Burlington, VT

2:30 Break**2:45 Make the Case: Cardiopulmonary Exercise Testing**

M.C. McCormack, MHS, MD, Baltimore, MD





ATS 2018
Where today's science
meets tomorrow's care™

**International Conference
San Diego, CA**

Saturday, May 19

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 18.

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 two 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, MSCR, Salt Lake City, UT
X. Monnet, MD, PhD, Le Kremlin-Bicetre, France

8:00 Vascular Ultrasound: DVT Evaluation

L. Rapoport, MD, Santa Clara, CA

8:20 Vascular Access

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

8:45 Tamponade

G.B. Allen, MD, Burlington, VT

**9:15 Using Ultrasound to Assess Intravascular
Volume and Fluid Responsiveness**

X. Monnet, MD, PhD, Le Kremlin-Bicetre, France

9:45 Ultrasound for Diuresis and Dialysis

E.L. Hirshberg, MD, Murray, UT

10:15 Break

10:30 Practical Skills Session: Hands-On Stations III

Volume Status

X. Monnet, MD, PhD, Le Kremlin-Bicetre, France

J. Kasal, MD, St. Louis, MO

E. Teo, MD, Atlanta, GA

S. Nikravan-Weber, MD, Stanford, CA

S. Cha, MD, Baltimore, MD

Tamponade Evolution

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

G. Allen, MD, Burlington, VT

A. Leibowitz, MD, Boston, MA

S. Price, MBBS, London, United Kingdom

T. Brakke, MD, Omaha, NE

Vascular Ultrasound

L. Rapoport, MD, Santa Clara, CA

Z. Shaman, MD, Cleveland, OH

L. Grecu, MD, Stony Brook, NY

P.K. Mohabir, MD, Stanford, CA

D. Pradhan, MD, New York, NY

- 12:00 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**
S. Cha, MD, Baltimore, MD
- 2:15 Break**
- 2:30 Practical Skills Session: Hands-On Session IV**
- Echo in Shock and CPR**
S. Cha, MD, Baltimore, MD
D. Pradhan, MD, New York, NY
T. Brakke, MD, Omaha, NE
S. Price, MBBS, London, United Kingdom
L. Grecu, MD, Stony Brook, NY
- Abdominal Ultrasound**
L. Rapoport, MD, Santa Clara, CA
Z. Shaman, MD, Cleveland, OH
V.A. Dinh, MD, Loma Linda, CA
G. Allen, MD, Burlington, VT
P.K. Mohabir, MD, Stanford, CA
- Ask the Expert**
A. Leibowitz, MD, Boston, MA
J. Kasal, MD, St. Louis, MO
X. Monnet, MD, PhD, Le Kremlin-Bicetre, France
S. Nikravan-Weber, MD, Stanford, CA
E. Teo, MD, Atlanta, GA

CLINICAL

POSTGRADUATE COURSE

PG16 BRONCH DAY: A COMPREHENSIVE, HANDS-ON GUIDE TO BASIC BRONCHOSCOPY AND EBUS

 **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 and navigational bronchoscopy. 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 providers seeking to refine their flexible bronchoscopy skills and review the data behind the various bronchoscopic techniques. An audience response system will be used during lectures.

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

8:00 Introduction
C. Channick, MD, Boston, MA

- 8:05 Optimizing Basic Bronchoscopy Skills: Bronchoalveolar Lavage, Endobronchial Brushings, and Endobronchial Biopsies**
E.E. Folch, MD, MS, Boston, MA
- 8:30 Improving Your Technique and Yield for Transbronchial and Needle Aspiration Biopsies**
S.S. Oh, DO, Los Angeles, CA
- 8:55 Performing Flexible Bronchoscopy in High-Risk Patients: How to Maximize Outcomes**
A. Majid, MD, Boston, MA
- 9:20 The Role of Flexible Bronchoscopy in the Management of Hemoptysis**
C.R. Lamb, MD, Burlington, MA
- 9:45 Break**
- 10:00 The Fundamentals of Linear EBUS: Overview of the Basic Technique and the Data**
C. Channick, MD, Boston, MA
- 10:25 Pediatric Flexible Bronchoscopy for the Adult and Pediatric Bronchoscopist**
C. Spencer, MD, New York, NY
- 10:50 Management of Airway Foreign Bodies**
A.C. Mehta, MBBS, Cleveland, OH
- 11:15 Introduction to Navigational Bronchoscopy: Review of the Evidence**
G.C. Michaud, MD, New York, NY
- 11:40 LUNCH**
- 12:30 Practical Skills Session: Bronchoscopy with Biopsy and Needle Aspiration of Endobronchial Lesions**
E.E. Folch, MD, MS, Boston, MA
C. Spencer, MD, New York, NY
- 1:00 Practical Skills Session: Bronchoscopic Management of Hemoptysis**
A. Majid, MD, Boston, MA
J. Chung, MD, San Francisco, CA
- 1:30 Practical Skills Session: Management of the Difficult Airway**
S.S. Oh, DO, Los Angeles, CA
A. Vicencio, MD, New York, NY
- 2:00 Practical Skills Session: Techniques for Foreign Body Removal Using Flexible Bronchoscopy**
A.C. Mehta, MBBS, Cleveland, OH
C. Channick, MD, Boston, MA
B. Husta, MD, New York, NY
- 2:30 Practical Skills Session: Navigational Bronchoscopy**
C.R. Lamb, MD, Burlington, MA
J. Cardenas-Garcia, MD, Hershey, PA
- 3:00 Practical Skills Station: Endobronchial Ultrasound Anatomy**
A.K. Mahajan, MD, Vienna, VA
S. Shojaee, MD, CHDA, Richmond, VA
- 3:30 Practical Skills Session: Endobronchial Ultrasound-Guided Transbronchial Needle Aspiration**
G.C. Michaud, MD, New York, NY
S. Rafeq, MD, New York, NY

CLINICAL • TRANSLATIONAL

POSTGRADUATE COURSE

PG17 STUDYING PHARMACOGENOMICS IN LUNG DISEASE AND CRITICAL ILLNESS

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.

Assemblies on Allergy, Immunology and Inflammation; Clinical Problems; Respiratory Cell and Molecular Biology; Genetics and Genomics Section

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

Target Audience

Clinical and translational researchers interested in pharmacogenomic approaches to study the genetic basis for drug efficacy and adverse events with the ultimate goal of developing more effective and less toxic therapies for patients

Objectives

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

- gain working knowledge of pharmacogenomic study design and analysis;
- understand and gain working knowledge of some key successes and remaining challenges in application of pharmacogenomic approaches to the study of lung diseases;
- gain understanding of how pharmacogenomics might impact future care of patients with lung disease.

Pharmacogenomics analyzes how the genetic makeup of an individual affects his/her responses to drugs. It can provide new insights on pathophysiology, focus the use of specific therapies to those who will benefit, and divert use in those in whom risk of harm is too great. There are an increasing number of successful applications of pharmacogenomics in lung diseases. This course will provide an overview of the key aspects in design and analyses of pharmacogenomic studies, some examples of its successful use, and outline some ongoing efforts to implement pharmacogenomic knowledge in clinical medicine.

Chairing: M.M. Wurfel, MD, PhD, Seattle, WA
G.H. Koppelman, MD, PhD, Groningen, Netherlands
D.A. Meyers, PhD, Tucson, AZ

- 8:00 Introduction**
M.M. Wurfel, MD, PhD, Seattle, WA
- 8:15 Why Study Pharmacogenomics in Lung Diseases?**
S.T. Weiss, MD, MS, Boston, MA
- 8:45 Designing Pharmacogenomic Studies: Phenotypic and Pharmacologic Issues**
V.E. Ortega, MD, PhD, Winston-Salem, NC
- 9:15 Sequence Variation in Pharmacogenomics**
D. Nickerson, PhD, Seattle, WA
- 9:45 Break**
- 10:00 Statistical Approaches in Pharmacogenomics**
D.A. Meyers, PhD, Tucson, AZ

- 10:30 Studying Pharmacogenomics in Diverse Populations**
E.G. Burchard, MD, MPH, Danville, CA
- 11:00 Using the EHR for Pharmacogenomics**
B.E. Himes, PhD, Philadelphia, PA
- 11:30 Pharmacogenomics in Cystic Fibrosis Care**
E.F. McKone, MD, Dublin, Ireland
- 12:00 LUNCH**
- 12:55 Pharmacogenomics in COPD**
C.P. Hersh, MD, MPH, Boston, MA
- 1:25 Pharmacogenomics in Asthma**
G.H. Koppelman, MD, PhD, Groningen, Netherlands
- 1:55 Pharmacogenomic Targets in Critical Illness**
K.R. Walley, MD, Vancouver, Canada
- 2:25 Break**
- 2:40 Pharmacogenomics: An Industry Perspective**
S. Ghosh, MD, PhD, King of Prussia, PA
- 3:10 Clinical Pharmacogenetics Implementation Consortium**
T.E. Klein, PhD, Stanford, CA
- 3:40 Summary**
M.M. Wurfel, MD, PhD, Seattle, WA

BEHAVIORAL • TRANSLATIONAL

POSTGRADUATE COURSE

PG18 THE NUTS AND BOLTS OF QUALITATIVE RESEARCH: HOW TO DO IT WELL IN RESEARCH, MEDICAL EDUCATION, AND QUALITY IMPROVEMENT

- 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.

Assemblies on Pulmonary Infections and Tuberculosis; Allergy, Immunology and Inflammation

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

Target Audience

Individuals who currently use or would like to utilize qualitative methods and analysis in their research, as well as individuals who read the literature and would like to better understand qualitative research

Objectives

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

- describe the theory and methods for qualitative research;
- develop a qualitative research project and analyze qualitative data;
- evaluate the rigor of published qualitative research studies.

Qualitative research is a broad approach utilized to gain in-depth understanding of phenomena, answering questions of how and why. This practical skills development course will combine didactics with workshops to provide a toolkit for clinicians, educators, and researchers to apply and evaluate rigorous qualitative methods. Attendees will be introduced to qualitative research and learn about each step from the research question to dissemination of results; in addition a variety of examples will be presented. Participants will be divided in small groups by topic area, research, medical education, and quality improvement with facilitators who have expertise in applying qualitative research in each area.

Chairing: A. Volerman, MD, Chicago, IL
M. Eakin, PhD, Baltimore, MD

8:00 Introduction and Applications of Qualitative Research

M. Eakin, PhD, Baltimore, MD

8:10 Building Blocks: Qualitative Research Principles

C.G. Slatore, MD, Portland, OR

8:30 The Design Process: Methods and Sample in Qualitative Projects

A. Volerman, MD, Chicago, IL

9:00 Workshop: Developing Your Own Qualitative Research Study

A. Volerman, MD, Chicago, IL
M. Eakin, PhD, Baltimore, MD
C.G. Slatore, MD, Portland, OR
J. Foster, BSc(Hons), PhD, Sydney, Australia
M.R. Patel, PhD, MPH, Ann Arbor, MI
L. Hinkle, MD, Indianapolis, IN
J. Tate, PhD, RN, Columbus, OH
D. Sullivan, MD, MA, Portland, OR
K.A. Riekert, PhD, Baltimore, MD

9:40 Discussion

M. Eakin, PhD, Baltimore, MD

9:50 Break

10:00 Time to Ask: The Topic Guide

M.R. Patel, PhD, MPH, Ann Arbor, MI

10:30 Workshop: Developing a Topic Guide

A. Volerman, MD, Chicago, IL
M. Eakin, PhD, Baltimore, MD
C.G. Slatore, MD, Portland, OR
M.R. Patel, PhD, MPH, Ann Arbor, MI
L. Hinkle, MD, Indianapolis, IN
J. Tate, PhD, RN, Columbus, OH
D. Sullivan, MD, MA, Portland, OR
K.A. Riekert, PhD, Baltimore, MD

11:10 Talk to Me: Skills for Qualitative Data Collection

J. Tate, PhD, RN, Columbus, OH

11:40 LUNCH

12:20 Building the Story: Analyzing Qualitative Data

L. Hinkle, MD, Indianapolis, IN

12:50 Workshop: Qualitative Data Analysis in Action

A. Volerman, MD, Chicago, IL
M. Eakin, PhD, Baltimore, MD
C.G. Slatore, MD, Portland, OR
M.R. Patel, PhD, MPH, Ann Arbor, MI
L. Hinkle, MD, Indianapolis, IN
J. Tate, PhD, RN, Columbus, OH
D. Sullivan, MD, MA, Portland, OR
K. Riekert, PhD, Baltimore, MD

1:30 Putting the Quality into Qualitative Data

J. Foster, BSc(Hons), PhD, Sydney, Australia

2:00 Discussion

A. Volerman, MD, Chicago, IL

- 2:10** *Break*
- 2:20** **Finding the Quality: Evaluating Qualitative Research**
K.A. Riekert, PhD, Baltimore, MD
- 2:40** **Workshop: Reviewing Qualitative Research Studies**
A. Volerman, MD, Chicago, IL
M. Eakin, PhD, Baltimore, MD
C.G. Slatore, MD, Portland, OR
M.R. Patel, PhD, MPH, Ann Arbor, MI
L. Hinkle, MD, Indianapolis, IN
J. Tate, PhD, RN, Columbus, OH
D. Sullivan, MD, MA, Portland, OR
K. Riekert, PhD, Baltimore, MD
- 3:10** **Mixing Qualitative and Quantitative Research**
D. Sullivan, MD, MA, Portland, OR
- 3:30** **Bringing Qualitative Research Home**
A. Volerman, MD, Chicago, IL

**BASIC • BEHAVIORAL
CLINICAL • TRANSLATIONAL
POSTGRADUATE COURSE**

PG19 INTERSTITIAL LUNG DISEASE: UPDATE AND EVOLVING TRENDS IN DIAGNOSIS AND MANAGEMENT

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.

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 of pathogenesis and genetic aspects of pulmonary fibrosis as well as knowledge of new therapeutic strategies to treat patients with ILD/pulmonary fibrosis;
- gain better insight into the endpoints used in IPF clinical trials assessment of treatment response and the significance of exploratory, subgroup, and post hoc analyses.

This course provides an update on evolving trends in diagnosis, clinical management, and research investigation of the heterogeneous group of interstitial lung diseases (ILDs) of unknown etiology, in the setting of connective tissue diseases and granulomatous ILD (hypersensitivity pneumonitis and sarcoidosis) with an emphasis on idiopathic pulmonary fibrosis (IPF). This includes new data for the diagnosis of IPF since the 2011 guidelines and perspectives for the diagnosis and management of hypersensitivity pneumonitis. 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.

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

8:00 Introduction
G. Raghu, MD, Seattle, WA

8:05 Interstitial Lung Disease: An Overview of Approach to Diagnosis with an Emphasis of Diagnosis of Idiopathic Pulmonary Fibrosis
G. Raghu, MD, Seattle, WA

- 8:30 Imaging in ILD: Clues to Diagnosis**
M. Remy-Jardin, MD, Lille, France
- 8:55 Histopathology Features of ILD, Does Tissue Sampling Matter?: Role of Transbronchial, Cryo and Thoracoscopic Lung Biopsies**
J.L. Myers, MD, Ann Arbor, MI
- 9:20 Genetics of Pulmonary Fibrosis: Time for Genetic Screening and Intervention?**
M. Armanios, MD, Baltimore, MD
- 9:45 Pulmonary Fibrosis: Concepts in Pathogenesis from Bench to Bedside**
M.R.J. Kolb, MD, PhD, Hamilton, Canada
- 10:10 Break**
- 10:20 Connective Tissue Disease for the Pulmonologist Evaluating Interstitial Lung Disease: A Rheumatologist's View**
R. Silver, MD, Charleston, SC
- 10:45 Hypersensitivity Pneumonitis: What and Where Is the Antigen; Strategies for Diagnosis and Treatment?**
M. Vasakova, MD, Thomayerova, Czech Republic
- 11:10 Case Discussion with Panel of Experts (Multidisciplinary Discussion)**
B. Collins, MD, Seattle, WA
L.A. Ho, MD, Seattle, WA
- 12:00 LUNCH**
- 12:30 Sarcoidosis: Treatment Beyond Prednisone and Methotrexate**
D.A. Culver, DO, Cleveland, OH
- 12:55 Circulating Biomarkers for Diagnosis and Management of ILD/Pulmonary Fibrosis/IPF: Still Research or Prime Time for Routine Clinical Care**
A. Prasse, MD, Hannover, Germany
- 1:20 Pulmonary Hypertension Associated with Pulmonary Fibrosis**
M. Humbert, MD, PhD, Bicetre, France
- 1:45 Smoking Related ILDs Other than IPF**
R. Raj, MD, Stanford, CA
- 2:10 Break**

- 2:20 Reducing Cough and Other Symptoms and Improving Quality of Life for Patients with IPF: Therapeutic Needs and Palliative Care**
M. Wijsenbeek, MD, PhD, Rotterdam, Netherlands
- 2:45 Clinical Trial Endpoints for Assessing Treatment Response for Patient with IPF: What Is Meaningful and To Whom?**
K. Anstrom, PhD, MD, Durham, NC
- 3:10 Precision Medicine and Pharmacogenomics for Treatment of IPF: Ready or Not for Prime Time**
F.J. Martinez, MD, MS, New York, NY
- 3:35 Treatment of IPF: Current Landscape of Treatment and What Is in the Horizon -Ongoing/Upcoming Clinical Trials**
L. Richeldi, MD, PhD, Rome, Italy

CLINICAL

POSTGRADUATE COURSE

PG20 THORACIC IMAGING FOR THE PULMONOLOGIST AND CRITICAL CARE PHYSICIAN: A CASE-BASED REVIEW

 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; Critical Care; Pulmonary Infections and Tuberculosis; 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 of Pulmonary Vascular Diseases**
J.P. Kanne, MD, Madison, WI
- 9:00 Critical Care**
M.D. Martin, MD, Madison, WI
- 9:30 Break**
- 9:45 Imaging of Pleural Diseases**
C.C. Wu, MD, Houston, TX
- 10:15 Imaging of the Solitary Pulmonary Nodule**
J.H. Chung, MD, Chicago, IL
- 10:45 Lung Cancer Imaging**
A. Leung, MD, Stanford, CA
- 11:15 LUNCH**
- 12:15 Imaging of Pulmonary Infections**
L.H. Ketai, MD, Albuquerque, NM
- 12:45 HRCT of Diffuse Lung Diseases**
D.A. Lynch, MBBCh, Denver, CO

- 1:15 Break**
- 1:30 Multidisciplinary Approach to Diffuse Lung Diseases**
K.K. Brown, MD, Denver, CO
S.D. Groshong, MD, PhD, Denver, CO
D.A. Lynch, MBBCh, Denver, CO
- 3:30 Imaging Diseases of the Large Airways**
S. Rossi, MD, Buenos Aires, Argentina

BASIC • TRANSLATIONAL

POSTGRADUATE COURSE

PG21 A HANDS-ON INTRODUCTION TO STUDYING THE LUNG MICROBIOME

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.

Assemblies on Pulmonary Infections and Tuberculosis; Allergy, Immunology and Inflammation

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

Target Audience

Research scientists interested in designing, performing, and understanding the analysis of lung and airway microbiota using sequencing-based techniques

Objectives

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

- research design and analytical approaches needed to conduct culture-independent assessment of microbial communities in respiratory specimens;
- apply bioinformatic tools to analyze sequencing data;
- illustrate the use of a combination of basic science as well as multi-dimensional computational approaches for investigating microbial function and mechanisms of disease.

This course will introduce methodologies used to characterize and understand lung and airway microbiota using culture-independent methods. During

the proposed sessions, participants will learn how to design, execute, analyze and interpret a lung microbiome study. Hands-on experiences will include the use of Quantitative Insights Into Microbial Ecology (QIIME), a bioinformatic pipeline used to process raw sequencing data and R (Phyloseq and Vegan), statistical software packages used to analyze and graphically display microbiome data. 16S rRNA gene sequencing data will be provided to attendees to perform analyses.

Chairing: L.N. Segal, MD, New York, NY
R.P. Dickson, MD, Ann Arbor, MI
A. Pragman, MD, PhD, Minneapolis, MN

- 8:00 An Introduction to Thinking About the Microbiome**
R.P. Dickson, MD, Ann Arbor, MI
- 8:50 Contaminomics**
M.J. Cox, BSc(Hons), PhD, London, United Kingdom
- 9:20 The Role of Culture in a Culture-Independent Age**
M.G. Surette, PhD, Hamilton, Canada
- 9:50 Break**
- 10:05 Breakout Session: QIIME**
J. Clemente, PhD, New York, NY
- 11:35 LUNCH**
- 12:35 Real-Time Metagenomics**
J. Erb-Downward, PhD, Ann Arbor, MI
- 12:55 Breakout Session: R Phyloseq/Vegan**
M. Badri, PhD, New York, NY
- 2:25 Break**
- 2:40 Metabolomics**
S.K. Cribbs, MD, MSCR, Decatur, GA
- 3:00 Longitudinal Microbiome Studies**
D. Bogaert, MD, PhD, Edinburgh, United Kingdom
- 3:20 Multiomics**
M. Badri, PhD, New York, NY
- 3:40 Questions and Answers with Panel Discussion**
L.N. Segal, MD, New York, NY

BASIC • CLINICAL • TRANSLATIONAL

POSTGRADUATE COURSE

PG22 BRONCHIECTASIS AND ADULT CYSTIC FIBROSIS: WHERE DO WE STAND TODAY?

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.**

Assemblies on Pulmonary Infections and Tuberculosis; Clinical Problems

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

Target Audience

Pulmonary and critical care physicians, pulmonary fellows, internal medicine residents, medical students, pulmonary nurse practitioners, physician assistants, internal medicine providers

Objectives

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

- learn new findings and apply the latest in epidemiologic trends, diagnostic modalities, treatment and prevention of infections in patients with bronchiectasis, cystic fibrosis and NTM, including results from recent clinical trials;
- learn and apply the latest in research in bronchiectasis, including results from the Bronchiectasis Research Registry, the EMBARC registry and the Cystic Fibrosis Foundation;
- integrate new treatment options and discuss the potential for NTM antibiotic toxicity through an interactive case-based panel discussion.

The course will provide an overview and update on the latest in bronchiectasis and cystic fibrosis. The course will cover recent epidemiologic trends, radiology, microbiology, diagnosis and management in bronchiectasis and cystic fibrosis. Also, the course will cover the latest in research (including results from the national Bronchiectasis Research Registry, European

EMBARC registry, CF registry, genetic/epidemiologic research and recent clinical trials on inhaled and antibiotic therapy in bronchiectasis and CF). We will hold interactive case-based panel discussions and discuss common and difficult real-world patient scenarios.

Chairing: A. Basavaraj, MD, New York, NY
S.H. Kasperbauer, MD, Denver, CO
K.L. Winthrop, MD, MPH, Portland, OR

- 8:00 Introduction**
A. Basavaraj, MD, New York, NY
- 8:05 Epidemiology in Bronchiectasis and Cystic Fibrosis**
R. Thomson, MBBS, PhD, Greenslopes, Australia
- 8:35 Genetics in Bronchiectasis and Cystic Fibrosis**
K.N. Olivier, MD, MPH, Bethesda, MD
- 9:05 Diagnostic Evaluation in Bronchiectasis**
M.L. Metersky, MD, Farmington, CT
- 9:35 Antibiotic Management in the NTM Patient**
D.E. Griffith, MD, Tyler, TX
- 10:05 Break**
- 10:20 New Pharmacologic Strategies in Cystic Fibrosis**
P.A. Flume, MD, Charleston, SC
- 10:50 Airway Clearance Techniques in Bronchiectasis and Cystic Fibrosis**
A.E. O'Donnell, MD, Washington, DC
- 11:20 Infection Prevention and Chronic Suppression in Bronchiectasis and Cystic Fibrosis**
S.T. Lommatzsch, MD, Denver, CO
- 11:50 LUNCH**
- 12:45 Case-Based Panel Discussion: Bronchiectasis and NTM Cases in the Community**
K.M. O'Neil, MD, Wilmington, NC
- 1:30 A First Look at the United States Bronchiectasis Research Registry**
T.R. Aksamit, MD, Rochester, MN
- 2:00 Update on the EMBARC European Registry**
J.D. Chalmers, MD, PhD, Dundee, United Kingdom
- 2:30 Break**
- 2:45 What's New in NTM Treatment?**
C.L. Daley, MD, Denver, CO

3:15 Cased-Based Panel Discussion: Difficult to Manage NTM Cases

D.J. Addrizzo-Harris, MD, New York, NY

CLINICAL • TRANSLATIONAL

POSTGRADUATE COURSE

PG23 ADVANCES IN THE DIAGNOSIS AND MANAGEMENT OF PEDIATRIC SEVERE ASTHMA

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.

Assembly on Pediatrics

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

Target Audience

Providers caring for children with severe asthma

Objectives

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

- perform a stepwise evaluation for pediatric patients referred for severe asthma;
- list biomarkers for asthma and describe their role in the asthma inflammatory pathways;
- choose biologic or non-traditional therapies for patients with severe asthma who have not responded to standard therapies.

This course provides state of the art information on the evaluation and management of severe asthma in children. Speakers will review best practices for evaluation including medication adherence monitoring and support. Discussions will range from the clinically relevant biologic mechanisms of asthma to addressing whether phenotyping and endotyping can improve outcomes. We will also discuss strategies for developing partnerships with other health care disciplines and community resources in order to

achieve a patient-centered approach. The course includes small group review of difficult cases and discussion of unmet needs. Speakers will also demonstrate appropriate use of targeted therapies, and describe best practices for monitoring for adverse effects of therapies.

Chairing: J. Gaffin, MD, Boston, MA
L.B. Bacharier, MD, St. Louis, MO
K.R. Ross, MD, MS, Cleveland, OH

- 8:00 Welcome and Introduction**
J. Gaffin, MD, Boston, MA
- 8:05 Roadmap to the Practical Evaluation of Pediatric Severe Asthma**
J. Gaffin, MD, Boston, MA
- 8:20 One Size Does Not Fit All: Diagnostic Tools and Frameworks for Characterizing the Pediatric Severe Asthma Patient**
K.R. Ross, MD, MS, Cleveland, OH
- 8:45 Therapeutics: Which Biologic Is Right for My Patient?**
L.B. Bacharier, MD, St. Louis, MO
- 9:10 Therapeutics: Non-Biologic Therapies and Future Options**
S. Saglani, BSc(Hons), MD, MBChB, London, United Kingdom
- 9:35 Harnessing the ‘Difficult to Control’ Asthmatic: Psychological Assessments and Interventions to Improve Self-Management**
P. Marik, PsyD, New York, NY
- 9:55 Break**
- 10:15 Harnessing the ‘Difficult to Control’ Asthmatic: “Trust, but Verify” -Strategies for Adherence Monitoring**
C.L. Yang, MD, MSc, Vancouver, Canada
- 10:40 Asthma Plus: Addressing Comorbidities - Sleep Apnea, Gastroesophageal Reflux, Rhinosinusitis, and Obesity**
E. Forno, MD, MPH, Pittsburgh, PA
- 11:05 Case Based Small Group Discussions**
J. Gaffin, MD, Boston, MA
- 11:55 LUNCH**

- 12:45 Stay Out of the Red (Zone): Outpatient Management of Exacerbations**
D.J. Jackson, MD, Madison, WI
- 1:10 Monitoring Side Effects: Steroids, Biologics, LABAs**
M. Federico, MD, Aurora, CO
- 1:30 Outside the Clinic: Home Visits and Community Partnerships**
S. Sommer, MSN, WHNP-BC, AE-C, Boston, MA
- 1:50 Outside the Clinic: Partnering with Schools and School Nurses**
L.B. Gerald, PhD, MSPH, Tucson, AZ
- 2:10 Break**
- 2:30 Multidisciplinary Severe Asthma Programs: What Are They and Are They Effective?**
T.W. Guilbert, MD, Cincinnati, OH
- 2:50 Helping Patients Navigate: Young Adult Transition**
W.M. Gibson-Scipio, APRN-BC, PhD, Detroit, MI
- 3:05 Helping Patients Navigate: Advocacy**
T. Winders, MBA, Vienna, VA
- 3:20 Panel Discussion**
K.R. Ross, MD, MS, Cleveland, OH

CLINICAL

POSTGRADUATE COURSE

PG24 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 coordinated care to children with chronic multi-system disease

Objectives

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

- integrate a multi-disciplinary approach to improve the diagnostic accuracy and outcome for children with aerodigestive disorders;
- apply and synthesize diagnostic results into a effective management plan for children with complex chronic pulmonary aspiration;
- gain new strategies and methods for pediatric pulmonologists to diagnose and manage complex but common airway diseases.

This course will aid pediatric pulmonologists and care coordinators in the development of multidisciplinary programs for children with complex chronic conditions affecting lung health. The 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 in a multi-disciplinary and interactive format.

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

8:00 Aerodigestive Care Update. What Have We Achieved in the Past Year?

R.P. Boesch, DO, MS, Rochester, MN

8:15 Aerodigestive Best of the Year

R.R. Deterding, MD, Aurora, CO

8:45 Imaging the Aerodigestive Patient

R.J. Fleck, MD, Cincinnati, OH

9:15 Is Chronic Cough an Aerodigestive Condition? - Pro

A.B. Chang, PhD, Brisbane, Australia

9:30 Is Chronic Cough an Aerodigestive Condition? - Con

M. Kazachkov, MD, New York, NY

9:45 Is Chronic Cough an Aerodigestive Condition? - Rebuttals

A.B. Chang, PhD, Brisbane, Australia

10:05 Break

10:15 Aspiration from the Otolaryngologist's Perspective

K. Balakrishnan, MD, MPH, Rochester, MN

10:35 Aspiration from the Pulmonologist's Perspective

R.P. Boesch, DO, MS, Rochester, MN

10:55 Aspiration from the Gastroenterologist's Perspective

R. Rosen, MD, Boston, MA

11:15 Aspiration from the Speech Language Pathologist's Perspective

M. Lefton-Greif, MA, PhD, Baltimore, MD

11:35 LUNCH

12:20 Multidisciplinary Approach to Robin Sequence

J.J. Soares, MD, Seattle, WA

12:55 Tracheomalacia Evaluation and Medical Management

J.C. Piccione, MS, DO, Philadelphia, PA

1:20 Surgical Management of Tracheomalacia

K. Balakrishnan, MD, MPH, Rochester, MN

1:45 Aerodigestive Approach to Recurrent Croup

D. Simon, MD, Atlanta, GA

2:15 Break

2:25 100 Ways to Get the Wrong Answer with a Flexible Bronchoscope

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

2:55 Aerodigestive Case Presentations

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

3:45 Wrap Up: Where Is Aerodigestive Care Headed in the Next Year?

M. Kazachkov, MD, New York, NY

CLINICAL

POSTGRADUATE COURSE

PG25 PULMONARY EMBOLISM: A JOURNEY FROM SUBMASSIVE TO CHRONIC COMPLICATIONS

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.

Assemblies on Pulmonary Circulation; Clinical Problems; Critical Care

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

Target Audience

Providers of lung health, physicians, physician trainees, physician assistants, nurses and respiratory therapists with interest in pulmonary disorders, cardiovascular disease, pulmonary embolism, critical care or pulmonary hypertension field

Objectives

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

- properly risk stratify patients with acute PE and assess their bleeding risk prior to starting anticoagulation;
- integrate and compare the medical, endovascular and surgical strategies to manage the care of acute PE;
- describe diagnosis and management of chronic thromboembolic pulmonary hypertension (CTEPH).

There have been many advances in the field of pulmonary embolism, including new guidelines on risk stratification and anticoagulation, as well as evolving areas in its treatment, management and follow up. The goal of this conference is to provide up-to-date information about advancements in the field of acute pulmonary embolism, including risk stratification, thrombolysis and novel endovascular and surgical techniques, as well as the management of PE complications such as chronic thromboembolic

pulmonary hypertension (CTEPH). We will present case vignettes, in which we will include the audience using “audience response system” for an interactive learning experience.

Chairing: B.N. Rivera-Lebron, MD, MS, Pittsburgh, PA
G.A. Heresi, MD, Cleveland, OH

8:00 Prevalence, Classification and Risk Stratification of Acute PE

B.N. Rivera-Lebron, MD, MS, Pittsburgh, PA

8:30 Bleeding Risk Consideration Prior to Initiation of Therapy

J.R. Bartholomew, MD, MS, Cleveland, OH

9:00 Indication for Systemic Lysis Over Anticoagulation

S.V. Konstantinides, MD, Mainz, Germany

9:30 Endovascular Techniques in the Treatment of Acute PE

A.K. Sista, MD, New York, NY

10:00 Break

10:15 Role of Surgical Embolectomy and ECMO in PE

B. Keeling, MD, Atlanta, GA

10:45 Multidisciplinary PE Response Team (PERT) Development and Implementation

R.N. Channick, MD, Boston, MA

11:15 Case Presentation with “Audience Response System” -Acute PE

S. Naydenov, MD, St. Louis, MO

11:45 LUNCH

12:45 IVC Filters: Is There a Role Anymore?

T.M. Bull, MD, Aurora, CO

1:15 Oral Anticoagulation Selection and Duration

R.P. Rosovsky, MD, Boston, MA

1:45 Post-PE complications

V.F. Tapson, MD, West Hollywood, CA

2:15 Break

2:30 CTEPH Epidemiology and Diagnosis

G.A. Heresi, MD, Cleveland, OH

3:00 Medical, Endovascular, and Surgical Treatment of CTEPH

K.M. Kerr, MD, La Jolla, CA

3:30 Case Presentation with “Audience Response System”: CTEPH

W.R. Auger, MD, La Jolla, CA

CLINICAL • TRANSLATIONAL**POSTGRADUATE COURSE****PG26 PRACTICAL STRATEGIES TO ENHANCE PATIENT ENGAGEMENT IN HEALTH CARE**

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.

Assemblies on Pulmonary Rehabilitation; Behavioral Science and Health Services Research; Nursing**8:00 a.m. - 4:00 p.m.****Target Audience**

Clinicians and researchers in medicine, nursing and allied health with interest in supporting patients to improve adherence including general practice, primary care, and pulmonary rehabilitation

Objectives

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

- understand the theories on motivation, behavior change, and learning which motivate, engage and support patients to positively adapt their health behavior(s) and develop skills to better manage their disease;
- critically explore the literature on effective strategies for behavior change in smoking cessation, physical activity, non-invasive ventilation and supplemental oxygen therapy for people with chronic respiratory disease;
- formulate action plans, design educational activities to develop knowledge and skills in self-management, and

effectively engage a patient in basic motivational conversations and health coaching to facilitate health behavior change with patients.

Non-adherence with treatment and inability to engage in positive behavior change result in adverse effects on patients with chronic pulmonary disease, with reduced health-related quality of life and increased risks for morbidity and mortality. Provider-specific skills related to education and motivation for positive behavior change, with development of patient-specific skills such as self-management are important in the day-to-day care of patients with chronic respiratory disease. This full-day post graduate course will explore specific techniques to enhance the provider-patient interaction to influence positive behavior change and improved treatment outcomes. Speakers will provide concrete strategies of motivational interviewing, action plan setting, health coaching, and designing patient educational activities through case-based experiential learning, supporting participants to apply the theory to common clinical situations in every-day practice. The expertise of an international panel of junior and senior speakers has been included, and the course aims to address learning needs of a wide range of providers in medicine, nursing and allied health.

Chairing: F. Blackstock, PhD, Penrith, Australia
M. Moy, MD, MSc, Boston, MA
D.M. Donesky, PhD, ANP-BC, San Francisco, CA

8:00 Welcome/Introduction

F. Blackstock, PhD, Penrith, Australia

8:15 Definitions: Adherence, Compliance and Behavior Change. What Do They All Mean ?

M. Moy, MD, MSc, Boston, MA

8:35 Knowledge Transformation: Teaching Patients to Support Their Learning

F. Blackstock, PhD, Penrith, Australia

9:15 Break**9:25 The Influence of Mental Health on Learning and Motivation**

M. Buckley, BA, MS, PhD, Providence, RI

9:55 Motivation for Behavior Change: Motivational Interviewing

A. Minassian, PhD, San Diego, CA

- 10:55 *LUNCH*
- 11:40 **Technology and Tools to Enhance Engagement in Physical Activity**
M. Moy, MD, MSc, Boston, MA
- 12:10 **Interventions for Patient Engagement When Prescribing Supplemental Oxygen at Home**
K.F. Harrington, PhD, MPH, Birmingham, AL
- 12:40 **Developing a Personalized Action Plan to Help Minimize Acute Exacerbations in COPD**
T.W. Effing, MSc, PhD, Daw Park, Australia
- 1:10 **Group Discussion 1**
F. Blackstock, PhD, Penrith, Australia
- 1:20 *Break*
- 1:35 **Domiciliary NIV: Strategies for Improving Home Use**
L.F. Wolfe, MD, Chicago, IL
- 2:05 **Teaching the Practical Skill of Correct Inhalers Use: Knowing AND Being Able to Do**
Speaker To Be Announced
- 2:35 **Health Coaching to Maintain Smoking Cessation: Breaking the Strong Addiction**
Speaker To Be Announced
- 3:05 **Group Discussion 2**
D.M. Donesky, PhD, ANP-BC, San Francisco, CA
- 3:15 **Fidelity to Research Protocols and Participant Adherence: Do the Same Strategies Apply?**
A.L. Hamilton, PhD, Burlington, Canada
- 3:45 **Panel Wrap Up**
F. Blackstock, PhD, Penrith, Australia

BASIC • CLINICAL

POSTGRADUATE COURSE

**PG27 MASTER PHYSIOLOGY CLASS:
COMMON DISEASES FROM A
PHYSIOLOGIC PERSPECTIVE**

 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 physicians, advanced practice providers and resident-to-fellow level trainees whose primary clinical focus is pulmonary and critical care medicine

Objectives

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

- describe the core principles of respiratory mechanics, dynamics, ventilation-perfusion matching, gas exchange and control of breathing;
- describe the primary physiologic derangements in common respiratory diseases including COPD, asthma, pulmonary hypertension, pulmonary embolism, obesity hypoventilation syndrome and neuromuscular disorders;
- utilize the core principles of respiratory physiology to assess clinical problems in patients with ARDS and other forms of critical illness.

In this session, we will use a combination of didactic lectures and small group sessions to review the major physiologic derangements in common diseases seen by pulmonary and critical care physicians, including obstructive lung diseases, pulmonary vascular disorders, neuromuscular diseases, obesity hypoventilation syndrome, ARDS and other clinical situations that arise in the intensive care unit.

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

8:00 Course Introduction

A. Luks, MD, Seattle, WA

8:10 Pulmonary Hypertension

B.A. Cockrill, MD, Boston, MA

8:40 Asthma

D.A. Kaminsky, MD, Burlington, VT

- 9:10 *Break*
- 9:20 **Acute Respiratory Distress Syndrome**
A.D. Bersten, MD, Adelaide, Australia
- 9:50 **Pulmonary Embolism**
R.W. Glenny, MD, Seattle, WA
- 10:20 **Physiology Questions**
A. Luks, MD, Seattle, WA
- 10:35 **Breakout Session 1**
P.A. Kritek, MD, Seattle, WA
B.A. Cockrill, MD, Boston, MA
H.L. Manning, MD, Lebanon, NH
R.M. Schwartzstein, MD, Boston, MA
B. Coruh, MD, Seattle, WA
J.T. Poston, MD, Chicago, IL
P.G. Carvalho, MD, Boise, ID
M.M. Hayes, MD, Boston, MA
A.S. Clay, MD, Durham, NC
D.R. Crouch, MD, MS, La Jolla, CA
- 11:50 *LUNCH*
- 12:35 **Neuromuscular Diseases**
S.P. Kantrow, MD, New Orleans, LA
- 1:05 **Chronic Obstructive Pulmonary Disease**
R.M. Schwartzstein, MD, Boston, MA
- 1:35 *Break*
- 1:45 **Obesity Hypoventilation Syndrome**
P.G. Carvalho, MD, Boise, ID
- 2:15 **Idiopathic Pulmonary Fibrosis**
H.L. Manning, MD, Lebanon, NH
- 2:45 **Breakout Session 2**
P.A. Kritek, MD, Seattle, WA
B.A. Cockrill, MD, Boston, MA
H.L. Manning, MD, Lebanon, NH
R.M. Schwartzstein, MD, Boston, MA
B. Coruh, MD, Seattle, WA
J.T. Poston, MD, Chicago, IL
P.G. Carvalho, MD, Boise, ID
M.M. Hayes, MD, Boston, MA
A.S. Clay, MD, Durham, NC
D.R. Crouch, MD, MS, La Jolla, CA

CLINICAL • TRANSLATIONAL

POSTGRADUATE COURSE

PG28 WHAT THE PULMONOLOGIST AND THE INTENSIVIST SHOULD KNOW ABOUT SLEEP APNEA

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.

Assemblies on Sleep and Respiratory Neurobiology; Behavioral Science and Health Services Research; Clinical Problems; Critical Care; Environmental, Occupational and Population Health; Nursing

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

Target Audience

Non-sleep trained ATS attendees who wish to know more about the clinical relevance, diagnosis and management of sleep disordered breathing, including the use of non-invasive ventilation

Objectives

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

- diagnose SDB in their patients;
- more comfortable referring for diagnostic testing and managing patients with SDB. Attendees will also become familiar with the use of NIV for patients with chronic respiratory failure;
- improve the quality of lives of patients through earlier diagnosis and management of OSA.

Sleep disordered breathing (SDB), which includes central and obstructive sleep apnea, is by far the most common respiratory disorder in the developed world. Pulmonary and critical care physicians receive little instruction or teaching about SDB, even though emerging evidence suggests that recognition and treatment can improve outcomes for their patients. Furthermore, new data suggest a role for non-invasive

ventilation in the management of patients with chronic respiratory disease. This session is designed to provide: 1) an overview of Sleep Disordered Breathing epidemiology and pathogenesis; 2) evidence of the importance of “Overlap” Syndromes between SDB and chronic respiratory disorders such as COPD, asthma, pulmonary fibrosis. This will include new data suggesting a mortality benefit for the use of NIV in COPD. 3) review evidence for importance of recognizing SDB in the hospital, and emerging data that early diagnosis and treatment can improve outcomes.

Chairing: R.L. Owens, MD, La Jolla, CA
B.A. Phillips, MD, MPH, Lexington, KY
R.J. Schwab, MD, Philadelphia, PA

8:00 The Importance of Sleep Medicine in Pulmonary and Critical Care Medicine
B.A. Phillips, MD, MPH, Lexington, KY

8:15 Epidemiology and Consequences of OSA
N.M. Punjabi, MD, PhD, Baltimore, MD

8:40 Pathogenesis of Obstructive Sleep Apnea
R.L. Owens, MD, La Jolla, CA

9:05 Epidemiology and Pathogenesis of Central Sleep Apnea
M. Arzt, MD, Regensburg, Germany

9:35 Break

9:55 CPAP: How Good Is It, and How Can We Get Patients to Wear It?
J.P. Bakker, PhD, Boston, MA

10:20 Gizmos and Gadgets - Non PAP Therapy for OSA
B.A. Edwards, PhD, Melbourne, Australia

10:45 Do We Want to Know? OSA Screening and Post-Op Care
D.R. Hillman, MD, Nedlands, Australia

11:15 Sleep Medicine in the Hospital: Early Recognition and Management of OSA Improves Outcomes
S. Sharma, MD, Cherry Hill, NJ

11:45 LUNCH

12:45 Not Just Severe OSA: Obesity Hypoventilation and NIV
B. Mokhlesi, MD, MS, Chicago, IL

1:10 Alphabet Soup: Advanced Modes of PAP Therapy
J.F. Masa, MD, PhD, Caceres, Spain

1:35 NIV for Neuromuscular Disease
L.F. Wolfe, MD, Chicago, IL

2:00 Upper and Lower Airways: Asthma and OSA
M. Teodorescu, MD, MS, Madison, WI

2:25 Break

2:40 Upper and Lower Airways: COPD and OSA
W.T. McNicholas, MD, MBBS, Dublin, Ireland

3:10 Treatment of Hypercapnic COPD with NIV
P.C. Gay, MD, Rochester, MN

3:40 The Future of Sleep Medicine
R.J. Schwab, MD, Philadelphia, PA

BEHAVIORAL • CLINICAL • TRANSLATIONAL

POSTGRADUATE COURSE

PG29 STATE OF THE ART: LUNG CANCER IN 2018

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.

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

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

Target Audience

All providers caring for patients with lung nodules / lung cancer (pulmonologists, thoracic surgeons, radiation oncologists, nurse practitioners / physician assistants)

Objectives

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

- apply recommended screening protocols in your local lung nodule clinic;

- apply the forthcoming 8th edition of the TNM Classification for Lung Cancer to the care of patients;
- integrate new and minimally invasive treatment options to improve the care of your patients with lung cancer.

This course will provide a comprehensive review of topics in the evaluation and management of patients with lung cancer. We will start with an outstanding international example of tobacco control, discuss guidelines and practical tips for lung cancer screening, the new staging system and use of biomarkers for lung cancer detection. The treatment of early-stage, locally-advanced and metastatic disease will be addressed, highlighting novel / minimally invasive approaches as well as the use of immunotherapy. Malignant effusions, mesothelioma and the importance of palliation will be reviewed in detail. Interactive tumor boards will be held to highlight main teaching points.

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

- 8:00 Introduction**
D.J. Feller-Kopman, MD, Baltimore, MD
- 8:05 How to Get to a 5% National Smoking Rate: Lessons from Down Under**
M. Daube, MD, Perth, Australia
- 8:30 Pearls and Pitfalls in Developing a Lung Cancer Screening Program**
N.T. Tanner, MD, MSCR, Charleston, SC
- 8:55 NLST vs USPFTF vs NCCN, Fleischner vs LungRads: I'm SO Confused**
P.J. Mazzone, MPH, MD, Cleveland, OH
- 9:20 Interactive Tumor Board**
D.J. Feller-Kopman, MD, Baltimore, MD
- 10:00 Break**
- 10:10 Biomarkers in Lung Cancer: Ready for Prime Time?**
C.R. Sears, MD, Indianapolis, IN
- 10:35 The New Staging System: Why It Matters and How Am I Going to Remember All of This**
L.T. Tanoue, MD, New Haven, CT
- 11:00 Beyond the Eyeball Test: Pre-Operative Evaluation**
M.B. Drummond, MHS, MD, Chapel Hill, NC
- 11:25 VATS and RATS - Minimally Invasive Surgery for Lung Cancer**
D. Molena, MD, New York, NY
- 11:50 LUNCH**
- 12:40 Beyond Diagnosis: Is Bronchoscopic Treatment of Lung Cancer Possible?**
D.J. Feller-Kopman, MD, Baltimore, MD
- 1:05 Immunotherapy for Lung Cancer: The Dawn of a New Day**
Z.G. Fridlender, MD, Jerusalem, Israel
- 1:30 Interactive Tumor Board**
M.P. Rivera, MD, Chapel Hill, NC
- 2:10 Break**
- 2:20 Stage 3 Disease - Do We Have Consensus?**
M. Das, MD, Palo Alto, CA
- 2:40 What About the Pleura: Malignant Effusions and Mesothelioma**
J. Friedberg, MD, Baltimore, MD
- 3:05 Palliative Care in Lung Cancer**
M.M. Hayes, MD, Boston, MA
- 3:30 Lung Cancer Journal Club: The Year's Top 5 Manuscripts**
M.P. Rivera, MD, Chapel Hill, NC

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

OPENING CEREMONY

The American Thoracic Society invites you to attend the Opening Ceremony for the 2018 International Conference. The Ceremony will feature distinguished physician, educator, and medical scientist **Darrell G. Kirch, MD**, president and chief executive officer of the Association of American Medical Colleges. Dr. Kirch speaks and publishes on the need for transformation in the nation's health care system, and how academic medicine can lead change across medical education, biomedical research, and patient care. Also during the Opening Ceremony will be an address by ATS President **Marc Moss, MD**, and the presentation of several Respiratory Health Awards:

Public Service Award: **George D. Thurston, ScD, Tuxedo Park, NY**

World Lung Health Award: **Eric D. Bateman, MD, Cape Town, South Africa**

Jo Rae Wright Award for Outstanding Science: **Yohannes Ghebre, PhD, Houston, TX**

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.



ATS 2018
*Where today's science
meets tomorrow's care™*

**International Conference
San Diego, CA**

Sunday Morning, May 20

CLINICAL

PEDIATRIC CLINICAL CORE CURRICULUM

PCC1 PEDIATRIC CLINICAL CORE CURRICULUM

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, MPH, St. Louis, MO

7:00 Cystic Fibrosis: Update on Diagnosis
R.F. Brown, MD, Nashville, TN

7:30 Cystic Fibrosis: Update on Treatment
T. Ong, MD, Seattle, WA



BASIC • CLINICAL • TRANSLATIONAL

ATS KEYNOTE SERIES

The Keynote Series focuses on topics thought to be timely and of high relevance to the pulmonary, critical care, and sleep medicine community.

Two sessions are presented each morning during the conference.
Below are the topics for Sunday, May 20

K1 NHLBI AND THE EVOLUTION OF PULMONARY RESEARCH

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

Speaker: James P. Kiley, PhD, Bethesda, MD

K2 SLOW MEDICINE: THE KEY TO POST-ICU RECOVERY?

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

Speaker: Victoria Sweet, MD, San Francisco, CA



CLINICAL

YEAR IN REVIEW

A1 CLINICAL YEAR IN REVIEW 1

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

Target Audience

Providers including physicians, nurses, respiratory therapists, nurse practitioners, 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;
- learn new findings about key conditions in pulmonary, critical care and sleep;
- gain new strategies to manage the care of common conditions in pulmonary, critical care, and sleep.

The annual Clinical Year in Review symposia provides concise summaries of the most impactful clinical research publications related to specific clinical topics. Speakers will highlight 5 of the most important and influential publications on their topic in written format and during their talks.

Chairing: D.W. Ford, MD, Charleston, SC
V.E. Ortega, MD, PhD, Winston Salem, NC
J.S. Lee, MD, Aurora, CO

- 9:15** **ILD**
K.A. Johansson, MD, MPH, Calgary, Canada
- 9:45** **Pulmonary Rehabilitation**
W. Man, MD, PhD, Harefield, United Kingdom
- 10:15** **Lung Transplantation**
M.M. Budev, DO, MPH, Cleveland, OH
- 10:45** **Interventional Pulmonology**
N. Navani, MD, MSc, London, United Kingdom

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

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

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

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

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

- gain insight into clinical decision-making skills demonstrated by master clinicians, radiologists and pathologists 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 6 unique cases presented and discussed by fellows with a panel of 3 clinical experts to moderate the discussion and provide commentary. An expert radiologist and expert pathologist will provide guidance on imaging and path. 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 thoughtful medical decision.

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 Clinician

M.I. Schwarz, MD, Aurora, CO

9:50 Expert Clinician

A.E. Dixon, MD, Burlington, VT

10:20 Expert Clinician

A.H. Limper, MD, Rochester, MN

10:50 Expert Pathologist

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

11:05 Expert Radiologist

S. Kligerman, MD, San Diego, CA

CLINICAL

CRITICAL CARE TRACK

**A4 SURVIVING CRITICAL ILLNESS:
OPTIMIZING OUTCOMES IN THE
POST-ICU SPACE**

Assemblies on Critical Care; Clinical Problems; Nursing

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

Target Audience

Care providers in ICU and post-ICU settings

Objectives

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

- recognize the growing post-ICU survivor population and their unique physiologic and disease processes that result in significant long-term sequelae;
- learn best practice care processes that reflect individual and chronic disease elements as well as addressing the impact on families and their dynamics;
- develop new ICU practices that are focused on improving long-term post-ICU outcomes, including readmission risk assessment, identification of significant factors related to survival, and supporting meaningful quality of life functions.

Post-ICU populations are growing and survivors increasingly face challenges of poor outcomes. Besides a profound clinical and operational impact, there is a significant cost to the system for patients who require prolonged care. Better delineation of post-ICU subtypes has the potential to drive different therapeutic interventions across disciplines. However, evidence-based practice is currently dependent on only a handful of landmark studies, and best practices are scarce for assessing, intervening and transitioning post-ICU patients. Significant opportunities exist for research, innovation, and transition partnerships to achieve better patient outcomes.

Chairing: D.M. Needham, MD, PhD, Baltimore, MD
H. Dunn, MS, Chicago, IL

9:15 Introduction

D.M. Needham, MD, PhD, Baltimore, MD

H. Dunn, MS, Chicago, IL

9:35 A Patient's Perspective

Speaker To Be Announced

**9:40 Processes of Care for Persistent and Chronic
Critical Illness**

L. Rose, RN, PhD, Toronto, Canada

9:59 Care of Ventilated Patients at an LTACH

A. Jubran, MD, Hines, IL

- 10:19 The Fire is Still Burning: A Continuing Inflammatory Cascade Post-ICU**
L. Moldawer, PhD, Gainesville, FL
- 10:31 Lost in Translation: Are Interventions Designed to Assess and Support ICU Patients and Their Families Useful in the Post-ICU Period?**
J. Tate, PhD, RN, Columbus, OH
- 10:51 Care Innovations in the Post-ICU Space**
S.I. Hammerman, MD, Mechanicsburg, PA

BASIC • CLINICAL • TRANSLATIONAL

BASIC SCIENCE CORE

A5 SETTING THE STAGE: MITOCHONDRIAL DYSFUNCTION AS A DRIVER OF CHRONIC DISEASE

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

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

Target Audience

Basic scientists, physiologists, allergists, pulmonologists, translational researchers, fellows and residents, and graduate trainees interested in lung pathophysiology

Objectives

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

- understand how pathway and cell-cell interactions can contribute mitochondrial dysfunction in disease pathogenesis;
- describe mitochondrial-associated metabolic properties of stromal and stem cells and how these determine cell function;
- be aware of how new findings are being positioned to promote research direction and therapeutic strategies that focus on mitochondria.

Mitochondria are a chief energy generator and essential to maintain cellular homeostasis, including diverse roles in intracellular signaling that can define cell function and response to external stimuli. Mitochondrial dysfunction has emerged as a significant underpinning for disease

pathogenesis, being involved with inflammation, tissue remodeling, and aberrant wound repair. This is associated with aberrant mitochondrial dynamics, response to and regulation of oxidative stress, and altered intracellular calcium flux. This symposium highlights emerging understanding of the breadth and integrated pathobiological responses and roles for mitochondria, as well as the potential for this knowledge to inform development of mitochondria targeting therapies.

Chairing: S.C. Erzurum, MD, Cleveland, OH
J.C. Deng, MS, MD, Ann Arbor, MI

- 9:15 Mitochondrial Biology in Disease and Modern Medicine**
D. Wallace, PhD, Philadelphia, PA
- 9:42 Mitochondrial Dysfunction and Immune Dysregulation in the Setting of Smoking Exposure in COPD**
M. Kang, MD, PhD, New Haven, CT
- 10:04 Mesenchymal Stem Cells Alleviate Oxidative Stress-Induced Mitochondrial Dysfunction in the Airways**
P.K. Bhavsar, PhD, London, United Kingdom
- 10:26 Mitochondrial Structure and Function in Airway Disease to Drive Development of Novel Therapeutics**
Y.S. Prakash, MD, PhD, Rochester, MN
- 10:48 Deciphering How Oxidative Damage to Mitochondria Contributes to Human Pathologies: Path to Mitochondria-Targeting Therapies**
T. Krieg, MD, Cambridge, United Kingdom

BASIC • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

A6 GLYCOBIOLOGY AND GLYCOMICS OF LUNG DISEASES

Assemblies on Respiratory Cell and Molecular Biology; Allergy, Immunology and Inflammation; Environmental, Occupational and Population Health; Pulmonary Infections and Tuberculosis; Respiratory Structure and Function

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

Target Audience

Clinical, translational and basic lung researchers, lung research administrators, patient-care providers

Objectives

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

- learn about the role of glycomolecules in diverse lung diseases;
- identify the therapeutic potential of glycomolecules;
- learn about the tools and resources available to study glycobiology in human and mouse samples.

Glycobiology, the study of complex carbohydrates in biologic systems, is an emerging field. Carbohydrates are by far the most abundant organic molecules in biology but its role in lungs remains unexplored, likely due to the complexity and need for specialized, multi-disciplinary expertise. Despite the successful completion of the Human Genome Project and widely applied, advanced technologies in genomics and proteomics, key macromolecules in life, such as glycans, have not experienced similar advancements. The importance of carbohydrates in cancer therapeutics has been recognized but advanced technologies have now allowed the identification and characterization of carbohydrate structure function in a variety of organs, including lung.

Chairing: Z. Zhu, MD, PhD, Providence, RI
D.E. Wagner, PhD, Lund, Sweden
M. Tiemeyer, PhD, Athens, GA

9:15 Opening

Z. Zhu, MD, PhD, Providence, RI

9:17 Introduction to Glycobiology and Glycomics of Lung

M. Tiemeyer, PhD, Athens, GA

9:23 Use of Existing and Novel Humanized Mouse Models to Study How Airway Mucins Alter Eosinophil Survival via Siglec-F vs. Siglec-8

B.S. Bochner, MD, Chicago, IL

9:37 Airway Mucins: Finding the Sweet Spot Between Health and Disease

C.M. Evans, PhD, Aurora, CO

9:51 A Tickle at the Back of Your Throat? The Role of the Soft Palate in Airborne Transmission of Influenza Virus

K. Subbarao, MBBS, MPH, Melbourne, Australia

10:05 Syndecans in Bacterial Pneumonia

P.W. Park, PhD, Boston, MA

10:19 Glycans and Glycan-Binding Proteins in Inflammatory Lung Disease

R.L. Schnaar, PhD, Baltimore, MD

10:33 Targeting Siglecs to Desensitize Mast Cells

J.C. Paulson, PhD, San Diego, CA

10:47 Glycosaminoglycans in Repair and Disease of the Lung

G. Westergren Thorsson, PhD, Lund, Sweden

11:01 Stanniocalcin 1: A Glycoprotein Linking Immunity, Mitochondria and Lung Repair

P. Lee, MD, New Haven, CT

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

A7 LEVERAGING MOLECULAR MECHANISMS OF GRANULOMA FORMATION IN SARCOIDOSIS TO IMPROVE CARE

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

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

Target Audience

Providers of lung health, particularly in the field of sarcoidosis and other granulomatous disorders, including researchers, clinicians and educators. Those needing instruction in areas of medicine outside their specialty.

Objectives

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

- discuss models and define mechanisms that can be used to help determine genes and pathways that could be targeted for therapeutics

- define new phenotypes of disease based on genes and pathways
- define mechanisms occurring during early granuloma formation that have implications for the pathogenesis and treatment of severe sarcoidosis phenotypes.

Sarcoidosis is unlike other granulomatous disorders in that the cause of the disease remains poorly understood. This session will present recent progress in the field of sarcoidosis, including exciting data from novel disease models and new scientific research platforms that are rapidly advancing our understanding of the disease, and could lead to new biomarkers and therapeutic targets to improve the care of sarcoidosis patients.

Chairing: N.Y. Hamzeh, MD, Iowa City, IA
K.C. Patterson, MD, Brighton, United Kingdom
J.C. Grutters, MD, Nieuwegein, Netherlands

- 9:15 A Patient's Perspective**
Speaker To Be Announced
- 9:20 A Brief Review of Granuloma Immunology**
L. Koth, MD, San Francisco, CA
- 9:30 Insights into Early Sarcoidosis Granuloma Formation in Sarcoidosis and TB using a Human in Vitro Model**
E.D. Crouser, MD, Columbus, OH
- 9:50 mTORC1: A Checkpoint for Sarcoidosis Progression and Novel Mouse Model of Disease**
T. Weichhart, PhD, Vienna, Austria
- 10:10 Genetic, Environmental and Microbiome Drivers of Granuloma Formation in Sarcoidosis**
L.A. Maier, MSPH, MD, Denver, CO
- 10:30 The Integral Role of Transcriptomics in Disease Manifestations: New Insights from the NHLBI GRADS Study**
N. Kaminski, MD, New Haven, CT
- 10:50 Pursuit of the Holy Grail of Sarcoidosis: Identifying Disease Causing Antigens**
A.P. Fontenot, MD, Aurora, CO

BASIC • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

A8 CURRENT CONTROVERSIES IN PAH DISEASE MECHANISMS: A PRO/CON DEBATE

Assemblies on Pulmonary Circulation; Pediatrics

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

Target Audience

Basic, translational and clinical researchers and clinicians (adult and pediatrics) interested in pulmonary vascular disease and right heart failure

Objectives

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

- summarize the evidence why PAH has cancer-like features;
- learn about fundamental disease mechanisms in PAH that involve other organs beyond the lung vasculature;
- acknowledge the role of the adventitia in PAH pathogenesis and critically weigh the existence and role of capillary rarefaction in right ventricular failure in 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 and right heart failure develops, and identify points of agreement and disagreement with the ultimate goal to reach a consensus to identify novel treatment targets for PAH.

Chairing: E.F. Spiekeroetter, MD, Palo Alto, CA
W. Kuebler, MD, Berlin, Germany
S.S. Pullamsetti, PhD, Bad Nauheim
Hessen, Germany

9:15 PRO: PAH is a Cancer-Like Disease
E.A. Goncharova, PhD, Pittsburgh, PA

9:30 CON: PAH is NOT a Cancer-Like Disease
C. Guignabert, PhD, Le Kremlin Bicetre, France

- 9:45 PRO: PAH is a Systemic Disease**
M. Rabinovitch, MD, Stanford, CA
- 10:00 CON: PAH is NOT a Systemic Disease**
N.F. Voelkel, MD, El Prado, NM
- 10:15 PRO: Vascular Remodeling in PAH is Initiated in the Adventitia**
K.R. Stenmark, MD, Aurora, CO
- 10:30 CON: Vascular Remodeling in PAH is NOT Initiated in the Adventitia**
G. Kwapiszewska, PhD, Graz, Austria
- 10:45 PRO: Capillary Loss Drives Right Ventricular Failure in PAH**
H.J. Bogaard, MD, PhD, Amsterdam, Netherlands
- 11:00 CON: Capillary Loss Does NOT Drive Right Ventricular Failure in PAH**
B.B. Graham, MD, Aurora, CO

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

**A9 ACCELERATING SCIENTIFIC
ADVANCEMENT OF RARE PEDIATRIC
LUNG DISEASES**

Assemblies on Pediatrics; Respiratory Cell and Molecular Biology

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

Target Audience

Basic scientists, clinicians, students and postdoctoral trainees and providers of lung health. Those working in pediatric and neonatal pulmonary dysfunction with an interest in understanding the latest basic and translational approaches

Objectives

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

- learn about the latest advances in determining the mechanisms regulating the development and progression of Pediatric Rare Lung Disease (PRLD);
- improve knowledge of the pre-clinical models for assessing the treatment of Pediatric Rare Lung Disease (PRLD);

- improve understanding of the newest therapeutic approaches and their applicability in the treatment of (PRLD).

This session will evaluate recent progress made in deciphering the signaling pathways, the genetic landscapes, diagnoses and therapeutic tools for several pediatric rare lung diseases.

Chairing: A.L. Firth, PhD, Los Angeles, CA
D. Al Alam, PhD, MS, Los Angeles, CA

- 9:15 Neuroendocrine Cell Hyperplasia of Infancy (NEHI): What's New and What's NEBulous**
L.R. Young, MD, Nashville, TN
- 9:35 Pathogenetics of Lethal Neonatal Developmental Lung Diseases**
P. Stankiewicz, MD, PhD, Houston, TX
- 9:55 Cell/Gene Therapy for Pediatric Pulmonary Alveolar Proteinosis (PAP)**
B.C. Trapnell, MD, Cincinnati, OH
- 10:15 The Ciliary Proteome: New Insights for PCD**
L. Ostrowski, PhD, Chapel Hill, NC
- 10:35 Exploring ABCA3 Mutations in Pediatric Interstitial Lung Disease**
M. Griese, MD, Munich, Germany
- 10:55 Using In Vitro Lung Models for Personalized Approaches to Treat Rare Lung Diseases**
B. Gomperts, MD, Los Angeles, CA

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

**A10 PATHOBIOLOGY OF AGE-RELATED
LUNG DISEASE: FROM BENCH TO
BEDSIDE**

Assemblies on Respiratory Structure and Function; Allergy, Immunology and Inflammation; Clinical Problems; Critical Care; Environmental, Occupational and Population Health; Respiratory Cell and Molecular Biology; Sleep and Respiratory Neurobiology

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

Target Audience

All providers of lung health who care for geriatric patients and those with a research interest in the basic science of aging as well as in clinical investigation related to lung disease in older adults.

Objectives

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

- learn new findings about the aging respiratory system;
- apply knowledge about the pathobiology of aging to better understand chronic lung disease;
- gain new strategies to manage the care of patients with chronic lung disease.

The aging population (65 years and older) is expected to increase rapidly over the next decade. Changes in cellular, physiologic and immunologic function are a normal part of the aging process that increases the risk for chronic lung disease. This session will highlight for the learner how the molecular biology of aging (e.g., telomere attrition, mitochondrial dysfunction, extracellular matrix deregulation, etc.) combined with immunosenescence and changes in lung structure and function can predispose elderly individuals to idiopathic pulmonary fibrosis, chronic obstructive pulmonary disease and acute respiratory distress syndrome. Increased understanding of aging pathobiology will provide insight into these diseases and their management.

Chairing: G.S. Skloot, MD, New York, NY
Y.S. Prakash, MD, PhD, Rochester, MN
P. Lee, MD, New Haven, CT

9:15 Overview of the Aging Respiratory System
Y.S. Prakash, MD, PhD, Rochester, MN

9:35 Accelerated Lung Aging and COPD
R. Gosens, PhD, Groningen, Netherlands

10:00 Idiopathic Pulmonary Fibrosis: Prototype of Aging-Related Lung Disease
V.J. Thannickal, MD, Birmingham, AL

10:25 The Impact of Aging on Acute Lung Injury and ARDS
P. Lee, MD, New Haven, CT

10:50 Anti-Aging Molecules and Therapeutic Interventions

I. Petrache, MD, Denver, CO

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

A11 ATS/JRS/CTS/ERS SYMPOSIUM ON SEVERE ASTHMA: RATIONALIZING TARGETED THERAPEUTICS

Assemblies on Allergy, Immunology and Inflammation; Clinical Problems; Environmental, Occupational and Population Health; Pulmonary Infections and Tuberculosis; Nursing; Pediatrics; Respiratory Cell and Molecular Biology; Respiratory Structure and Function

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

Target Audience

Providers who take care of patients with asthma; providers needing instruction in areas of medicine outside of their specialty; basic and translational scientists who want to learn more about precision/personalized approaches to treatment of asthma

Objectives

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

- learn new findings about how to define subsets (endotypes) of patients with severe asthma and how to use this to tailor therapies clinically;
- integrate new treatment options in discussing severe asthma with patients;
- improve their understanding of the molecular and cellular basis for severe asthma and how to use this knowledge to optimize treatment for patients with asthma.

This symposium represents an international collaborative effort between members of the Japanese Respiratory Society, The European Respiratory Society, Canadian Thoracic Society, and the American Thoracic Society to foster interactions towards a precision medicine approach to severe asthma. Globally, severe asthma represents a subset of asthma accounting for

approximately 5-10% of patients with asthma. However health care utilization for this subset has been estimated to be up to 40% of the total economic burden of asthma. Recently there have been significant efforts to determine the underlying basis for this disease in terms of epidemiology, physiology, immunology, and genetics that influence this phenotype. Data is emerging that severe asthma consists of several subsets termed "endotypes". This phenotypic and now molecular classification may greatly aid in patient management with improved disease control, improved clinical outcomes and reduced medical costs. This symposium will highlight recent advances as well as highlight needed areas of research to advance treatment and prevention of this disease.

Chairing: G.P. Downey, MD, Denver, CO
B.D. Levy, MD, Boston, MA
K. Asano, MD, Kanagawa, Japan
E. Bel, MD, PhD, Amsterdam, Netherlands

- 9:15 Introduction and Overview of Severe Asthma**
S.E. Wenzel, MD, Pittsburgh, PA
- 9:20 ORMDL3 and Epithelial Derived Mediators for Induction of Asthmatic Response**
C.M. Lloyd, PhD, London, United Kingdom
- 9:40 Complex Crosstalk Between Epithelial Cells and Immune Cells in Asthma**
H. Nakajima, PhD, MD, Chiba, Japan
- 9:58 New Insights Into Severe Eosinophilic Inflammation: ETosis and Extracellular Traps**
S. Ueki, MD, PhD, Akita, Japan
- 10:15 Targeting IL5 in Severe Asthma: The Ligand or the Receptor?**
P.K. Nair, MD, PhD, Hamilton, Canada
- 10:35 Mitochondrial Arginine Metabolism Supported Bioenergetics in Asthma**
S.C. Erzurum, MD, Cleveland, OH
- 10:55 Early School-Based Interventions to Treat and Prevent Childhood Asthma**
W. Phipatanakul, MD, Boston, MA

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

A12 FROM SPANISH FLU OF 1918 TO TODAY: WHAT CAN WE LEARN FROM VIRUSES?

Assemblies on Respiratory Cell and Molecular Biology; Critical Care; Pulmonary Infections and Tuberculosis

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

Target Audience

Scientists and clinicians interested in the biology and treatment of viral infections

Objectives

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

- enhance understanding of how viruses become pathogenic;
- become knowledgeable about the historical context of flu pandemics;
- develop global strategies to combat pandemics.

The Spanish Flu of 1918 killed more individuals than those that died in the First World War. On the 100th anniversary of this pandemic, it is timely that we present a scientific symposium of our enhanced understanding of how viruses survive and how they contribute to enhanced morbidity and mortality particularly in chronic pulmonary diseases such as asthma, pulmonary fibrosis and ARDS.

Chairing: S. Donnelly, MD, Dublin, Ireland
B.B. Moore, PhD, Ann Arbor, MI
C. Dela Cruz, MD, PhD, New Haven, CT
S.M. Cloonan, PhD, New York, NY

9:15 Spanish Flu of 1918: Lesson Learnt
M. Worobey, PhD, Tucson, AZ

9:40 Viruses and Pulmonary Fibrosis
S. Donnelly, MD, Dublin, Ireland

10:05 Virus, Immunity and Asthma
N.W. Lukacs, PhD, Ann Arbor, MI

10:30 Viruses and Immune Memory: The Adaptation Race

F.E. Lee, MD, Atlanta, GA

10:55 An Update on Ebola Virus

S. Schendel, PhD, San Diego, CA

BEHAVIORAL • CLINICAL • TRANSLATIONAL**SCIENTIFIC SYMPOSIUM****A13 ATS/ALA IMPLEMENTATION GUIDE FOR LUNG CANCER SCREENING: AN OPERATIONAL TOOLKIT**

Assemblies on Behavioral Science and Health Services Research; Clinical Problems; Nursing; Thoracic Oncology; Document Development and Implementation Committee; Tobacco Action Committee; Quality Improvement and Implementation Committee

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

Target Audience

Clinicians and nurses wishing to implement or improve a lung cancer screening program, policymakers and administrators in charge of a screening program.

Objectives

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

- Understand the role of environmental barriers and facilitators in the implementation of lung cancer screening programs and improving screening of at-risk populations
- apply pragmatic solutions to overcome barriers to implementing high-quality lung cancer screening
- improve resources available to practicing clinicians to perform necessary tasks in lung cancer screening programs, including shared decision making, smoking cessation, and ensuring follow-up of nodules.

The USPSTF recommends lung cancer screening for high risk patients. However, there is a known gap between publication of high-quality evidence and subsequent adoption into practice. This is problematic for lung cancer screening given that implementation of

screening programs is complex. A fraction of screen-eligible patients are screened for lung cancer. To address this gap and facilitate implementation of lung cancer screening programs, the ATS and ALA joined forces to develop an implementation toolkit for lung cancer screening. This symposium will focus on providing practical operational tools to promote implementation of and best practices in lung cancer screening programs.

Chairing: C.C. Thomson, MD, MPH, Cambridge, MA
R.S. Wiener, MD, MPH, Boston, MA
P.J. Mazzone, MD, MPH, Cleveland, OH

9:15 Welcome

C.C. Thomson, MD, MPH, Cambridge, MA

9:20 Implementing Lung Cancer Screening: Promise and Pitfalls of Translating Evidence to Practice

R.S. Wiener, MD, MPH, Boston, MA

9:30 ATS/ALA Implementation Guide and Toolkit for Lung Cancer Screening

C.C. Thomson, MD, MPH, Cambridge, MA

9:40 Lung Cancer Screening Program Development: The Importance of a Steering Committee to Guide the Way

A. McKee, MD, Burlington, MA

9:55 Patient Selection and Promoting Lung Cancer Screening Among PCPs: Getting It Right

C.G. Slatore, MD, Portland, OR

10:10 Operational Toolkit for Image Acquisition and Radiology Reporting in Lung Cancer Screening Programs

K. Sandler, MD, Nashville, TN

10:25 A Tough Act To Follow: Pulmonary Nodules Detected by Lung Cancer Screening

M.K. Gould, MD, MS, Pasadena, CA

10:40 Shared Decision Making, Smoking Cessation, and Promoting Health Equality in Lung Cancer Screening Programs

A. Borondy-Kitts, MS, MPH, Burlington, MA

11:00 Wrap Up and Discussion

P.J. Mazzone, MD, MPH, Cleveland, OH

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 2018
Where today's science meets tomorrow's care™

**International Conference
San Diego, CA**

Sunday Mid-day, May 20

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 2018 forum we will hear from a speaker, to be named, who 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 displayed 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 **Janet Lee, MD**. 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.**

CLINICAL • TRANSLATIONAL

WORKSHOP

WS1 DIAGNOSING PRIMARY CILIARY DYSKINESIA IN ADULTS AND CHILDREN

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

Assemblies on Pediatrics; Clinical Problems

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

Target Audience

Providers of lung health to neonates, children and adults; scientists interested in translational advances in motile ciliopathies

Objectives

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

- recognize which symptoms warrant a diagnostic work up for primary ciliary dyskinesia in neonates, children and adults;
- diagnose primary ciliary dyskinesia using currently available clinical tests;
- more appropriately refer patients with suspected primary ciliary dyskinesia to specialized diagnostic and management centers.

This session will provide the learner with an evidence based approach to diagnosing primary ciliary dyskinesia (PCD). The reference standard diagnostic test for PCD for the past 50 plus years has been ciliary ultrastructural abnormalities detected with a transmission electron microscope. We now know that this reference standard is flawed with significant false positive and false negative results. This workshop will educate attendees about a recently completed ATS guidelines project on the diagnosis of PCD, which evaluates evidence from the explosion of genetic and molecular scientific discovery on ciliopathies that has taken place in the past decade. Topics covered will include the utility of genetics, videomicroscopy, and nasal nitric oxide testing for the diagnosis of PCD.

Chairing: A.J. Shapiro, MD, Montreal, Canada
S.D. Dell, MD, Toronto, Canada

11:45 Case Presentations
D. Polineni, MPH, MD, Kansas City, KS

11:55 Overview of PCD Pathophysiology and Utility of Clinical Symptoms for Diagnosis
S.D. Dell, MD, Toronto, Canada

12:15 High Speed Video Microscopy and Nasal Nitric Oxide for Diagnosing PCD
A.J. Shapiro, MD, Montreal, Canada

12:35 Utility of Genetic Testing in Diagnosing PCD
D. Polineni, MPH, MD, Kansas City, KS

12:50 Summary of Recommendations for the Diagnosis of PCD
A.J. Shapiro, MD, Montreal, Canada

1:00 Question and Answer Period
S.D. Dell, MD, Toronto, Canada

CLINICAL

WORKSHOP

WS2 BRONCHOSCOPIC CRYOBIOPSY IN INTERSTITIAL LUNG DISEASE: EVIDENCE AND TECHNIQUE

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

Assemblies on Clinical Problems; Allergy, Immunology and Inflammation; Thoracic Oncology

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

Target Audience

Broad audience appeal to providers including: general pulmonary physicians, advance bronchoscopists, interventional pulmonologists, thoracic surgeons, and trainees

Objectives

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

- learn evidence of transbronchial cryobiopsy use in diffused parenchymal lung disease;
- diagnose interstitial lung disease with transbronchial cryobiopsies;
- apply different approaches in performing a standardized transbronchial cryobiopsy.

Transbronchial cryobiopsy (TBCB) is a technique where a cryotherapy probe is advanced to the lung parenchyma via the working channel of a standard bronchoscope following which cold temperatures (0° C) are generated at the tip of the probe leading to lung tissue adhesion. The probe and bronchoscope are then removed from the patient retrieving significantly larger pieces of lung tissue than those obtained via traditional transbronchial forceps biopsy (TBBX). TBCB compared to TBBX in patients with diffuse lung disease showed significantly larger biopsy pieces, more alveolar tissue, and less parenchymal damage/crush artifact. TBCB has recently become more popular for numerous diagnostic indications, with several recent studies suggesting the validity of TBCB for the diagnosis of diffuse parenchymal lung disease. However, the risk of procedural complications such as pneumothorax and moderate to severe bleeding needs to be considered when planning for this procedure.

Chairing: G.Z. Cheng, MD, PhD, Durham, NC
M.M. Wahidi, MBA, MD, Durham, NC

11:45 Evidence of Cryobiopsy in Interstitial Lung Disease

L.B. Yarmus, DO, Baltimore, MD

12:05 Technique in Transbronchial Cryobiopsy: American Perspective

M.M. Wahidi, MBA, MD, Durham, NC

12:25 Technique in Transbronchial Cryobiopsy: European Perspective

F.J. Herth, MD, Heidelberg, Germany

12:45 Interactive Session: Learning from the Experts

G.Z. Cheng, MD, PhD, Durham, NC
L.B. Yarmus, DO, Baltimore, MD
M.M. Wahidi, MBA, MD, Durham, NC
F.J. Herth, MD, Heidelberg, Germany

CLINICAL

ADULT CLINICAL CORE CURRICULUM

CC1 SLEEP MEDICINE CLINICAL CORE CURRICULUM I

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.M. Jamil, MD, La Jolla, CA
T.S. Wang, MD, Los Angeles, CA
W.D. Conwell, MD, Aurora, CA

11:45 Etiology and Assessment of Hypersomnia
J. Cooksey, MD, Chicago, IL

12:15 Narcolepsy: Pathophysiology and Treatment
M. Cao, DO, Redwood City, CA

12:45 Non-Narcoleptic Hypersomnias: Pathophysiology and Treatment
L.A. Panossian, MD, Martinez, CA

**CENTERS FOR DISEASE
CONTROL AND PREVENTION**

**L1 UPDATE FROM CDC'S TB TRIALS
CONSORTIUM AND 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:

- better utilize the new diagnostics for LTBI and improve the management of LTBI testing in children;
- describe the PK and tolerability of high dose levofloxacin in the treatment of MDR TB;
- describe new findings about use of high dose rifamycins.

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
J.E. Stout, MD, Durham, NC

12:15 Latent Class Analysis Assessing Test Characteristics of QFT, TSPOT, TST
J.E. Stout, MD, Durham, NC

12:30 Predictive Value of Latent TB Testing in Children, IGRAs vs. TST
A. Ahmed, MD, Charlotte, NC

12:45 Pharmacokinetics and Tolerability of High Dose Levofloxacin in MDR-TB
C.R. Horsburgh, MD, Boston, MA

1:00 High Dose Rifamycins for TB: Update on TBTC Study 31/ACTG A5349, and Related Work
P. Nahid, MD, MPH, San Francisco, CA

**NATIONAL AERONAUTICS AND
SPACE ADMINISTRATION**

**L2 USING NASA'S SATELLITE REMOTE
SENSORS FOR THE STUDY OF THE
ENVIRONMENT AND RESPIRATORY
RELATED DISEASES**

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

Target Audience

This session provides pulmonary health researchers environmental data to understand the geographic, environmental, and meteorological differences in pulmonary diseases. The clinicians and researcher will hear from an public health researchers.

Objectives

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

- Inform clinicians and researchers about ongoing NASA projects related to lung and cardiac diseases.
- 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.

Satellite earth observations present a unique vantage point of the earth's environment from space which offers a wealth of health applications for researchers. The session shows results of the remote sensing observations of earth and health applications. This session will detail on-going projects within NASA and specifically related to incorporating satellite remote sensing for studying PM2.5 and other Air Quality issues and their relationship to diseases such as asthma, and other environmentally-induced lung and cardiac diseases. There will also be an introduction the Health and NASA Air Quality Team of Researchers that work to assist health researchers in the study of causes of environmental diseases.

Chairing: S. Estes, M.S., Huntsville, AL
J. Haynes, MS, Washington, DC

12:15 NASA's Public Health and Studying Respiratory Diseases
J. Haynes, MS, Washington, DC

12:27 Linking Satellite Data with Respiratory Health: The NASA Health and Air Quality Applied Sciences Team (HAQAST)
T. Holloway, PhD, Madison, WI

12:39 High Resolution Particulate Matter Data for Improved Satellite-Based Assessments of Community Health
P.L. Kinney, ScD, Boston, MA

12:51 Association of Wildfire Smoke with Pharmaceutical, Inpatient, and Outpatient claims for Cardiopulmonary Disease: Oregon 2012
S. Magzamen, PhD, Fort Collins, CO

1:03 Retrospective Daily Fine Particulate Matter Time-Series Generation at Fine-Scale Using Near-Real Time Satellite and Dispersion Modeling Techniques
F. Freedman, PhD, San Jose, CA

NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES, NIH

L3 ASTHMA AND ALLERGIC DISEASES COOPERATIVE RESEARCH CENTERS: ADVANCES IN ASTHMA

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

Target Audience

Providers of care for people with asthma and researchers with an interest in asthma

Objectives

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

- learn about the role that surfactant protein A may play in the innate immune response in asthma;
- understand and learn the role that epithelial cells play in asthma pathogenesis;

- learn how the genes on 17q21 influence airway remodeling in asthma.

This session will highlight new research on innate immunity and cellular responses within the lung that contribute to asthma pathogenesis.

Chairing: M. Kraft, MD, Tucson, AZ

12:15 Epithelial Cytokines and Airway Inflammation
S.F. Ziegler, PhD, Seattle, WA

12:29 Airway Epithelial Reprogramming in Asthma
D.J. Erle, MD, San Francisco, CA

12:43 Chromosome 17q21 Genes and Airway Remodeling in Asthma
D.H. Broide, MBChB, La Jolla, CA

12:57 Surfactant Protein A: An Innate Immune Modulator in Asthma?
M. Kraft, MD, Tucson, AZ

U.S. DEPARTMENTS OF LABOR & HEALTH AND HUMAN SERVICES

L4 CHALLENGES AND OPPORTUNITIES OF CARING FOR MINERS

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

Target Audience

Medical students; providers of lung health; occupational disease specialists and providers; researchers and academics

Objectives

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

- learn about the unique challenges of caring for miners in a clinical setting;
- more appropriately treat and/or refer miner patients suffering from occupational lung disease;
- improve their knowledge and awareness of Federal programs targeting miners.

Attendees will learn about Federal programs targeting miners suffering from occupational lung disease.

Additionally, attendees will learn about the unique challenges and opportunities of caring for miners.

12:15 Overview of HRSA Black Lung Clinics Program

Speaker To Be Announced

12:30 Overview of DOL Claims Processes for Coal Industry Workers

M. Chance, JD, Washington, DC

12:45 Physician's Perspective on Caring for Coal Industry Workers

R.A. Cohen, MD, Chicago, IL

A. Sood, MD, MPH, , MD, Albuquerque, NM

NATIONAL INSTITUTE OF NURSING RESEARCH/NIH

L5 CAREGIVING AND SELF-MANAGEMENT: A SCIENTIFIC UPDATE FROM ATS AND NINR

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

Target Audience

Early carer professionals; those with research interests in caregiving and self management research funding; health professionals who care for patients and their families with pulmonary and sleep disorders as well as those with needs requiring critical care.

Objectives

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

- learn new strategies involving interventions to reduce burden on caregivers;
- improve medical/nursing adherence for young children with cystic fibrosis and their families/caregivers;
- learn all about the current and future caregiving research focus within NINR and Funding Opportunity Announcements (FOAs).

Clinicians and funding agencies recognize that the effects of acute and/or chronic illness extend beyond the patient and family members/caregivers are profoundly affected. Caring for such patients by necessity involves caregivers. The session will focus on caregiving and the needs of patients and their caregivers. Innovative

approaches and new tools are needed to understand and improve health outcomes of patients with sleep disorders, chronic lung conditions and those whose family members are critically ill. Additionally, this session will address the future of caregiver research from an NINR perspective. NINR's targeted interests and future research focus will be addressed.

Chairing: E.G. Collins, PhD, Chicago, IL
J. Tate, PhD, RN, Columbus, OH
K. Huss, PhD, Bethesda, MD

12:15 Technology Applications for Family Caregivers

S. Czaja, PhD, Miami, FL

12:35 Caregiving for Children and Young Adults with Cystic fibrosis

A. Quittner, PhD, Miami, FL

12:55 Caregiving Science: National Institute of Nursing Research (NINR) Perspective

K. Huss, PhD, Bethesda, MD

DIVISION OF LUNG DISEASES/NHLBI, NIH

L6 RESEARCH BREAKTHROUGHS FROM NHLBI'S CENTERS FOR ADVANCED DIAGNOSTIC AND EXPERIMENTAL THERAPEUTICS PROGRAM

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

Target Audience

Scientists interested in therapeutic product development

Objectives

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

- understand disease biology informs therapeutic product development;
- recognize the importance of defining patient groups who may benefit most from specific therapeutics.

The translation of scientific evidence into therapeutic products to treat respiratory diseases and sleep is an exciting yet challenging process. Investigators funded through the Centers for Advanced Diagnostic and

Experimental Therapeutics (CADET II) program supported by NHLBI will share their experience in translating their own scientific discoveries into therapeutic products for lung diseases. They will describe the biologic basis for their selected therapeutic targets and their approach to identifying candidate drugs to modify the target, as well as the process of selecting a therapeutic candidate to advance.

Chairing: J.P. Kiley, MS, PhD, Bethesda, MD

12:15 Product Development for Pulmonary Hypertension
R.A. Johns, MD, Baltimore, MD

12:30 A Novel Therapeutic Candidate for Idiopathic Pulmonary Fibrosis
N. Kaminski, MD, New Haven, CT

12:45 A Targeted Approach to Asthma Management
G.L. Chupp, MD, New Haven, CT

1:00 Panel Discussion/Questions

DIVISION OF LUNG DISEASES/NHLBI, NIH

L7 PREVENTION AND EARLY TREATMENT OF ACUTE LUNG INJURY (PETAL) CLINICAL TRIALS NETWORK

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

Target Audience

Practicing critical care and emergency medicine clinicians and clinical researchers, fellows, students, nurses, and other medical professionals

Objectives

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

- understand the goals and structure of the PETAL network;
- understand the questions being addressed in PETAL and the design/conducts of the trials;
- learn new findings and results of PETAL trials.

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 the structure and goals of the PETAL network and an overview of progress in ongoing trials and results to date.

Chairing: R.G. Brower, MD, Baltimore, MD
L.A. Reineck, MD, Bethesda, MD

12:15 PETAL Overview/Update
R.G. Brower, MD, Baltimore, MD

12:25 Update on the Neuromuscular Blockade in Severe ARDS (ROSE) Trial
D.T. Huang, MD, MPH, Pittsburgh, PA

12:37 Update on the Vitamin D (VIOLET) Trial
A. Ginde, MD, MPH, Aurora, CO

12:49 Update on the Clovers Trial
I.S. Douglas, FRCP, MD, Denver, CO

1:05 Questions and Answers

DIVISION OF LUNG DISEASES/NHLBI, NIH

L8 NEW RESULTS FROM THE PHENOTYPING IN THE SUBPOPULATIONS AND INTERMEDIATE OUTCOME MEASURES IN COPD (SPIROMICS) STUDY

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

Target Audience

Researchers, medical trainees, those with an interest in COPD pathogenesis

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

12:15 The SPIROMICS II Study
P. Woodruff, MD, MPH, San Francisco, CA

12:27 Sputum and Blood Eosinophils in COPD
A.T. Hastie, PhD, Winston Salem, NC

12:39 Clinical Implications of Bronchodilator Responsiveness in SPIROMICS
I. Barjaktarevic, MD, Los Angeles, CA

12:51 The SPIROMICS Air Study
N.N. Hansel, MD, MPH, Baltimore, MD

1:03 Debility in COPD
C.M. Freeman, PhD, Ann Arbor, MI

DIVISION OF LUNG DISEASES/NHLBI, NIH

L9 INITIAL FINDINGS FROM THE NHLBI PVDOMICS PROGRAM: DEEP PHENOTYPING OF PATIENTS WITH PULMONARY HYPERTENSION

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 metabolomic characterization in PH;
- learn new exercise (CPET, RHC) findings in PH;
- learn and understand new imaging (Echo, MRI) findings in PH.

Pulmonary hypertension (PH) currently has no cure, thus PH research remains a high priority for NHLBI. In 2014, 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 U.S. clinical centers that are conducting

an observational study in patients with all types of PH. The overall goal of the PVDOMICS network is to perform comprehensive phenotyping across WHO groups as well as intermediate phenotypes in order to reconstruct the traditional classification and define new meaningful subclassifications. Currently, since the start of enrollment in 2017, there have been over 235 participants with a goal of 1500 by March 2019. This session will describe initial results from the study in approximately the first 700 subjects.

Chairing: L. Xiao, MD, PhD, Bethesda, MD
N.S. Hill, MD, Boston, MA
S.C. Erzurum, MD, Cleveland, OH
G. Beck, PhD, Cleveland, OH

12:15 Overall Summary of PVDOMICS Participants
E. Horn, MD, New York, NY

12:30 PVDOMICS Exercise (CPET, RHC) Finding
F.P. Rischard, MD, Tucson, AZ

12:45 PVDOMICS Imaging (Echo, MRI) Findings
R.P. Frantz, MD, Rochester, MN

1:00 PVDOMICS Metabolomic Characterization
J. Leopold, MD, Boston, MA

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.

MP401 UPDATE IN ASTHMA: FROM GUIDELINES TO IMPLEMENTATION
R. Nusrat, MD, Princeton, NJ

MP402 TEACHING CURIOSITY: THE ROLE OF SKEPTICISM AND INQUISITIVENESS IN MEDICAL EDUCATION
J.B. Richards, MD, MA, Boston, MA
D.H. Roberts, MD, Boston, MA

MP403 UPDATES IN INTERNAL MEDICINE FOR THE PULMONOLOGIST FROM THE ANNALS OF INTERNAL MEDICINE
D.B. Taichman, MD, PhD, Philadelphia, PA

MP404 LUNG TRANSPLANTATION FOR IPF: WHO, WHEN, AND HOW

N. Patel, MD, Philadelphia, PA

MP405 NEW FLEISCHNER SOCIETY GUIDELINES FOR PULMONARY NODULES

A.C. Mehta, MBBS, Cleveland, OH

MP406 CONNECTIVE TISSUE DISEASE AND THE LUNG: LESSONS LEARNED FROM DIFFICULT CASES

M. Kreider, MD, Philadelphia, PA

MP407 TRUTHS, MYTHS AND UNANSWERED QUESTIONS IN CHRONIC BRONCHITIS

V. Kim, MD, Philadelphia, PA

MP408 NEUROLOGICAL DISASTERS IN THE ICU

T.P. Bleck, MD, Chicago, IL

MP409 CONTROVERSIES ON MANAGEMENT OF COMMUNITY-ACQUIRED PNEUMONIA AND PLEURAL INFECTIONS

Y.C.G. Lee, MBChB, PhD, Perth, Australia

G.W. Waterer, MBBS, MBA, PhD, Perth, Australia

MP410 DIAGNOSIS AND TREATMENT OF SLEEP DISORDERED BREATHING IN THE COMPLEX PEDIATRIC PATIENT

S. Bhargava, MD, Palo Alto, CA

MP411 TIPS FOR LEADING A PULMONARY DIVISION, A DEPARTMENT OF MEDICINE AND BEYOND

S. Idell, MD, PhD, Tyler, TX

MP412 INVESTIGATING COLLAGEN AND ELASTIN STRUCTURE IN THE DISEASED LUNG USING NON-LINEAR OPTICAL MICROSCOPY

T.-L. Hackett, PhD, Vancouver, Canada

MP413 THE ROLE OF POLYSOMNOGRAPHY ON DECANNULATION PROCESS IN CHILDREN

N. Gurbani, DO, Cincinnati, OH

N. Simakajornboon, MD, Cincinnati, OH

MP414 WHAT PULMONOLOGISTS NEED TO KNOW ABOUT CANCER IMMUNOTHERAPY

T. Peikert, MD, Rochester, MN

MP415 TELEMEDICINE FOR PULMONARY, CRITICAL CARE AND SLEEP MEDICINE

J. Singh, MD, MHS, MHA, Charlotte, NC

MEDICAL EDUCATION SEMINAR**ME1 ASSESSING YOUR LEARNERS: AVOIDING PITFALLS AND MAKING IT MEANINGFUL****R** Registration Fee: \$70 (includes box lunch)
Attendance is limited. Pre-registration is required.**12:15 p.m. - 1:15 p.m.****Target Audience**

This session is targeted at anyone who develops or uses assessment tools for evaluation. The content of the session is relevant to all types of assessment tools including MCQs, checklists, global rating scales, questionnaires and surveys.

Objectives

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

- describe validity evidence for assessment tools
- evaluate the worth/completeness of validity evidence for an assessment tool
- develop assessment tools with reasonable validity evidence

We will critically appraise the validity of a variety of existing assessment tools. Participants will review problems commonly encountered during assessment tool development and strategies to minimize these challenges. The session will be interactive and participants are encouraged to bring assessment tools they are currently developing or using, so that they can receive feedback on how to improve these tools. Participants will leave with relevant, practical skills.

Speakers: R. Adamson, MBBS, Seattle, WA
D. Nelson, MD, Rochester, MN
K. De Boer, MD, Ottawa, Canada
J. McSparron, MD, Ann Arbor, MI

CLINICAL

THEMATIC SEMINAR SERIES

TSS1 NEUROMUSCULAR RESPIRATORY FAILURE

R Registration Fee: \$140 for full series (includes box lunch)
Attendance is limited. Pre-registration is required.

This is a 3-part series. Those registering for this seminar series will be registered for all 3 parts on Sunday, Monday and Tuesday. The topics and schedule for each part are listed below.

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

Identification and Treatment Options by Disease Stage

D. McKim, MD, Ottawa, Canada

Transitioning Care From Pediatric to Adult Treatment Modalities

D.W. Sheehan, MD, PhD, Buffalo, NY

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

Update on the Management of Respiratory Failure in DMD

R. Shell, MD, Columbus, OH

Extubation Protocols for the "Unweanable"

L. Wolfe, MD, Chicago, IL

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

Management of Respiratory Failure in ALS: The VA as a Model in Team Based Approach to Care

K.A. Provost, DO, PhD, Buffalo, NY

Advance Disease Management and Transitioning to Hospice

J.O. Benditt, MD, Seattle, WA



ATS 2018
*Where today's science
meets tomorrow's care™*

International Conference San Diego, CA

Sunday Afternoon, May 20

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.

A81 PEDIATRIC YEAR IN REVIEW**Assembly on Pediatrics**

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

Target Audience

Pediatricians; pediatric assembly members; attendees interested in pediatric care

Objectives

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

- improve the treatment of children with severe asthma;
- learn new findings about the respiratory microbiome, with application to pediatric pulmonary medicine;
- apply scientific advances to the management of children with neuromuscular diseases.

Pediatric Year in Review focuses on 4 topics in Pediatrics where there have been significant advances over the past year. Topics are chosen which have

broad interest to the Assembly. The discussants will use recent publications to provide an update and perspective on scientific developments that have clinical relevance in Pediatrics.

Chairing: P.E. Moore, MD, Nashville, TN
S.D. Dell, MD, Toronto, Canada

2:15 Update on Management of Severe Asthma in Children

C.L. Yang, MD, MSc, Vancouver, Canada

2:45 Enhancing Innate Immune Function to Counter Multidrug-Resistant Superbugs in Pneumonia and Cystic Fibrosis

V. Nizet, MD, La Jolla, CA

3:15 What to Expect When You're Expectorating: Update on the Pediatric Respiratory Microbiome

L.R. Hoffman, MD, PhD, Seattle, WA

3:45 Update on Treatment of Neuromuscular Diseases in Children

R. Amin, MD, Toronto, Canada

- recognize research gaps in the management of COPD patients;
- learn new findings about topic areas not adequately addressed in the current GOLD guidelines and begin integrating this evidence into the management of COPD patients.

This session will provide a brief introduction summarizing major changes in the Global Initiative for Chronic Obstructive Lung Disease (GOLD) current guidelines and will then focus on areas of COPD management that are either not addressed or not adequately addressed by the current guidelines. The session will conclude with a panel discussion focused on the future direction of the GOLD guidelines as it relates to the topics discussed.

Chairing: B.R. Celli, MD, Boston, MA
J.A. Wedzicha, MD, PhD, London, United Kingdom
S.P. Bhatt, MD, Birmingham, AL

2:15 GOLD Guidelines 2018: Where are We Going and Where Have We Been?

A. Agusti, MD, Barcelona, Spain

2:25 The Forgotten Phenotypes: Symptomatic Smokers and Chronic Bronchitis

V. Kim, MD, Philadelphia, PA

2:40 Exercise Testing and Physical Activity Assessment: Who, When and Why?

R. Casaburi, MD, PhD, Torrance, CA

2:55 Beyond the Lung: Addressing Comorbidity Screening and Treatment

J.M. Bon, MD, MS, Pittsburgh, PA

3:10 Not Just Smoking Cessation: Addressing Non-Tobacco Smoke COPD Risk Factors

N.N. Hansel, MD, MPH, Baltimore, MD

3:25 Treatment in stable COPD: Navigating the LABA/LAMA/ICS Road Map

J.A. Wedzicha, MD, PhD, London, United Kingdom

3:40 Treatment in Stable and Unstable COPD: Non-Invasive Ventilation

N. Hart, MD, London, United Kingdom

CLINICAL

CLINICAL TOPICS IN PULMONARY MEDICINE

A82 REACHING FOR THE GOLD: ADDRESSING GAPS IN THE CURRENT GOLD GUIDELINES

Assembly on Clinical Problems

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

Target Audience

Physicians; nurses; advanced practice practitioners (APRNs and PAs); and allied health (respiratory care) providers who are involved in the management of patients with chronic obstructive lung disease.

Objectives

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

- integrate updates to the current GOLD guidelines into the management of their COPD patients;

3:55 Panel Discussion
B.R. Celli, MD, Boston, MA

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 7 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: A.C. Wang, MD, La Jolla, CA
S.P. Kantrow, MD, New Orleans, LA

2:15 Radiologic Findings
A.G. Wilcox, MD, Los Angeles, CA

2:35 Pathologic Findings
J.L. Myers, MD, Ann Arbor, MI

2:55 Master Clinician
S.I. Rounds, MD, Providence, RI

3:15 Master Clinician
M.I. Schwarz, MD, Aurora, CO

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

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

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 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 MITOCHONDRIAL DYSFUNCTION AND REPROGRAMMING IN LUNG AGING AND DISEASE

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

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

Target Audience

Basic scientists, physiologists, allergists, pulmonologists, translational researchers, fellows and residents, and graduate trainees interested in lung pathophysiology

Objectives

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

- understand how aging can contribute to mitochondrial dysfunction in disease pathogenesis;
- describe potential options for mitochondrial reprogramming as a therapeutic approach;
- aware of how new findings are being positioned to promote research direction and therapeutic strategies that focus on mitochondria.

Chronic lung diseases are diseases of the elderly and mechanisms that link aging with the pathogenesis of lung disease have recently been discovered. In particular, over the last decade, accumulating evidence has suggested a causative link between mitochondrial dysfunction and major phenotypes associated with aging, such as inflammation, tissue remodeling, and aberrant wound repair. Thus mitochondrial dysfunction has become a focus for our understanding of lung aging and disease mechanisms and the potential of reprogramming mitochondria function for the development of new therapies is emerging. This integrated symposium highlights emerging understanding of the breadth and integrated pathobiological responses of mitochondria during aging and disease, how these may contribute to lung tissue destruction, and potential for this knowledge to inform development of mitochondria-reprogramming therapies.

Chairing: S.M. Cloonan, PhD, New York, NY
A.L. Mora, MD, Pittsburgh, PA

2:15 Aging, Mitochondria and Cellular Senescence: Implications for Chronic Lung Disease
J. Campisi, PhD, Novato, CA

2:39 Targeting Mitochondrial Dysfunction in Pulmonary Fibrosis to Drive Development of Novel Therapeutics
N. Kaminski, MD, New Haven, CT

3:03 Mitochondria and Telomere Dysfunction During Lung Aging and Disease
J. Passos, PhD, Newcastle upon Tyne, United Kingdom

3:27 Propagation of Deleterious Mitochondrial Genomes is a Consequence of Prolonged Stress Response Signaling
C. Haynes, PhD, Worcester, MA

3:51 Mitochondrial Adaptation and Homeostasis in Tumorigenesis
E.P. Henske, MD, Boston, MA

BASIC • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

A86 ATS MYTHBUSTERS: BIOENGINEERING APPROACHES WILL REVOLUTIONIZE RESPIRATORY MEDICINE IN THE NEXT TEN YEARS

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

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

Target Audience

Clinicians, basic researchers, and other lung health care professionals looking to learn about state of the art ex vivo approaches to the rapidly developing field of personalized lung regenerative medicine using acellular scaffolds and iPS cells

Objectives

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

- understand the current bioengineering approaches for generating new lung tissue - ex vivo or endogenously;
- understand the current advances and limitations of each of the different bioengineering approaches being explored;
- learn new findings about our understanding between extracellular matrix components and stem and progenitor cell interactions.

This session will summarize the recent advances in iPS cell differentiation and their use as potential therapies as well as ex vivo lung tissue bioengineering approaches for lung disease and transplantation. The mythbusters session will debate whether or not exogenous cells are needed to induce regeneration or if iPS cells, in the absence of a transplantable matrix, will be sufficient for exogenous approaches to regeneration; whether or not acellular human scaffolds are needed for ex vivo regeneration of lung tissue for transplantation or if xenogeneic scaffolds can be used.

Chairing: D.E. Wagner, PhD, Munich, Germany
M. Koenigshoff, MD, PhD, Aurora, CO
J.R. Rock, PhD, Boston, MA

2:15 The Matrix is Not Needed for Ex Vivo Regeneration of Lung Tissue Using iPS Cells
A.L. Firth, PhD, Los Angeles, CA

2:40 Exogenous Cells Are Not Needed to Induce Regeneration
S.F. Badylak, MD, PhD, DVM, Pittsburgh, PA

3:05 Mythbuster #1
M.R. Kolb, MD, PhD, Hamilton, Canada

3:10 Mythbuster #2
D.N. Kotton, MD, Boston, MA

3:15 Acellular Human Scaffolds Will Be Used for Regenerating Transplantable Lungs
S.E. Gilpin, PhD, Boston, MA

3:40 Acellular Xenogeneic Scaffolds Will Be Used of Lung Bioengineering Approaches
D.J. Weiss, MD, PhD, Burlington, VT

4:05 Mythbuster #3
B.B. Moore, PhD, Ann Arbor, MI

4:10 Mythbuster #4
A. Panoskaltis-Mortari, PhD, Minneapolis, MN

TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

A87 MECHANISMS OF PERSISTENT ORGAN DYSFUNCTION AFTER CRITICAL ILLNESS

Assemblies on Critical Care; Allergy, Immunology and Inflammation; Clinical Problems; Respiratory Cell and Molecular Biology; Respiratory Structure and Function

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

Target Audience

Fellows, physician-scientists, translational scientists. Those interested in the clinical epidemiology of and health services delivery to patients with persistent critical illness and post-intensive care syndrome.

Objectives

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

- understanding fundamental mechanisms of persistent organ dysfunction in survivors of critical illness
- contextualizing the development and emergence of new pharmacological and non-pharmacological interventions to limit, treat and prevent persistent organ dysfunction in survivors of critical illness
- understand how the basic science in the field of persistent organ injury can be translated to the bedside, how it impacts our management now and implications for the future

Patients who survive the acute phase of sepsis frequently acquire new organ dysfunction and enter a state or persistent critical illness, or fail to recover from their acute injuries and experience post-intensive care syndrome. Current attempts to mitigate these effects have focused on reducing harms done in the ICU and maximizing rehabilitation. Can specific pathways be leveraged to ameliorate the morbidity and mortality experienced by critical illness survivors? This session

will describe the emerging understanding of the mechanisms that set the stage for persistent organ dysfunction in survivors of acute critical illness.

Chairing: C.C. Dos Santos, MD, Toronto, Canada
B. Singer, MD, PhD, Ann Arbor, MI

2:15 Of Mitochondria and Muscle in Mice and Men
Speaker To Be Announced

2:35 After the Fire of Sepsis, Smoldering Neuroinflammation
B. Singer, MD, PhD, Ann Arbor, MI

2:55 Acceleration of Cardiovascular Disease After Sepsis
Speaker To Be Announced

3:15 Sepsis: Earthquake in the Genomic Landscape?
Speaker To Be Announced

3:35 Innocence and Experience: Training of Innate Immunity
Speaker To Be Announced

3:55 Does Illness Turn the Hands of the Epigenetic Clock?
Speaker To Be Announced

**BASIC • BEHAVIORAL
CLINICAL • TRANSLATIONAL**

SCIENTIFIC SYMPOSIUM

A88 CPAP AND WEIGHT GAIN: MECHANISMS AND BEYOND

Assembly on Sleep and Respiratory Neurobiology

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

Target Audience

Pulmonologists, respiratory therapists, clinical and basic researchers, primary care practitioners, and other health professionals who are interested in treating patients with sleep apnea and obesity

Objectives

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

- recognize the role of CPAP in weight gain and understand its clinical significance;
- understand the mechanisms whereby CPAP use may lead to weight gain with respect to components of energy balance (i.e. dietary intake, physical activity, energy expenditure);
- learn about novel mobile health interventions used to improve efforts at weight loss that can be incorporated into management of patients with OSA.

Based on recent analyses of randomized trials suggesting that continuous positive airway pressure (CPAP) treatment of obstructive sleep apnea (OSA) is associated with weight gain, this multidisciplinary symposium brings together experts from obesity, behavioral, pulmonary and sleep medicine fields to address essential questions: What could be the underlying mechanisms for weight gain after CPAP, including its impact on energy expenditure, food intake, and physical activity? What is the clinical significance of the weight gain after CPAP? How does CPAP affect body composition? What are novel, technology-based weight loss interventions to mitigate weight gain in OSA management?

Chairing: E. Tasali, MD, Chicago, IL
M.T. Naughton, MD, Prahran, Australia
C.P. O'Donnell, PhD, Pittsburgh, PA
N. Ayas, MPH, MD, Vancouver, Canada

2:15 CPAP and Weight Gain: Up to Date Evidence From Randomized Clinical Trials
L.F. Drager, MD, Sao Paulo, Brazil

2:35 CPAP and Weight Gain: What do We Know About the Mechanisms?
S. Pamidi, MD, Montreal, Canada

3:00 Is the Weight Gain After CPAP Clinically Meaningful?
D. Schoeller, PhD, Madison, WI

3:25 CPAP and Weight Gain: Good or Bad?
C.M. Hoyos, BSc(Hons), MPH, PhD, Glebe, Australia

3:50 Future in OSA Management: New Technology-Based Weight Loss Interventions
B. Spring, PhD, Chicago, IL

CLINICAL

SCIENTIFIC SYMPOSIUM

A89 EMERGING CONCEPTS IN CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION**Assemblies on Pulmonary Circulation; Clinical Problems****2:15 p.m. - 4:15 p.m.****Target Audience**

Translational and clinical researchers interested in chronic thromboembolic disease. Clinicians and trainees who care for patients after acute pulmonary embolism, and patients with pulmonary hypertension

Objectives

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

- describe the epidemiology of CTEPH and appropriate screening strategies for acute PE survivors;
- understand how the pathology of CTEPH affects the rationale for management strategies;
- describe the different surgical, interventional and medical treatment options and appropriate patient selection.

This session will focus on novel and emerging concepts in chronic thromboembolic pulmonary hypertension (CTEPH). The evolution of acute pulmonary embolism (PE) to chronic disease and the epidemiology of CTEPH are poorly defined. Similarly, little is known about the pathologic and pathogenic underpinnings of this disease. Time-tested diagnostic and therapeutic strategies are being challenged by advances in imaging, interventional procedures and medical therapy. This session will address these knowledge gaps by providing novel evidence describing the incidence of CTEPH after acute PE and the importance of collateral circulation in the pathology of CTEPH. Advances in surgical techniques will be reviewed, as well as the emergence of balloon pulmonary angioplasty as a treatment option.

Chairing: G.A. Heresi, MD, MS, Cleveland, OH
W.R. Auger, MD, La Jolla, CA

2:15 From Acute PE to CTEPH: Epidemiology and Detection - Can We Do Better?

F.E.A. Klok, MD, PhD, Leiden, Netherlands

2:35 CTEPH Pathogenesis and Pathology: A New Understanding

P. Dorfmuller, PhD, MD, Le Plessis Robinson, France

2:55 Diagnosis and Surgical Treatment: Time Tested Strategies and Recent Advances

W.R. Auger, MD, La Jolla, CA

3:15 Chronic Thromboembolic Disease Without Pulmonary Hypertension: A New Frontier?

G.A. Heresi, MD, MS, Cleveland, OH

3:35 Balloon Pulmonary Angioplasty: The "Not So New" Kid on the Block

D.S. Poch, MD, La Jolla, CA

3:55 Medical Therapy and Future Perspectives in CTEPH

N.H. Kim, MD, La Jolla, CA

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

A90 CRACKING THE VACCINE CODE IN TB: INNATE IMMUNITY**Assemblies on Pulmonary Infections and Tuberculosis; Allergy, Immunology and Inflammation****2:15 p.m. - 4:15 p.m.****Target Audience**

Clinicians; fellows; basic scientists; epidemiologists

Objectives

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

- identify distinctive "failure" aspects of the current vaccine in TB (T cell mediated immunity)
- identify distinctive "novel" aspects of the future vaccine in TB (Innate Immunity, Epigenetic reprogramming of Stem Cells)

Historically, vaccines have been designed to generate antigen-specific memory B and T cell responses that act rapidly upon antigen reencounter. Although control of TB requires T cells to prevent disease progression, multiple clinical trials, including the latest MVA85A using T cell targeted vaccine approaches have failed to provide protection against *Mycobacterium tuberculosis* (Mtb) infection. In addition, hyper-conserved Mtb genes involved in the production of immunodominant T cell epitopes have recently been described indicating that Mtb may paradoxically benefit from recognition by T cells. These results suggest that the concept of vaccines aimed at generating robust memory T cell responses for protection against TB needs to be profoundly revisited.

Chairing: M. Divangahi, PhD, Montreal, Canada
J.M. Keane, MD, Dublin, Ireland
D.M. Lewinsohn, MD, PhD, Portland, OR

- 2:15 Conventional T Cells in Vaccines Against TB**
J.D. Ernst, MD, New York, NY
- 2:35 Interferon-Gamma and Vaccines Against TB**
S. Behar, MD, PhD, Worcester, MA
- 2:55 Unconventional T Cells in TB Vaccine Development**
D.M. Lewinsohn, MD, PhD, Portland, OR
- 3:08 The Impact of Diabetes on Immunity Against TB**
H. Kornfeld, MD, Worcester, MA
- 3:28 Targeting Metabolism in Vaccines Against TB**
J.M. Keane, MD, Dublin, Ireland
- 3:41 Stem Cells in TB Vaccine Development**
M. Divangahi, PhD, Montreal, Canada
- 3:54 Trained Innate Immunity in Vaccines Against TB**
M. Netea, MD, PhD, Nijmegen, Netherlands

CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

A91 REDUCING DISPARITIES IN ENVIRONMENTAL LUNG DISEASE: EMERGING METHODS IN EXPOSURE MITIGATION

Assemblies on Environmental, Occupational and Population Health; Pediatrics

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

Target Audience

Individuals involved in care of patients with environmentally-mediated lung disease (i.e. asthma, COPD, occupational lung disease); basic, clinical, and translational researchers focused on environmental/occupational exposures and respiratory health

Objectives

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

- identify populations disproportionately affected by respiratory morbidity and mortality attributable to disparities in environmental exposure to air pollution;
- describe emerging methods for personal exposure mitigation, including the evidence supporting these methods and remaining knowledge gaps;
- apply appropriate techniques to mitigate environmental exposures in unique patient populations.

Populations disproportionately affected by environmental pollution demonstrate a higher prevalence of lung disease and associated health effects. While the social and economic factors underlying these disparities are complex, personal exposure modification provides a means to target susceptible populations and achieve meaningful reductions in pollutant exposure. This session will provide insight into emerging methods of exposure mitigation that may be used to reduce disparities in environmentally-mediated lung disease.

Chairing: J.C. Celedon, DrPH, MD, Pittsburgh, PA
E. Brigham, MD, MHS, Baltimore, MD
F.D. Gilliland, MD, PhD, Los Angeles, CA
B.J. Sheares, MD, MS, New York, NY

2:15 Disparities in Environmental Exposures and Lung Health

J.R. Balmes, MD, San Francisco, CA

2:40 Home Air Purifier Implementation

S. Bose, MD, MPH, Baltimore, MD

3:00 Clean Cook Stove Interventions

C.C. Hooper Miele, MD, Baltimore, MD

3:20 Interventions to Reduce Occupational Exposure Disparities

D. Heederik, PhD, Utrecht, Netherlands

3:40 Reducing Exposures Through Patient Advocacy: Legal Partnerships

D. Harris, MD, New Haven, CT

4:00 A Patient's Perspective

M. Brisuela, Chicago, IL

CLINICAL

SCIENTIFIC SYMPOSIUM

**A92 FROM PRINCIPLES TO PRACTICE:
EXPLORING MECHANISTIC KNOWLEDGE
TO ADVANCE CLINICAL CARE**

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

Target Audience

Clinicians, basic and translational researchers and trainees interested in successes delivered from basic research in COPD, cystic fibrosis and lung transplantation access and morbidity. The session will show how primary discovery research can address daunting clinical challenges in these pulmonary disease arenas.

Objectives

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

- improve understanding of lung and systemic type 2 inflammation and eosinophilia in COPD;
- learn new strategies to manage the care of cystic fibrosis;

- understand the roles of Extracorporeal Membrane Oxygenation and Ex Vivo Lung Perfusion to optimize outcomes for selected lung transplant candidates.

Basic research conducted by several laboratories has led to major advances in the management of COPD, Cystic Fibrosis and other airway disorders. Since lung transplantation is effective for severe COPD and CF, technologies to expand availability of donor lungs can be transformative for patients. This session will present the basic findings which underscore the use of mepolizumab for eosinophilic COPD, CFTR potentiators for cystic fibrosis and ex vivo lung perfusion and ECMO to rescue nonideal donor lungs for transplantation and avail tolerance for long wait list times. The clinical utility of these findings, complementing basic narratives, will show how primary discovery propels clinical advances for airway disorders.

Chairing: E.R. Neptune, MD, Baltimore, MD
J.L. Koff, MD, New Haven, CT
J.M. Pilewski, MD, Pittsburgh, PA

2:15 Paradigmatic Breakthroughs for COPD, CF and Lung Transplantation

E.R. Neptune, MD, Baltimore, MD

2:20 Defining Eosinophilic and Type 2 Inflammation in COPD

S. Christenson, MD, San Francisco, CA

2:35 Therapeutic Interventions for COPD with Eosinophilic Inflammation

J.M. Wells, MD, Birmingham, AL

2:50 Questions and Answers

2:58 Improving the Quality of Life in Patients with CF Through CFTR Modulation

J.L. Taylor-Cousar, MD, Denver, CO

3:13 Multi-Drug CFTR Modulator Therapy Targeting the F508del CFTR Mutation

S.M. Rowe, MD, Birmingham, AL

3:28 Questions and Answers

3:36 Advances in Extracorporeal Membrane Oxygenation (ECMO) as a Bridge to Transplantation

J.M. Reynolds, MD, Durham, NC

**3:51 Emergence of Ex Vivo Lung Perfusion (EVLP)
to Assess and Optimize Donor Lungs**
J. D'Cunha, MD, PhD, Pittsburgh, PA

4:06 Questions and Answers

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: **Scott T. Weiss MD, MS, Boston, MA**

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: **Jeffrey A. Whitsett, MD, Cincinnati, OH**

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: **Qutayba Hamid, MBChB, PhD, Quebec, Canada**
Monica Kraft, MD, Tuscon, AZ

ASSEMBLY MEMBERSHIP MEETING

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 will be held on Monday, May 21st, 4:30 p.m. -7:00 p.m., with the exception of the Assemblies on Behavioral Science and Health Services Research and Pediatrics (see below.)

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.

5:00 p.m. - 7:00 p.m.

PEDIATRICS

Chairing: Stephanie D. Davis, MD, Indianapolis, IN

6:30 p.m. - 8:30 p.m.

**BEHAVIORAL SCIENCE AND
HEALTH SERVICES RESEARCH**

Chairing: Christopher H. Goss, MD, MSc, Seattle, WA

7:00 p.m.-10:00 p.m.

ASSEMBLY ON PEDIATRICS DINNER

The Pediatric Assembly will hold a dinner immediately following the Assembly Membership Meeting. 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.

 Pre-registration and an additional fee are required. Seating is limited. Please register through online general registration by clicking the Register Now button above.

Fellow - \$86.00

Member - \$106.00

Non-Member - \$116.00

6:30 p.m. - 8:30 p.m.

**SECTION ON GENETICS AND GENOMICS
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.



CLINICAL

PEDIATRIC CLINICAL CORE CURRICULUM

PCC2 PEDIATRIC CLINICAL CORE CURRICULUM

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: P.E. Moore, MD, Nashville, TN

7:00 Neuromuscular Disorders in Children
O.H. Mayer, MD, Philadelphia, PA

7:30 Update on Management of Children with SMA and DMD
R. Shell, MD, Columbus, OH

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 SEVERE ASTHMA FOR THE CLINICIAN
M. Gauthier, MD, Pittsburgh, PA

SS102 DESIGNING BEHAVIOR CHANGE INTERVENTIONS ONE BARRIER AT A TIME
I. Riley, MD, MPH, Durham, NC
V. Prieto-Centurion, MD, Chicago, IL

SS103 COPD AND BRONCHIECTASIS OVERLAP SYNDROME
M. Prickett, MD, Chicago, IL

SS104 LUNG TRANSPLANT FOR CONNECTIVE TISSUE ASSOCIATED ILD
R. Jablonski, MD, Chicago, IL

SS105 NAVIGATING THE DIAGNOSIS AND MANAGEMENT OF MYOSITIS-ASSOCIATED INTERSTITIAL LUNG DISEASE
D. Assayag, MD, CM, Montreal, Canada

SS106 PULMONARY MANIFESTATIONS OF VASCULITIS

L. Fussner, MD, Columbus, OH

SS107 DIAGNOSIS AND MANAGEMENT OF NEUROLOGIC AND CARDIAC SARCOIDOSIS: A GUIDE FOR PULMONOLOGISTS

M.L. Ribeiro Neto, MD, Cleveland, OH

SS108 NEUROMUSCULAR RESPIRATORY FAILURE: IMPROVING QUALITY OF LIFE AND SURVIVAL WITH NIPPV

K. Provost, DO, PhD, Buffalo, NY

SS109 CHRONIC HYPERSENSITIVITY PNEUMONITIS: DIAGNOSTIC AND TREATMENT DILEMMAS

D.M. Perlman, MD, Minneapolis, MN

SS110 DEFINING AND ADDRESSING SOCIAL DETERMINANTS OF HEALTH: IMPLICATIONS FOR PULMONARY DISEASE

T. Parekh, DO, Birmingham, AL

SS111 A PRACTICAL TOOLKIT FOR IMPROVING PATIENT AND FAMILY ENGAGEMENT IN THE ICU

S. Beesley, MD, Murray, UT

SS112 BRONCHOALVEOLAR LAVAGE IN THE IMMUNOCOMPROMISED HOST: MOVING BEYOND TRADITIONAL DIAGNOSTIC METHODS FOR FUNGAL INFECTION

O. Epelbaum, MD, Valhalla, NY

SS113 WHAT'S ALL THE VUS ABOUT GENETIC TESTING FOR PEDIATRIC LUNG DISEASE?J.A. Wambach, MD, St. Louis, MO
L.M. Noguee, MD, Baltimore, MD**SS114 PULMONARY HYPERTENSION: DIFFERENT GROUPS, DIFFERENT TREATMENT**

N. Al-Naamani, MD, MS, Philadelphia, PA

SS115 THE MITOCHONDRIAL BIOLOGIST'S TOOLBOX: ALL YOU NEED TO STUDY MITOCHONDRIA IN THE LUNG

S.M. Cloonan, PhD, New York, NY

SS116 REDUCING UNCERTAINTY IN ORAL DEVICE THERAPY FOR AIRWAY MANAGEMENT

S.W. Carstensen, DDS, Bellevue, WA

SS117 TIPS AND TRICKS IN READING AND CRITIQUING CLINICAL TRIALS IN SLEEP MEDICINE

C.M. Hoyos, BSc(Hons), MPH, PhD, Glebe, Australia

SS118 PULMONARY NODULE EVALUATION: MANAGING UNCERTAINTY

J. Iaccarino, MD, Boston, MA

FACULTY DEVELOPMENT SEMINAR**FD1 SHOULD I STAY OR SHOULD I GO? HOW TO APPROACH FELLOW-TO-FACULTY AND EARLY CAREER FACULTY TRANSITIONS****R** Pre-registration is required. Attendance is limited. There is no additional fee.

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

Target Audience

Early and mid-career clinical and/or research faculty, clinical & postdoctoral fellows, medical and graduate students, residents, nurses, and allied health professionals involved in or seeking careers in academic pulmonary, critical care and/or sleep medicine

Objectives

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

- describe the importance of weighing career opportunities available at their home institution against potential opportunities and risks of changing institutions;
- compare and contrast the potential impact of changing institutions on research productivity, clinical responsibilities, educational opportunities and financial incentives;
- develop a rational individual career development plan based with regard to staying at or moving on from their training institution.

Regardless of anticipated career path, graduating clinical fellows, post-doctoral fellows, and early career faculty members are frequently presented with options

of remaining at their “home” institution versus seeking new opportunities through a change in location. However, trainees and early career faculty may not be equipped to weigh advantages and disadvantages of these competing options. Moreover, it can be difficult to obtain objective guidance on these decisions, as mentors, current and potential future employers may be inherently conflicted. This session will identify and discuss the opportunities, risks and potential benefits of

different options, and address strategies to navigate the decision making process.

Chairing: J.C. Horowitz, MD, Ann Arbor, MI
N.S. Sharma, MD, Birmingham, AL

Speakers: R. Paine, MD, Salt Lake City, UT
J. Richards, MD, MA, Boston, MA
Y. Huang, MD, Ann Arbor, MI



BASIC • CLINICAL • TRANSLATIONAL

ATS KEYNOTE SERIES

The Keynote Series focuses on topics thought to be timely and of high relevance to the pulmonary, critical care, and sleep medicine community.

Two sessions are presented each morning during the conference.

Below are the topics for Monday, May 21

**K3 NATURE AND NURTURE OF TISSUE RESIDENT
MACROPHAGES IN HEALTH AND DISEASE**

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

Speaker: Christopher K. Glass, MD, PhD, La Jolla, CA

**K4 REDUCING BURNOUT AND PROMOTING ENGAGEMENT:
INDIVIDUAL AND ORGANIZATIONAL APPROACHES TO
PHYSICIAN WELL-BEING**

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

Speaker: Tait D. Shanafelt, MD, Stanford, CA



CLINICAL

YEAR IN REVIEW

B1 CLINICAL YEAR IN REVIEW 2

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

Target Audience

Providers including physicians, nurses, respiratory therapists, nurse practitioners, 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;
- learn new findings about key conditions in pulmonary, critical care and sleep;
- gain new strategies to manage the care of common conditions in pulmonary, critical care, and sleep.

The annual Clinical Year in Review symposia provides concise summaries of the most impactful clinical research publications related to specific clinical topics. Speakers will highlight 5 of the most important and influential publications on their topic in written format and during their talks.

Chairing: D.W. Ford, MD, Charleston, SC
V.E. Ortega, MD, PhD, Winston Salem, NC
J.S. Lee, MD, Aurora, CO

9:15 COPD
M. Drummond, MHS, MD, Chapel Hill, NC

9:45 Asthma
L.C. Denlinger, MD, PhD, Madison, WI

9:45 Lung Cancer
R.S. Wiener, MD, MPH, Boston, MA

10:15 Pleural Disease
C. Broaddus, MD, San Francisco, CA

BEHAVIORAL • CLINICAL • TRANSLATIONAL

CLINICAL TOPICS IN PULMONARY MEDICINE

B2 INTERSTITIAL LUNG DISEASE (ILD), IDIOPATHIC INTERSTITIAL PNEUMONIA (IIP) AND HYPERSENSITIVITY PNEUMONITIS (HP): CONTROVERSIES IN MANAGEMENT. A PRO/CON DEBATE

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

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

- learn about genetic screening for patients with IIP and IPF and discuss implications of this with patients.
- learn about potential role of cryobiopsy in diagnosis of IIP and HP and how this can be used in clinical practice.
- understand predictive models and the potential role of such models in diagnosis of IIP and HP.

This session will consist of 4 Pro/Con debates on challenging aspects of diagnosing and treating Idiopathic Interstitial Pneumonia (IIP) and Hypersensitivity Pneumonitis (HP). The first debate will center on whether circulating serum biomarkers are useful in guiding diagnosis and management for patients with IIP. The second will focus on the role of cryobiopsy versus surgical and transbronchial lung biopsies in diagnosis of IIP and HP. The third debate will address the role of predictive models in diagnosis of IIP and HP. The fourth will be centered on whether genetic screening should routinely be performed among patients with IIP.

- Chairing:** G. Raghu, MD, Seattle, WA
B. Collins, MD, Seattle, WA
- 9:15 Introduction and Opening Remarks**
G. Raghu, MD, Seattle, WA
- 9:19 Case Presentation**
B. Collins, MD, Seattle, WA
- 9:23 Serum Biomarkers are Useful in the Guiding Diagnosis and Treatment of Idiopathic Interstitial Pneumonia and Hypersensitivity Pneumonitis**
B. Crestani, MD, Paris, France
- 9:33 Serum Biomarkers are Not Useful in the Guiding Diagnosis and Treatment of Idiopathic Interstitial Pneumonia and Hypersensitivity Pneumonitis**
N. Kaminski, MD, New Haven, CT
- 9:43 Rebuttal: Comments and Discussion**
B. Collins, MD, Seattle, WA
- 9:47 Case Presentation**
G. Raghu, MD, Seattle, WA
- 9:51 Cryobiopsy is the Procedure of Choice for Obtaining Lung Tissue for Diagnosis of ILD/IIP/HP**
V. Poletti, MD, PhD, Forli, Italy
- 10:01 Cryobiopsy is Not the Procedure of Choice for Obtaining Lung Tissue for Diagnosis of ILD/IIP/HP**
A.C. Mehta, MBBS, Cleveland, OH
- 10:11 Rebuttal: Comments and Discussion**
G. Raghu, MD, Seattle, WA
- 10:15 Case Presentation**
B. Collins, MD, Seattle, WA
- 10:19 Predictive Models Are Useful in Diagnosis of HP and IIP**
K.A. Johannson, MD, MPH, Calgary, Canada
- 10:29 Predictive Models Are Not Useful in Diagnosis of HP and IIP**
C.J. Ryerson, MD, Vancouver, Canada
- 10:39 Rebuttal: Comments and Discussion**
B. Collins, MD, Seattle, WA

- 10:43 Case Presentation**
G. Raghu, MD, Seattle, WA
- 10:48 Genetic Screening Should be Routinely Done for Patients with Interstitial Pneumonia of Unknown Etiology**
D.A. Schwartz, MD, Aurora, CO
- 10:58 Genetic Screening Should Not be Routinely Done for Patients with Interstitial Pneumonia of Unknown Etiology**
M. Armanios, MD, Baltimore, MD
- 11:08 Rebuttal: Comments and Discussion**
G. Raghu, MD, Seattle, WA
- 11:12 Closing Remarks**
G. Raghu, MD, Seattle, WA

CLINICAL

CLINICAL TOPICS IN PULMONARY MEDICINE

B3 THE REVOLUTION OF LUNG IMAGING: FROM PIXELS TO PATIENTS

Assemblies on Clinical Problems; Respiratory Structure and Function

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

Target Audience

Pulmonary physicians, radiologists, clinical researchers, clinician-investigators in training

Objectives

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

- learn new developments of lung imaging techniques and its clinical applications in several chronic lung diseases
- understand the role of imaging in disease detection, stratification and prognostication
- understand the advantages, limitations, and potential solutions to use lung imaging in clinical trials

Recent years have brought exciting progress in static and functional lung imaging across multiple pulmonary conditions such as COPD, asthma, bronchiectasis, interstitial lung disease, and pulmonary vascular

disease. These advances included the use of hyperpolarized noble gas MRI to enable visualization of ventilation and lung perfusion as well as inspiratory/expiratory CT matching techniques to detect and quantify functional small airways disease. These advances have improved our understanding of the pathophysiology of chronic lung disease and offered tools that have the potential to be used for patient stratification and the assessment of intermediate therapeutic endpoints in clinical investigation.

Chairing: A. Diaz, MD, Boston, MA
H.O. Coxson, PhD, Vancouver, Canada
F.C. Sciurba, MD, Pittsburgh, PA

9:15 Measuring COPD with Inspiratory and Expiratory Images

M.K. Han, MD, MS, Ann Arbor, MI

9:35 MRI for Airway Diseases: Seeing is Believing

G. Parraga, PhD, London, Canada

9:55 Imaging in Bronchiectasis: New Insights for an Old Problem

A. Diaz, MD, Boston, MA

10:15 Measuring the Fibrotic Lung Beyond the Naked Eye

D.J. Lederer, MD, MS, New York, NY

10:35 No Cath! Assessing Pulmonary Vascular Disease with Non-Contrast CT

G.R. Washko, MD, Boston, MA

10:55 Is Lung Imaging an End-Point Ready for Trials?

D.G. Parr, MA, MBBS, MD, Coventry, United Kingdom

BEHAVIORAL • CLINICAL • TRANSLATIONAL

CRITICAL CARE TRACK

B4 TARGETS FOR IMPROVED SEPSIS CARE: WHAT, WHEN, AND HOW

Assemblies on Critical Care; Behavioral Science and Health Services Research; Clinical Problems; Pulmonary Infections and Tuberculosis; Nursing

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

Target Audience

Pulmonary and critical care, emergency room, and hospitalist physicians and trainees as well as researchers, administrators, and nurses interested in learning how to apply diagnostic and therapeutic targets for the care of patients with sepsis.

Objectives

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

- Understand the importance of early antibiotic therapy for patients with sepsis.
- Learn the potential benefits and harms of early, aggressive fluid therapy for patients with sepsis.
- Understand the potential role for metabolic resuscitation with vitamin C for patients with sepsis.

The results from the ProCESS, ProMISe, and ARISE clinical trials in sepsis have generated significant uncertainty regarding the optimal therapy for patients with sepsis. Recent studies investigating early fluid therapy and metabolic resuscitation with vitamin C have only added to this confusion. This symposium will provide an opportunity to discuss both cornerstone and novel therapies for patients with sepsis and will end with a talk by an expert in the field regarding how they treat patients in light of current evidence. This symposium will provide guidance to both clinicians and scientists regarding the state of the art in sepsis care and how to use this evidence to improve patient outcomes.

Chairing: M.M. Churpek, MD, MPH, PhD, Chicago, IL
V. Liu, MD, MS, Oakland, CA
H.C. Prescott, MD, MSc, Ann Arbor, MI

9:15 Targeting Earlier Identification: From qSOFA to Big Data

M.M. Churpek, MD, MPH, PhD, Chicago, IL

9:32 Aiming for Early Antibiotics: Should we Move the Needle to the Pre-Hospital Setting?

C.W. Seymour, MD, MSc, Pittsburgh, PA

9:49 Should We be Clearing Lactate for All our Patients?

V. Liu, MD, MS, Oakland, CA

10:06 Fever Control as a Therapeutic Target in Sepsis: Is it Cool to Be Hot or Hot to Be Cold?
P. Young, MBChB, Wellington, New Zealand

10:23 Intravenous Vitamin C: An Evolving Role in Sepsis and Acute Lung Injury
A.A. Fowler, MD, Richmond, VA

10:40 Restoring the Microbiome to Improve Recovery
H.C. Prescott, MD, MSci, Ann Arbor, MI

10:57 How I Treat Patients with Sepsis in 2018
L.E. Evans, MD, MSc, New York, NY

BASIC • TRANSLATIONAL

BASIC SCIENCE CORE

B5 MITOCHONDRIA AND NUCLEAR-DERIVED DANGER-ASSOCIATED MOLECULAR PATTERNS (DAMPs) IN PULMONARY DISEASES

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

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

Target Audience

Basic and translational scientists working on lung diseases; lung health researchers, students, fellows, residents on both clinical and basic research scientists

Objectives

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

- learn about the scope of DAMPs and what the mitochondrial and nuclear-derived DAMPs are, and their potential roles in pulmonary health;
- understand the cellular and molecular mechanisms underlying how DAMPs affect immune responses in pulmonary diseases;

Emerging evidence sheds light on the role of danger or damage associated molecular patterns (DAMPs), the host-derived endogenous signals, in many inflammatory lung diseases. Both mitochondrial and nuclear components, such as mitochondrial DNA and high-mobility group box 1 (HMGB1), when released

into the extracellular milieu, can induce both innate and adaptive immune responses. These DAMPs can alter the resistance of host defense in both plants and animals to pathogens, causing cellular injury and lung diseases. The goal of this symposium is to highlight the recent advances in mitochondria and nuclear-derived DAMPs, particularly in their cell signaling, redox status, and the therapeutic potential of targeting these DAMPs in pulmonary diseases (acute lung injury, pulmonary infections, and COPD).

Chairing: T. Dolinay, MD, PhD, Philadelphia, PA
I. Rahman, PhD, Rochester, NY
P. Lee, MD, New Haven, CT
S. Grazioli, MD, Geneva, Switzerland

9:15 A Patient's Perspective
Speaker To Be Announced

9:20 Pathogen Recognition Receptors in the Generation of Protective Innate Immune Responses of the Lung
T.J. Standiford, MD, Ann Arbor, MI

9:39 Mitochondrial DAMPs and Regulation of Abnormal Inflammation in COPD
I.H. Heijink, PhD, Groningen, Netherlands

9:58 Mitochondrial Danger Signals in Acute and Chronic Lung Disease
A.M. Choi, MD, New York, NY

10:17 HMGB1 in Innate Immunity Against Pulmonary Infections in CF and VAP
L. Mantell, MD, PhD, East Meadow, NY

10:36 Mitochondrial DNA in Asthma and Chronic Bronchitis
Y. Tesfaigzi, PhD, Albuquerque, NM

10:55 Mitochondrial DAMPs in Aging and Lung Fibrosis
A.L. Mora, MD, Pittsburgh, PA

**BASIC • BEHAVIORAL
CLINICAL • TRANSLATIONAL**

SCIENTIFIC SYMPOSIUM

**B6 PRINCIPLES TO PRACTICE IN
PULMONARY REHABILITATION: A
PRO/CON DEBATE**

Assemblies on Pulmonary Rehabilitation; Behavioral Science and Health Services Research; Clinical Problems; Environmental, Occupational and Population Health; Pulmonary Circulation; Respiratory Structure and Function

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

Target Audience

Pulmonologists. Academics. Nurses. Respiratory therapists. Physical therapists. Exercise physiologists. Those with clinical and research interests in pulmonary rehabilitation. Trainees and Fellows.

Objectives

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

- understand the molecular basis by which physical fitness and physical activity imparts health benefit in cardiopulmonary diseases
- learn new finding about the mechanisms underlying skeletal muscle dysfunction in cardiopulmonary diseases
- identify the effective features of exercise training as part of an integrated pulmonary rehabilitation program

Exercise training forms the key component of pulmonary rehabilitation (PR). Speakers will draw on current advances in basic science to debate outstanding issues in PR, and how they relate to cardiopulmonary diseases. While PR is the most effective therapy for COPD and other cardiopulmonary diseases, the basic mechanisms underlying this benefit are not well known. Debates will center on the mechanisms of skeletal muscle dysfunction and whether PR addresses these deficiencies. Pro and con positions in each of 4 topics will be presented over 12

minutes, with 1 minute for rebuttal and 5 minutes discussion with the audience.

Chairing: R. Casaburi, MD, PhD, Torrance, CA
M. Steiner, MBBS, MD, Leicester,
United Kingdom

- 9:15 Introduction**
R. Casaburi, MD, PhD, Torrance, CA
- 9:17 Increasing Physical Fitness Should Be the Primary Goal of Pulmonary Rehabilitation**
H.B. Rossiter, PhD, Torrance, CA
- 9:31 Increasing Physical Activity Should Be the Primary Goal of Pulmonary Rehabilitation**
T. Troosters, PT, PhD, Leuven, Belgium
- 9:45 Muscle Fiber Atrophy in COPD Starts with Loss of Integrity in the Neuromuscular Junction**
R. Hepple, PhD, Gainesville, FL
- 10:00 Muscle Fiber Atrophy in COPD Starts with Inflammatory-Mediated Ubiquitin Proteasome Activation**
E. Barreiro, MD, PhD, Barcelona, Spain
- 10:15 Ventilatory Limitation is the Major Etiology of Exercise Intolerance in COPD**
D.E. O'Donnell, MD, Kingston, Canada
- 10:30 Skeletal Muscle Oxygen Delivery and Utilization Limitations are the Major Etiologies of Exercise Intolerance in COPD**
R. Casaburi, MD, PhD, Torrance, CA
- 10:45 Exercise Training Reverses Muscle Dysfunction in COPD**
P.D. Wagner, MD, La Jolla, CA
- 11:00 Exercise Training Does Not Reverse Muscle Dysfunction in COPD**
F. Maltais, MD, Quebec, Canada

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

B7 GENETICS, EPIGENETICS, AND GENOMICS OF CHILDHOOD LUNG DISEASES

Assemblies on Pediatrics; Allergy, Immunology and Inflammation; Pulmonary Circulation; Respiratory Cell and Molecular Biology; Genetics and Genomics Section

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

Target Audience

Pediatricians, primary care providers, and pulmonary specialists taking care of children with chronic lung disorders. Scientists whose main research focus is on the mechanisms and pathophysiology of pediatric lung disease.

Objectives

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

- learn new findings on the genetic and genomic basis of important pediatric lung diseases such as asthma, cystic fibrosis, pulmonary hypertension, and bronchopulmonary dysplasia.
- discuss the impact that these findings have in the prognosis and management of patients with these diseases.
- explore future directions for research aimed at understanding the genetic underpinning of these and other pediatric lung diseases.

Our understanding of the genetic basis of pediatric lung disease has advanced exponentially over the past several years. Beyond single-point mutations, research on the determinants of pediatric lung disease has incrementally focused on epigenetic regulation, gene-by-environment interactions, transcriptomic profiling, and other complex mechanisms. In this session, we will discuss the latest developments in the genetics and genomics of childhood asthma, cystic fibrosis, pulmonary hypertension, and bronchopulmonary dysplasia. We will also discuss the clinical implications of these recent findings.

Chairing: E. Forno, MD, MPH, Pittsburgh, PA
E.D. Austin, MD, Nashville, TN

- 9:15 Introduction**
E. Forno, MD, MPH, Pittsburgh, PA
- 9:20 Recent Advances in the Genetics and Epigenetics of Childhood Asthma**
E. Forno, MD, MPH, Pittsburgh, PA
- 9:40 Questions and Answers**
E. Forno, MD, MPH, Pittsburgh, PA
- 9:43 The Role of the Transcriptome in Asthma and Glucocorticoid Response**
B.E. Himes, PhD, Philadelphia, PA
- 10:03 Questions and Answers**
B.E. Himes, PhD, Philadelphia, PA
- 10:06 CFTR Regulation, Disease Modifiers, and Their Interactions**
L. Strug, PhD, Toronto, Canada
- 10:26 Questions and Answers**
L. Strug, PhD, Toronto, Canada
- 10:29 Genomic Regulation in Pulmonary Hypertension**
E.D. Austin, MD, Nashville, TN
- 10:49 Questions and Answers**
E.D. Austin, MD, Nashville, TN
- 10:52 Genetics and Epigenetics of Bronchopulmonary Dysplasia**
N. Ambalavanan, MD, Birmingham, AL
- 11:12 Questions and Answers**
N. Ambalavanan, MD, Birmingham, AL

CLINICAL

SCIENTIFIC SYMPOSIUM

B8 NONTUBERCULOUS MYCOBACTERIA INFECTION: CURRENT KNOWLEDGE AND RECENT ADVANCES

Assembly on Pulmonary Infections and Tuberculosis

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

Target Audience

Nurses, respiratory therapists, pulmonologists, post graduate trainees, inclusive/ advanced practitioners.

Objectives

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

- identify sources of NTM in the environment and trends in NTM epidemiology
- gain new or better strategies to diagnose NTM infections
- gain appropriate strategies to treat NTM infections

Nontuberculous mycobacteria (NTM) are present in the environment, and cause pulmonary disease that is increasingly common. Diagnosis and treatment of nontuberculous mycobacteria (NTM) remains substantially complex. The 2007 treatment guidelines for NTM (including *Mycobacterium avium* complex), based primarily on expert opinion, have been updated and will be published prior to the ATS 2018 meeting. The session will review our current knowledge of NTM epidemiology, diagnosis, and treatment and present the latest global research updates.

Chairing: K.L. Winthrop, MD, MPH, Portland, OR
S.H. Kasperbauer, MD, Denver, CO
K.N. Olivier, MD, MPH, Bethesda, MD

9:15 NTM Epidemiology

E. Henkle, PhD, MPH, Portland, OR

9:35 Environmental NTM

R. Thomson, MBBS, PhD, Greenslopes, Australia

9:55 Molecular Epidemiology

J. van Ingen, PhD, Nijmegen, Netherlands

10:15 Immunology/Pathogenesis

K.N. Olivier, MD, MPH, Bethesda, MD

10:35 Diagnosis of NTM

K. Morimoto, MD, Tokyo, Japan

10:55 Updates in Pulmonary NTM Disease Treatment: At the Start of a Pipeline?

C.L. Daley, MD, Denver, CO

BASIC • TRANSLATIONAL**SCIENTIFIC SYMPOSIUM****B9 TH17 CELLS: FRIEND, FOE OR BOTH IN CHRONIC LUNG DISEASES**

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

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

Target Audience

All basic, translational and clinical investigators, junior faculty and fellows with an interest in innate and adaptive immune cell development and function during the progression of chronic lung diseases and resultant therapeutic interventions.

Objectives

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

- acquire an understanding of how innate or adaptive immune dysfunction contributes to pathophysiology in chronic lung disease.
- understand Th17 plasticity and evolution in chronic lung inflammation.
- identify novel mechanisms that facilitate Th17 pathogenesis

This session will delineate the contribution of Th17 cells in chronic lung disease with a focus on its contribution to pathophysiology or clinical resolution.

Chairing: W.P. Drake, MD, Nashville, TN
A.P. Fontenot, MD, Aurora, CO
A.I. Sperling, PhD, Chicago, IL

9:15 Metabolic Dependencies of T Cells in Inflammation

J. Rathmell, PhD, Nashville, TN

9:35 IL-17A Drives Infectious and Noninfectious Pulmonary Fibrosis

T. Wynn, PhD, Bethesda, MD

9:55 Significance of Th17 Pathway Signaling in IPF Clinical Outcome

J.D. Herazo-Maya, MD, New Haven, CT

10:15 Recalibrating Severe Asthma: Th1 and Th17 Cells

A. Ray, PhD, Pittsburgh, PA

10:35 Hormonal Control of Th17-Mediated Inflammation in Asthma

D.C. Newcomb, PhD, Nashville, TN

10:55 IL-17 and Lung Epithelial Signaling in Host Defense

J.K. Kolls, MD, New Orleans, LA

**BEHAVIORAL • CLINICAL • TRANSLATIONAL
SCIENTIFIC SYMPOSIUM**

B10 LUNG CANCER SCREENING: WHO'S IN AND WHO'S OUT? A PRO/CON DEBATE

Assemblies on Thoracic Oncology; Behavioral Science and Health Services Research

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

Target Audience

Providers of lung health, practitioners who manage lung cancer screening, policy makers, behavioral and clinical scientists, translational scientists with an interest in lung cancer

Objectives

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

- understand the risks and benefits of lung cancer screening for patients with severe COPD and incorporate this knowledge into clinical decision-making.
- understand and be able to apply various methods for determining patient eligibility for lung cancer screening
- learn the potential role for biomarkers in determining patient eligibility for lung cancer screening and how this may be integrated into clinical practice.

The NSLT showed a 20% reduction in lung cancer mortality with yearly LDCT screening of high-risk patients. Current USPSTF guidelines recommend yearly screening in patients aged 55-80 with a greater than 30 pack-year smoking history who currently smoke or have quit within 15 years. Using a pro-con debate approach, this session will address key questions about patient selection for

LDCT screening such as: what is the role for screening in patients with severe COPD, should patient selection for screening be based on guideline criteria or individual risk factors, and should biomarkers be used in determining which patients should undergo screening.

Chairing: J. Iaccarino, MD, Boston, MA
M.P. Rivera, MD, Chapel Hill, NC
L.T. Tanoue, MD, New Haven, CT
C.R. Sears, MD, Indianapolis, IN

9:15 Patients with Moderate to Severe COPD Should Undergo LDCT Screening for Lung Cancer

J.J. Zulueta, MD, Navarra, Spain

9:35 Patients with Moderate to Severe COPD Should Not Undergo LDCT Screening for Lung Cancer

J. Iaccarino, MD, Boston, MA

9:55 LDCT Screening Patient Selection Should Be Based on USPSTF Guideline Criteria

C.G. Slatore, MD, Portland, OR

10:15 LDCT Screening Patient Selection Should Be Based on Personalized Lung Cancer Risk Prediction Models

M.C. Tammemagi, PhD, Toronto, Canada

10:35 Biomarkers Should Be Utilized in Determining Patient Selection for Lung Cancer Screening

R.P. Young, MBChB, MD, PhD, Auckland, New Zealand

10:55 Biomarkers Should Not Be Utilized in Determining Patient Selection in Lung Cancer Screening

C.R. Sears, MD, Indianapolis, IN

**BASIC • BEHAVIORAL
CLINICAL • TRANSLATIONAL
SCIENTIFIC SYMPOSIUM**

B11 FROM E-CIGARETTES TO MARIJUANA: ADDICTION IN PULMONARY AND CRITICAL CARE MEDICINE

Assemblies on Behavioral Science and Health Services Research; Respiratory Cell and Molecular Biology

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

Target Audience

All physicians and nurses. Researchers with an interest in marijuana, electronic cigarettes, smoking, and alcohol misuse.

Objectives

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

- integrate translational, clinical, and epidemiological research into discussions with patients about the risks of electronic cigarettes and combustible marijuana
- combine translational and clinical research findings to inform discussions with patients about emerging therapies for COPD and tailored options for smoking cessation
- gain new findings about how to modify impaired immunity in the alcoholic lung and the barriers to intervention in survivors of critical illness with alcohol misuse

The emergence of electronic cigarettes and the legalization of recreational and medical marijuana combined with the high prevalence of cigarette smoking and alcohol misuse bring addiction issues to the forefront of many clinical encounters in pulmonary and critical care medicine. This scientific symposium will focus on areas in which addiction medicine intersects with pulmonary and critical care medicine. The session will bring together outstanding investigators to highlight cutting-edge basic, translational, and clinical investigation and discuss research in a way that can inform bedside conversations in the pulmonary clinic and the intensive care unit.

Chairing: B.J. Clark, MD, MS, Aurora, CO
W.J. Janssen, MD, Denver, CO
A.C. Melzer, MD, MS, Minneapolis, MN

9:15 What Does Translational Research Teach Us About the Toxicities of Electronic Cigarettes?

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

9:30 Are Electronic Cigarettes an Emerging Public Health Problem?

Speaker To Be Announced

9:45 What Does Translational Research Teach Us About the Toxicities of Inhaled Marijuana?

D.P. Tashkin, MD, Los Angeles, CA

10:00 Marijuana and Lung Health in 2018: What Do We Know and Where Should We Go?

E.L. Burnham, MD, Denver, CO

10:15 Emerging Therapies to Alter the Natural History of COPD

P.J. Barnes, MD, DSc, London, United Kingdom

10:30 Personalizing Financial Incentives for Smoking Cessation

S.D. Halpern, MD, PhD, Philadelphia, PA

10:45 Modifying Impaired Immunity in the Alcoholic Lung Through PPAR-Gamma

S.M. Yeligar, PhD, MS, Decatur, GA

11:00 Are ICU Teams Missing an Opportunity to Intervene in Alcohol Misuse?

M. Afshar, MSCR, MD, Maywood, IL

CLINICAL

SCIENTIFIC SYMPOSIUM

B12 GLOBAL CARE FOR SLEEP DISORDERS: TOWARDS UNIVERSAL ACCESS

Assemblies on Behavioral Science and Health Services Research; Clinical Problems; Nursing; Pediatrics; Sleep and Respiratory Neurobiology; International Health Committee

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

Target Audience

Physicians, Health services and outcomes researchers, Advance Practice Nurses, Quality and Comparative effectiveness researchers, pediatric and adult Residents and Trainees

Objectives

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

- understand the global burden of sleep problems, sleep apnea and the current gap in healthservices.
- learn the innovative models of care that rely on technology to improve access, efficiency and quality of care.

- apply lessons from diverse health systems around the world to develop, test and implement novel models of care that aim to provide quality accessible care for all.

To discuss diverse models of care for Sleep Apnea (SA) and other sleep disorders across different geographical /socioeconomic regions, throughout the world, and how we can extend the reach of sleep health service provision to under-resourced areas. Innovative models of care from diverse countries and health systems will be discussed with a focus on quality and cost-effectiveness tools employed in each unique setting.

Chairing: M. Teodorescu, MD, MS, Madison, WI
A.S. Buist, MD, Portland, OR
C. Chai-Coetzer, MBBS, PhD, Adelaide, Australia
B. Prasad, MD, Chicago, IL

- 9:15 Introduction: Burden of Sleep Disorders Around the World**
A. Malhotra, MD, La Jolla, CA
- 9:33 Primary Care Physician and Specialist Nurse Led Models of Care for OSA: Data from Down Under**
C. Chai-Coetzer, MBBS, PhD, Adelaide, Australia
- 9:51 In-Laboratory Versus Ambulatory Management of SA: Can We Do More for Less?**
N. Ayas, MPH, MD, Vancouver, Canada
- 10:09 Telemedicine and Wearable Technologies to Enhance the Reach of Sleep Services**
A.V. Shelgikar, MD, Ann Arbor, MI
- 10:27 Models of Care for SA From Around the World: Lessons From Diverse Economies. Part I: Germany**
G. Nilius, MD, Hagen, Germany
- 10:35 Models of Care for SA From Around the World: Lessons From Diverse Economies. Part II: Spain.**
M. Sanchez De La Torre, PhD, Lleida, Spain

10:43 Models of Care for SA From Around the World: Lessons From Diverse Economies. Part III: Turkey

Y. Peker, MD, PhD, Istanbul, Turkey

10:51 Models of Care for SA From Around the World: Lessons From Diverse Economies. Part IV: Romania

O.C. Deleanu, MD, Bucharest, Romania

10:59 Models of Care for SA From Around the World: Lessons From Diverse Economies. Part V: Brazil

G.A. Moreira, MD, Sao Paulo, Brazil

11:07 Models of Care for SA From Around the World: Lessons From Diverse Economies. Part VI: India
S. Sinha, MD, New Delhi, India

BEHAVIORAL

ATS PRESIDENT'S SYMPOSIUM

B13 METACOGNITION IN MEDICINE: UNDERSTANDING HOW THE MIND WORKS TO IMPROVE TEACHING, LEARNING, AND PATIENT CARE

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

Target Audience

Physicians and nurses, respiratory therapists and pharmacists who provide patient or medical education and clinical care would benefit from this session. Medical trainees, including students, residents, and fellows would also value this session.

Objectives

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

- describe core cognitive process in critical thinking and clinical decision making;
- discuss how to apply core concepts in thinking and decision making to effective, efficient, and evidence-based teaching strategies in a variety of clinical classroom settings;
- describe the patient's perspective in teaching and learning, and identify effective strategies for teaching

patients and families with the goal of optimizing patient understanding and clinical outcomes.

Education is a core skill of an effective health care provider. From teaching patients and families about clinical issues, to training the next generation of physicians and other health care providers, effective and efficient educational skills are critical for all health care providers. This Symposium will review the foundational processes of how humans think and how to leverage those concepts for effective teaching in a variety of settings. Educating patients will be specifically emphasized, including considerations for teaching adherence and active participation in one's own medical care, with the goal of improving patient outcomes.

Chairing: R. Adamson, MBBS, Seattle, WA
G.W. Garrison, MD, Burlington, VT
J.B. Richards, MD, MA, Boston, MA

- 9:15 Introduction**
J.B. Richards, MD, MA, Boston, MA
- 9:20 Diagnostic Reasoning in Medicine: How Doctors Think**
G. Norman, MD, Hamilton, Canada
- 9:40 How to Make it Stick: Secrets From the Science of Learning**
W.G.G. Carlos, MD, MSCR, Indianapolis, IN
- 9:55 Thinking Critically About Critical Thinking: Teaching Better Thinking**
R.M. Schwartzstein, MD, Boston, MA
- 10:15 Interprofessional Education: Learning Together to Improve Outcomes**
P.A. Kritek, MD, Seattle, WA
- 10:35 Educating Patients and Families to Improve Outcomes**
F. Blackstock, PhD, Penrith, Australia
- 10:55 The Patient Perspective: What You Taught vs. What I Learned**
A.S. Clay, MD, Durham, NC
- 11:10 Summary**
R. Adamson, MBBS, Seattle, WA
G.W. Garrison, MD, Burlington, VT

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 2018
Where today's science
meets tomorrow's care™

**International Conference
San Diego, CA**

Monday Mid-day, May 21

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 **A. Sonia Buist, MD, Professor Emerita of Medicine**, Division of Pulmonary and Critical Care Medicine, School of Medicine, Oregon Health & Science University, as our speaker this year.

Dr. Buist is ATS past president and the founder of the ATS Methods in Epidemiologic, Clinical, and Operations Research (MECOR) program. She is a passionate advocate for advancing global public health policy through research, and truly embodies the ATS vision of "helping the world breathe." Dr. Buist will discuss issues that are relevant to female medical professionals followed by a question and answer period.

In addition, the **2018 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 **Janet Lee, MD**, 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 HOW TO DESIGN A ROBUST CLINICAL TRIAL IN SLEEP APNEA: LOOKING BACK, LOOKING AHEAD

R Registration Fee: \$75 (includes box lunch)

Attendance is limited. Pre-registration is required.

Assemblies on Sleep and Respiratory Neurobiology; Behavioral Science and Health Services Research; Clinical Problems

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

Target Audience

Junior and senior investigators interested in designing clinical trials in sleep medicine; providers of sleep apnea treatment; those interested in behavioral science and health services research

Objectives

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

- identify limitations of recently published negative clinical trials in sleep apnea;
- learn new strategies to design future clinical trials in sleep apnea such as novel clinical trial designs, choosing individual vs. composite endpoints vs. surrogate measures of important clinical outcomes;
- integrate new strategies (learnt from COPD, Cystic Fibrosis and Hypertension clinical trials) to improve CPAP adherence in future clinical trials in sleep apnea.

This workshop will provide participants with the tools to design the next best clinical trial in sleep apnea. The workshop will begin with a brief synopsis of the limitations of previously published trials (i.e. SAVE trial) and its major focus will be to discuss strategies for designing robust future clinical trials in sleep apnea. These strategies will include: novel clinical trial design application; choosing the right study endpoint(s); applying lessons learnt from other pulmonary disease trials (such as from COPD and Cystic Fibrosis) to

improve CPAP adherence; CPAP dosing and interpretation in clinical trials.

Chairing: N.A. Shah, MD, MPH, MSci, New York, NY
S. Pamidi, MD, Montreal, Canada
D.J. Gottlieb, MD, MPH, Boston, MA

11:45 Introduction

N.A. Shah, MD, MPH, MSci, New York, NY

11:55 Looking Ahead: Future Clinical Trial Designs in Sleep Apnea

S.S. Redline, MD, Boston, MA

12:15 Dosing and Interpretation of CPAP Adherence in Clinical Trials

D.M. Rapoport, MD, New York, NY

12:35 Strategies to Improve CPAP Adherence in Future Clinical Trials: Lessons From Other Disciplines

K.A. Riekert, PhD, Baltimore, MD

12:55 Individual and Composite Study Endpoints: Separating the Wheat from the Chaff

R.J. Goldberg, PhD, Worcester, MA

CLINICAL

WORKSHOP

WS4 CARING FOR THE CHRONICALLY-VENTILATED CHILD: FROM HOSPITAL TO HOME

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

Assembly on Pediatrics

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

Target Audience

Pulmonologists, intensivists, neonatologists, fellows/residents, practitioners from both large academic centers and smaller community hospitals

Objectives

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

- summarize and implement the ATS Chronic Home Invasive Ventilation Guidelines;

- develop and/or improve a center-specific standardized discharge process and care plan for the chronically-ventilated children who receive care at their respective institutions.

Children with chronic respiratory failure may benefit from long-term mechanical ventilation via tracheostomy at home. Although caring for a chronically-ventilated child at home poses implicit risk, such care can be provided safely in this setting. In some cases, chronic respiratory failure improves over time and permits weaning ventilation and tracheostomy decannulation. Approaches to caring for technology-dependent children vary significantly among centers. Experts in pediatric pulmonology, aerodigestive evaluation, critical care, and sleep medicine will discuss important aspects of caring for this fragile patient population. An interactive roundtable discussion will follow to encourage audience participation.

Chairing: C.D. Baker, MD, Aurora, CO
A. Cristea, MD, Indianapolis, IN

11:45 Pediatric Chronic Home Invasive Ventilation Guidelines

L.M. Sterni, MD, Baltimore, MD

11:55 A Standardized Discharge Process for Unique Chronically-Ventilated Children

C.D. Baker, MD, Aurora, CO

12:05 Trach Safe: Improving the Safety of Every Child with a Trach

J.J. Soares, MD, Seattle, WA

12:15 Variation in the Approach to Chronic Ventilation: Location Matters

J. Edwards, MD, MA, New York, NY

12:30 Weaning Chronic Ventilation and Decannulation: It's All About the Timing

A. Cristea, MD, Indianapolis, IN

12:45 Round Table Discussion (with all speakers)

C.D. Baker, MD, Aurora, CO

CLINICAL

ADULT CLINICAL CORE CURRICULUM

CC2 CRITICAL CARE CLINICAL CORE CURRICULUM I

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: J.I. McSparron, MD, Ann Arbor, MI
M.M. Hayes, MD, Boston, MA
A. Luks, MD, Seattle, WA

11:45 Neurology: Monitoring
M.D. Boone, MD, Boston, MA

12:15 Neurology: Non-Traumatic Intracranial Hemorrhage
B. Czeisler, MD, New York, NY

12:45 Endocrinology/Metabolism: Endocrinologic Emergencies
A. Brady, MD, Portland, OR

AMERICAN LUNG ASSOCIATION AIRWAYS CLINICAL RESEARCH CENTERS

L11 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:

- gain new findings about the often undetected depression and anxiety in patients with COPD;
- learn new findings about improving clinical trial efficiency through use of internet-based remote electronic consenting and monitoring procedures;
- to diagnose if depressed asthmatics are more susceptible to enhanced advertising and the effects of placebo compared to non-depressed asthmatics.

This session is the first presentation of the results of the ACE study and MICT trial. The ACE study evaluated and compared diagnostic accuracy of 3 anxiety screening questionnaires using the MINI version 7.0 as the gold standard. 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 lower-cost methods for conducting clinical trials and encourage more families to participate. For the TAPE trial, the question of whether any underlying psychological risk, specifically depression, alters the placebo effect in participants with asthma.

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

12:15 ACE Main Results, Summary, and Conclusions
M. Eakin, PhD, Baltimore, MD

12:35 MICT Main Results, Summary, and Conclusions
K. Blake, PharmD, Jacksonville, FL

12:55 TAPE Placebo Effect and Depression
A.M. Mathews, MD, Durham, NC

**NATIONAL INSTITUTE OF ALLERGY AND
INFECTIOUS DISEASES, NIH**

L12 WHAT FACTORS DETERMINE ASTHMA SEVERITY: LESSONS FROM THE NIH INNER CITY ASTHMA CONSORTIUM

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

Target Audience

Clinicians, researchers, health care administrators, public health specialists, asthma educators

Objectives

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

- learn new findings on how an obstructive phenotype determined by spirometry may be a valuable biomarker to assess asthma risk and to guide therapy;
- discuss how severity of allergic rhinitis relates to asthma severity;
- learn new findings about longitudinal asthma phenotypes and the environmental influences associated with them.

The Inner City Asthma Consortium (ICAC) recently completed a year long followup of children and adolescents with asthma. Data from this study provide insight into the roles of air trapping as measured by spirometry and allergic rhinitis in predicting asthma severity. Also data from an ongoing birth cohort (URECA) will be used to demonstrate the relation between different asthma phenotypes and asthma severity.

Chairing: P.J. Gergen, MD, MPH, Rockville, MD

12:15 Are There Phenotypes of Airflow Obstruction in Asthma and Do They Contribute to Disease Severity?

R.L. Sorkness, PhD, Madison, WI

12:35 If Asthma Is a “One Airway Disease” How Does Rhinitis Affect Disease Severity?

A. Togias, MD, Bethesda, MD

12:55 What Phenotypes in Childhood Asthma Emerge in Association with Disease Severity?

L.B. Bacharier, MD, Saint Louis, MO

NIH-OFFICE OF THE DIRECTOR, ECHO PROGRAM

L13 ENVIRONMENTAL INFLUENCES ON CHILD HEALTH OUTCOMES: RESPIRATORY AND SLEEP RESEARCH IN 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 during prenatal and early postnatal life;
- learn and understand how air pollution exposures can be modeled to inform pediatric respiratory health;
- understand measures of asthma phenotypes and variation in US incidence rates nationwide.

The NIH supported Environmental Influences on Child Health Outcomes (ECHO) program is designed to investigate influences of environmental exposures (physical, chemical, biological, social, behavioral, natural and built environments) on child health and development, including respiratory outcomes among multiple, synergistic, longitudinal studies using existing cohort populations. The multiple cohorts will share standardized core data elements from ~50,000 children using meta-analyses and common data elements. This

session will focus on examples of ECHO cohort research on environment and respiratory outcomes, opportunities to expand these to ECHO wide, and how researchers can participate in ECHO.

Chairing: C.J. Blaisdell, MD, Bethesda, MD
F.D. Gilliland, MD, PhD, Los Angeles, CA

12:15 Overview of Respiratory Outcomes in ECHO
F.D. Gilliland, MD, PhD, Los Angeles, CA

12:27 Comparison of Asthma Definitions and Incidence in the Echo Cohorts
C.C. Johnson, PhD, MPH, Detroit, MI

12:39 Environment in ECHO: Approaches for Air Pollution Exposure Assessment, Modeling and Measurements
R. Habre, ScD, Los Angeles, CA

12:51 Studies of Lung Function Outcomes in ECHO
A.A. Litonjua, MD, Rochester, NY

1:03 The ECHO Approach to Children’s Positive Health
C.A. Camargo, MD, MPH, DrPH, Boston, MA

U.S. FOOD AND DRUG ADMINISTRATION (FDA)

L14 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:

- competently use ICS/LABA medications in the maintenance treatment of asthma and have a clear understanding of the risk/benefit profile of this fixed dose combination product;
- understand the current risk/benefit framework for the treatment of cough with opioid-containing medications in the pediatric population;

- appreciate the benefits of single vs. multiple inhaler use in COPD patients with advanced disease requiring treatment with multiple medications.

The most recent regulatory FDA actions including recent drug approvals for pulmonary diseases (asthma, COPD, cystic fibrosis) will be discussed. Safety issues including the Agency’s review and decisions regarding the completed long-acting beta agonists (LABAs) safety studies in asthma, as well as the Agency’s ongoing efforts regarding current risk/benefit assessment of opioid drugs (in pediatric populations) for cough will be presented. The current regulatory framework for combination drug development in COPD will be discussed.

Chairing: B. Karimi-Shah, MD, White Oak, MD
L.I. Gilbert-McClain, MD, Silver Spring, MD

12:15 Introduction
B. Karimi-Shah, MD, Silver Spring, MD

12:18 Pulmonary Update From the FDA
S. Seymour, MD, Silver Spring, MD

12:33 Long-Acting Beta Agonists and Asthma: Update on FDA’s Conclusions and Regulatory Actions
R. Lim, MD, Silver Spring, MD

12:51 Development of Fixed Dose Combination Products in COPD
B. Karimi-Shah, MD, Silver Spring, MD

1:09 Questions and Answers
B. Karimi-Shah, MD, Silver Spring, MD

VARIOUS ORGANIZATIONS

L15 RESEARCH FUNDING OPPORTUNITIES

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

Target Audience

Any ATS conference attendees who are conducting research and seeking 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;
- describe the research funding mechanisms of each agency represented on the panel;
- identify a funding agency that is most closely aligned with the attendee's research interest/program of research.

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. Tate, PhD, RN, Columbus, OH
J.L. Guttormson, PhD, Milwaukee, WI

12:15 ATS Foundation

R.J. Schwab, MD, Philadelphia, PA

12:25 American Lung Association

S. Rappaport, MPH, New York, NY

12:35 National Institute of Nursing Research

K. Huss, PhD, Bethesda, MD

12:45 National Heart, Lung, and Blood Institute

L.A. Reineck, MD, Bethesda, MD

12:55 Patient-Centered Outcomes Research Institute

J. Slutsky, PA, MSPH, Washington DC, DC

1:05 Panel Discussion

J. Tate, PhD, RN, Columbus, OH

DIVISION OF LUNG DISEASES/NHLBI, NIH

L16 THE NATIONAL SLEEP RESEARCH RESOURCE: VISUALIZING AND SHARING DATA AND TOOLS

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

Target Audience

Clinical researchers, epidemiologists, bioinformatic specialists, and clinicians

Objectives

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

- identify opportunities for investigators to address critical questions about the impact of sleep disorders on health outcomes;
- learn about a "Sleep Data Commons" platform including sleep research digital objects; data sets; interfaces and tools for analysis meeting FAIR principles;
- identify applications of machine learning and advanced signal processing to uncover novel predictors of disease susceptibility.

The audience will be informed about new scientific advances using a large, web-based, sleep research resources to identify genetic risk factors, elucidated pathobiological mechanisms, and estimate the risk of mortality in overnight physiological recordings. Data-driven scientific presentations will introduce the capabilities of the NHLBI-funded National Sleep Research Resource, the Sleep Data Commons, and opportunities for advance analyses of biological signals and machine learning.

Chairing: M. Twery, PhD, Bethesda, MD
S.M. Purcell, PhD, Boston, MA

12:15 Overview of the NSRR: An Engine for Identifying Novel Genetic Markers

S.M. Purcell, PhD, Boston, MA

12:30 A Detailed Characterization of Hypoxia and Desaturation Profiles with Age and Gender in the Sleep Heart Health Study

P.I. Terrill, PhD, Brisbane, Australia

12:45 Apnea Event Durations Predict Cardiovascular Disease and Mortality

M.P. Butler, PhD, Portland, OR

1:00 Sleep Health Profiles and Mortality Risk in Older Adults

M. Wallace, PhD, Pittsburgh, PA

DIVISION OF LUNG DISEASES/NHLBI, NIH

L17 COLLABORATIVE PROJECTS TO ACCELERATE RESEARCH IN ORGAN FIBROSIS

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

Target Audience

Researchers interested in lung or multi-organ fibrosis;
 Researchers developing collaborative, interdisciplinary research programs.

Objectives

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

- Learn new findings about common mechanisms of fibrosis across organ systems including the lung
- Be able to more effectively design and organize collaborative interdisciplinary research efforts
- Increase awareness of novel therapeutic targets and biomarkers to treat and diagnose fibrosis

This session highlights work from an NHLBI-sponsored program that fosters collaborations among researchers studying fibrosis in the lung and other organ systems that aims to characterize mechanisms of aberrant fibrosis in different organ systems, develop novel therapeutic strategies to lessen organ fibrosis, and improve technologies to study fibrosis.

Chairing: M. Craig, PhD, Bethesda, United States

12:15 Novel Role of RIPK3-Dependent Necroptosis Pathway in Lung and Kidney Fibrosis
 A.M.K. Choi, MD, New York, NY

12:30 TRPV4-PI3K Axis Mediates Pulmonary and Cardiac Fibrosis
 M.A. Olman, MD, MA, Cleveland, OH

12:45 Role of Pericytes in Scleroderma Skin and Lung Fibrosis
 L.M. Schnapp, MD, Charleston, SC

1:00 Targeting Matrix Stiffness in Lung and Liver Fibrosis
 D.J. Tschumperlin, PhD, Rochester, MN

DIVISION OF LUNG DISEASES/NHLBI, NIH

L18 HOUSEHOLD AIR POLLUTION AND HEALTH: A MULTI-COUNTRY LPG INTERVENTION TRIAL

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

Target Audience

Lung health professionals and clinical and basic researchers; environmental health clinical and basic researchers; biomarker researchers

Objectives

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

- learn new finding about indoor air pollution and its consequences for health;
- improve the quality of life/ health status of patients using indoor air pollutants;
- understand the difficulties of pairing interventional and behavioral treatments in the low to middle income setting.

Globally, nearly 3 billion people rely on solid fuels for cooking and heating, the majority in low- and middle-income countries (LMICs). The resulting household air pollution (HAP) is the third leading risk factor in the 2010 global burden of disease, accounting for an estimated 4.3 million deaths annually, largely among women and young children. The presenters will describe to the audience a large-scale field trial with liquefied petroleum gas (LPG) cookstoves that is aiming at reducing exposure to levels that produce meaningful health improvements. The trial is randomizing 3,200 households in four LMICs (India, Guatemala, Peru, and Rwanda).

Chairing: A. Punturieri, MD, Bethesda, MD

12:15 Introduction to the HAP Trial
 T. Clasen, PhD, Atlanta, Georgia

12:27 Environmental Exposures and Indoor Air Pollution in HAP
 J.L. Peel, MPH, PhD, Fort Collins, CO

- 12:39 HAP Trial Design and Clinical Outcomes**
W. Checkley, MD, PhD, Baltimore, MD
- 12:51 The HAP Biomarker Study**
M. Clark, PhD, Fort Collins, CO
- 1:03 Questions and Answers**
A.S. All Speakers, PhD, All Speakers, United States

DIVISION OF LUNG DISEASES/NHLBI, NIH

L19 INVESTIGATORS CREATING ASTHMA EMPOWERMENT COLLABORATIONS TO REDUCE CHILDHOOD ASTHMA

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

Target Audience

Clinicians managing pediatric asthma and those interested in community based research, disparities in health outcomes, and implementation science

Objectives

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

- describe the value of a community needs assessment;
- understand how to engage community based stakeholders;
- address the needs of patients and their families for asthma care.

To make substantial progress in reducing disparities by improving the care of children at high risk of poor asthma outcomes, NHLBI supported researchers to design and develop comprehensive Asthma Care Implementation Programs (ACIP) that include evidence-based interventions from at least four different sectors that contribute to the care of children with asthma: medical care, families, home environment, and the community. Given the expectation that the ACIPs will be community based, investigators conducted community needs assessments.

Chairing: M.M. Freemer, MD, MPH, Bethesda, MD

- 12:15 A Community Needs Assessment on the Navajo Nation**
B.G. Bender, PhD, Denver, CO
- 1:00 Panel Discussion/ Questions**
M.M. Freemer, MD, MPH, Bethesda, MD
J.P. Hollenbach, PhD, AE-C, Hartford, CT
E. Ruvalaba, MSPH, Baltimore, MD

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 REFRACTORY ASTHMA: A MULTIDISCIPLINARY APPROACH**
P. Akuthota, MD, La Jolla, CA
V. Pandurangan, MD, PhD, La Jolla, CA
- MP502 PREPARING TO TEACH ONLINE: FROM LECTURE TO ENGAGEMENT**
G.L. Narsavage, PhD, MSN, RN, APRN, Morgantown, WV
- MP503 INTERPRETATION OF SEROLOGIES DURING INTERSTITIAL LUNG DISEASE INVESTIGATION**
S. Chartrand, MD, Montreal, Canada
- MP504 ALPHA-1 ANTITRYPSIN DEFICIENCY: STATE OF THE ART**
J.K. Stoller, MD, MS, Cleveland, OH
- MP505 METAPHORIC SIGNS IN CT CHEST IMAGING**
A.C. Mehta, MBBS, Cleveland, OH
- MP506 STRATEGIES FOR ENHANCING CRITICAL THINKING AT THE BEDSIDE**
R.M. Schwartzstein, MD, Boston, MA
- MP507 EXTRACORPOREAL MEMBRANE OXYGENATION: PHYSIOLOGICAL CURIOSITIES**
K.M. Wille, MD, MSPH, Birmingham, AL
B. Zakhary, MD, New York, NY
N.S. Sharma, MD, Birmingham, AL

MP508 SUBSTANCE ABUSE, INCLUDING THE OPIOID CRISIS AND ITS CONTRIBUTION TO THE GLOBAL BURDEN OF RESPIRATORY DISEASES

M. Akpınar-Elci, MD, MPH, Norfolk, VA
K.L. Bailey, MD, Omaha, NE

MP509 MANAGEMENT OF PATIENTS WITH SEVERE COMMUNITY-ACQUIRED PNEUMONIA

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

MP510 EXPERIENCES IN OUTPATIENT PULMONARY PALLIATIVE CARE

D.M. Donesky, PhD, ANP-BC, San Francisco, CA
S. Booth, MD, Cambridge, United Kingdom

MP511 WHAT'S NEW IN THE PULMONARY MANAGEMENT OF NEUROMUSCULAR DISEASE

G.D. Sharma, MD, Chicago, IL

MP512 CTEPH: MEDICINE, SURGERY OR ANGIOPLASTY?

N.H. Kim, MD, La Jolla, CA
D.S. Poch, MD, La Jolla, CA
M. Madani, MD, La Jolla, CA

MP513 OBESITY HYPOVENTILATION SYNDROME: WHAT THE CLINICIAN NEEDS TO KNOW

B. Sunwoo, MBBS, San Diego, CA
O. Mesarwi, MD, La Jolla, CA
B. Mokhlesi, MD, MS, Chicago, IL

MP514 SIMPLIFYING CLINICAL RELEVANCE OF BRONCH-BIOPSY TUMOR GENOMICS: WHAT PULMONOLOGISTS NEED TO KNOW

D. Upadhyay, MD, Fresno, CA

MP515 OFFICIAL ATS DOCUMENTS: HOW TO GET INVOLVED

K.C. Wilson, MD, Boston, MA
R.A. Dweik, MD, Cleveland, OH

MP516 PLEURAL INFECTION: MODERN EVIDENCE BASED MANAGEMENT

N. Rahman, BM BCH, MSc, DPhil, Oxford, United Kingdom

MEDICAL EDUCATION SEMINAR

ME2 COMPOSING AN EDUCATIONAL SYMPHONY: INTERDISCIPLINARY TEACHING IN THE ICU

R Registration Fee: \$70 (includes box lunch)
Attendance is limited. Pre-registration is required.

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

Target Audience

All providers who participate in ICU rounds- including but not limited to: students, residents, fellows, nurses, pharmacists, and respiratory therapists.

Objectives

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

- Develop strategies to create an educational environment that promotes interdisciplinary teaching in the ICU
- Formulate questions that create focused opportunities for teaching by interdisciplinary team members
- Manage the flow of interdisciplinary teaching in order to maintain rounds that are both inclusive and efficient

This session will focus on strategies to promote interdisciplinary teaching in the intensive care unit. We will present an overview of the literature supporting the importance of interdisciplinary teams and discuss approaches to creating an environment conducive to collaborative teaching. Through video portrayals of common teaching and learning scenarios that occur during ICU rounds, we will explore opportunities for teaching by various team members, such as nurses, respiratory therapists, and pharmacists. In addition, through interactive discussion, the group will identify specific strategies to address common challenges and avoid potential pitfalls related to interdisciplinary teaching.

Speakers: A. Anandaiah, MD, Boston, MA
J. O'Toole, DO, Burlington, VT
K. Burkart, MD, MSc, New York, NY

CLINICAL

THEMATIC SEMINAR SERIES

TSS1 NEUROMUSCULAR RESPIRATORY FAILURE: PART 2

R Registration Fee: \$140 for full series (includes box lunch)
Attendance is limited. Pre-registration is required.

This is part 2 of a 3-part series. Those registering for this seminar series will be registered for all 3 parts. The program for the full series is included with the Sunday, May 20, 12:15 p.m. program.

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

Update on the Management of Respiratory Failure in DMD

R. Shell, MD, Columbus, OH

Extubation Protocols for the “Unweanable”

L. Wolfe, MD, Chicago, IL



ATS 2018
*Where today's science
meets tomorrow's care™*

**International Conference
San Diego, CA**

Monday 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.

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: Steven L. Brody, MD, St. Louis, MO
Jeffrey J. Fredberg, PhD, Boston, MA
Darrel N. Kotton, MD, Boston, MA
Bruce D. Levy, MD, Boston, MA

CLINICAL

ADULT CLINICAL CORE CURRICULUM

CC3 SLEEP MEDICINE CLINICAL CORE CURRICULUM II

2:15 p.m. - 4:15 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.M. Jamil, MD, La Jolla, CA
T.S. Wang, MD, Los Angeles, CA
W.D. Conwell, MD, Aurora, CA

2:15 RLS/PLMD

B.A. Philips, MD, MPH, Lexington, KY
S. Pasha, MD, Lexington, KY

2:45 REM Behavior Disorders

B. Fields, MD, Decatur, GA

3:15 Sleep in Neurologic Disorders
M. Lipford, MD, Rochester, MN

3:45 Sleep in Neuromuscular Disease
T. Russell, MD, St. Louis, MO

BEHAVIORAL • CLINICAL • TRANSLATIONAL

YEAR IN REVIEW

B81 NURSING YEAR IN REVIEW**Assembly on Nursing**

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

Target Audience

Clinicians and researchers who care or study older adults who experience chronic pulmonary illness, an ICU admission, or sleep problems.

Objectives

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

- describe current knowledge as well as gaps in knowledge in aging biology of the lung, acute and chronic pulmonary conditions, sleep disorders, and pulmonary rehabilitation in the older adult;
- identify future research directions and clinical practice initiatives targeted to older adults who experience pulmonary, critical illness or sleep disorders;
- discuss policy and advocacy implications for older adults with pulmonary disease, critical illness and sleep disorders.

This session will review the current state of knowledge of older adults in pulmonary, critical care and sleep. Topic areas will include: aging lung physiology; critical care; chronic pulmonary disorders; pulmonary rehabilitation; sleep and health policy. Each speaker will review recent studies, discuss current gaps and highlight implications to clinical practice and future research.

Chairing: J. Tate, PhD, RN, Columbus, OH
J.L. Guttormson, PhD, RN, Milwaukee, WI

2:15 Aging Lung Biology

C.M. Risaliti, MD, Columbus, OH

- 2:35 Chronic Pulmonary Disorders and Older Adults**
V.M. McDonald, PhD, New Lambton Heights, Australia
- 2:55 Critical Illness and Older Adults**
J. Tate, PhD, RN, Columbus, OH
- 3:15 Pulmonary Rehabilitation and Older Adults**
G.S. Bauldoff, PhD, RN, Columbus, OH
- 3:35 Sleep and the Older Adult**
L. Baniak, PhD, RN, Pittsburgh, PA
- 3:55 Health Policy and the Older Adult**
S.J. Crowder, PhD, Fishers, IN

BASIC • CLINICAL • TRANSLATIONAL

CLINICAL TOPICS IN PULMONARY MEDICINE

B82 CONTROVERSIES IN THE DIAGNOSIS AND TREATMENT OF COPD

Assemblies on Clinical Problems; Allergy, Immunology and Inflammation; Nursing; Pulmonary Rehabilitation; Respiratory Cell and Molecular Biology; Respiratory Structure and Function

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

Target Audience

clinicians, researchers, fellows in training, nurses and therapists who care for patients with COPD

Objectives

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

- understand whether airflow obstruction is necessary to diagnose and treat COPD.
- understand whether a personalized treatment plan for copd is feasible.
- understand whether a new concept or definition of what constitutes an exacerbation of copd is needed.

The GOLD 2017 Report provides current evidence-based information to make recommendations regarding optimal COPD patient diagnosis and treatment for the clinician. However, there are gaps in the recommendations in some aspects of care because of

contradictory evidence in the current medical literature. This session will focus on the current gaps in knowledge in the most important areas that exist in the care of the COPD patient. Hopefully this session will initiate and spur a sustained dialogue about these issues between clinicians, researchers and patients and help foster a creative multidisciplinary approach to addressing these gaps in current knowledge.

Chairing: G.J. Criner, MD, Philadelphia, PA
B.R. Celli, MD, Boston, MA
A. Agusti, MD, Barcelona, Spain

- 2:15 PRO: Is Airflow Obstruction Essential to Diagnose and Treat COPD?**
B.R. Celli, MD, Boston, MA
- 2:25 CON: Is Airflow Obstruction Essential to Diagnose and Treat COPD?**
R.A. Stockley, MD, DSc, Birmingham, United Kingdom
- 2:35 PRO: Is Personalized Treatment a Viable Goal?**
F.C. Sciruba, MD, Pittsburgh, PA
- 2:45 CON: Is Personalized Treatment a Viable Goal?**
C.F. Vogelmeier, MD, Marburg, Germany
- 2:55 PRO: Peripheral Eosinophils Are a Useful Biomarker in COPD**
I.D. Pavord, MD, Oxford, United Kingdom
- 3:05 CON: Peripheral Eosinophils Are a Useful Biomarker in COPD**
L.M. Fabbri, MD, Modena, Italy
- 3:15 PRO: A New Definition of COPD Exacerbation is Needed**
A. Agusti, MD, Barcelona, Spain
- 3:25 CON: A New Definition of COPD Exacerbation is Needed**
R. Rodriguez-Roisin, MD, PhD, Barcelona, Spain
- 3:35 PRO: Pulmonary Treatment of Exacerbations is Currently Adequate**
J.A. Wedzicha, MD, PhD, London, United Kingdom
- 3:45 CON: Pulmonary Treatment of Exacerbations is Currently Adequate**
G.J. Criner, MD, Philadelphia, PA

CLINICAL

SCIENTIFIC SYMPOSIUM

B83 THE OTHER (NON-NON SMALL CELL LUNG CANCER) THORACIC MALIGNANCIES

Assemblies on Thoracic Oncology; Clinical Problems

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

Target Audience

Clinicians of various specialties (Pulmonary medicine, thoracic surgery, oncology, pathology, radiology) who are involved in the care of patients with thoracic tumors, nurses, clinical researchers, pulmonary trainees.

Objectives

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

- understand and implicate diagnosis of different thoracic tumors
- know and implicate local and systemic management of thoracic tumors
- Recognize future challenges in the research of non-NSCLC thoracic tumors

In recent years there has been substantial progress in the understanding and management of non-small cell lung cancer. In this symposium we aim to illuminate all the rest of the thoracic tumors, both malignant and benign, that a care-giver in pulmonology can find. There are only limited available therapies for small cell lung cancer (SCLC) and mesothelioma, mainly below first line of therapy. Some controversies in the management of these two malignant devastating diseases will be further discussed. Knowing and understanding the advancements in imaging and diagnosis of other thoracic tumors, e.g. mediastinal masses, neuroendocrine tumors and endobronchial lesions are crucial in better understanding the real nature of a mass or tumor found. Lastly, this symposium will address state of the art management of these different pulmonary tumors, and future perspectives, enabling experts and trainees to search and develop new modalities to treat these diseases.

Chairing: Z.G. Fridlender, MD, Jerusalem, Israel
D.H. Sterman, MD, New York, NY

2:15 Introduction: Not All Thoracic Malignancies are NSCLC

Z.G. Fridlender, MD, Jerusalem, Israel

2:22 A Patient's Perspective

Speaker To Be Announced

2:27 Mesothelioma: State of the Art

T. Peikert, MD, Rochester, MN

2:52 Current and Future Diagnosis and Treatment of Small Cell Lung Cancer

Speaker To Be Announced

3:17 How to Deal with Mediastinal Masses: Lymphoma and Beyond

F. Detterbeck, MD, New Haven, CT

3:37 Benign Parenchymal and Endobronchial Tumors: Diagnosis and Management

D.H. Sterman, MD, New York, NY

3:57 Pulmonary Neuroendocrine Tumors: Pathogenesis, Diagnosis and Management

Speaker To Be Announced

CLINICAL • TRANSLATIONAL

CRITICAL CARE TRACK

B84 SIX CONTROVERSIES IN FLUID ADMINISTRATION IN SEPSIS

Assemblies on Critical Care; Clinical Problems

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

Target Audience

All clinicians who practice in an intensive care unit and researchers who conduct science related to sepsis

Objectives

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

- Be able to recognize when and how to administer fluid to the septic patient.
- Know the different effects of different types of fluid on patients, and be able to tailor fluid therapy for a given patient.

- Recognize the potential harms of fluid administration and know when to consider diuresis or dialysis in septic patients.

Fluid administration is a key therapy in sepsis. Despite its long history, much uncertainty persists about how best to administer fluid. This session will cover six of the biggest questions on fluid administration in sepsis, including when to administer fluid, how to administer fluid, and when to consider diuresis or dialysis. Experts in the field will review the most recent evidence and offer answers to these questions. This session is of value to any clinician who treats sepsis, and any clinical or translational researcher who works in sepsis.

Chairing: N. Shapiro, MD, Boston, MA
V. Liu, MD, MS, Oakland, CA
M.J. Lanspa, MD, MSCR, Salt Lake City, UT

- 2:15 What Is the Correct Target for Fluid Administration?**
D. Kelm, MD, Rochester, MN
- 2:35 How Do We Predict Response to Fluid Administration?**
M.J. Lanspa, MD, MS, Salt Lake City, UT
- 2:55 When Should We Administer Fluid?**
N. Shapiro, MD, Boston, MA
- 3:15 What Type of Fluid Should We Administer?**
M.W. Semler, MD, MSc, Nashville, TN
- 3:35 What Are the Harms of Excess Fluid Administration?**
A. Acheampong, MD, Brussels, Belgium
- 3:55 When Is It Acceptable to Diurese or Dialyze the Septic Patient?**
P. Honore, MD, Brussels, Belgium

BASIC

BASIC SCIENCE CORE

B85 IMMUNOMETABOLISM: THE COMPLEX INTERPLAY BETWEEN METABOLIC REPROGRAMMING AND IMMUNITY

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

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

Target Audience

Pulmonary scientists seeking to gain novel insights into the emerging field of immunometabolism that links changes in intracellular metabolic pathways with altered immune cell function and ultimately affects lung homeostasis or disease progression.

Objectives

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

- learn about the latest findings that link metabolic pathways to immune regulation and understand their relevance to lung health and disease states
- apply current knowledge in the field of immunometabolism to the study of diseases in respiratory and critical care medicine
- understand mechanisms by which cellular metabolic reprogramming maintains lung homeostasis or contributes to the progression of inflammatory, obstructive and neoplastic diseases

This symposium will provide the learner with a comprehensive overview of immune regulation by metabolic pathways in the context of respiratory diseases. The aim is to link immunometabolism and mitochondrial function or dysfunction to the understanding of protective or pathological immune responses in the lung. The influence of metabolism on host immunity and systemic inflammatory diseases will also be discussed. Individual speakers will review the concept and basic principles of immunometabolism, the crucial role of the mitochondria in these processes, and how the function of various immune cell types is

affected by specific metabolic reprogramming and nutrient availability.

Chairing: S.T. Qureshi, MD, Montreal, Canada
C. Dela Cruz, MD, PhD, New Haven, CT

2:15 Introduction to Metabolism and Mitochondrial Signalling Mechanisms in the Control of Immunity

N.S. Chandel, PhD, Chicago, IL

2:35 Metabolic and Epigenetic Regulation of T Cell and Macrophage Function

C. Glass, MD, PhD, La Jolla, CA

2:55 HIF-1 Alpha Metabolically Reprograms Recruited Macrophages to Promote Alveolar Repair

W.J. Janssen, MD, Denver, CO

3:15 Mitochondrial Iron Metabolism in the Pathogenesis of COPD

S.M. Cloonan, PhD, New York, NY

3:35 Macrophage Mitochondria as Effectors of Bacterial Killing in Health and Disease

D. Dockrell, MD, PhD, Edinburgh, United Kingdom

3:55 Trained Innate Immunity and Metabolic Regulation of Sepsis

M. Netea, MD, PhD, Nijmegen, Netherlands

BEHAVIORAL • CLINICAL

SCIENTIFIC SYMPOSIUM

B86 FIRING ON ALL CYLINDERS: OPTIMIZING CRITICAL CARE DELIVERY AND IMPROVING OUTCOMES

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

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

Target Audience

critical care clinicians; hospital and ICU administrators; health services researchers

Objectives

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

- Identify knowledge gaps in ICU design and critical care delivery that are barriers to optimizing clinical outcomes, operational efficiency, and system costs.
- Review the current literature, and future directions, for ICU staffing including off-hours bedside intensivists, advanced practitioners, and patient-intensivist ratios.
- Understand how thorough analysis of electronic health and patient flow data can help guide an appropriate and nuanced approach to ICU bed allocation and triage decisions.

This session will present established and emerging research addressing strategies for critical care delivery with the goals to optimize clinical outcomes, operational efficiency, and system costs. Specifically, the symposium will address centralized critical care governance, off-hours intensivist staffing, advanced practice providers in the ICU, assessments of the net benefit of ICU admission, the optimal intensivist patient load, and modeling ICU and step-down unit patient flow.

Chairing: G.L. Anesi, MD, MBE, Philadelphia, PA
M.N. Gong, MS, MD, Bronx, NY
J. Stevens, MD, MS, Boston, MA

2:15 Evolution of Modern Critical Care Medicine: From the Past to Future

M.N. Gong, MD, MS, Bronx, NY

2:27 Overnight Intensivist Staffing: Myths, Facts, and Lessons Learned

M.P. Kerlin, MD, MSCE, Philadelphia, PA

2:45 Allies in Critical Care: Integrating Advanced Practice Providers into ICU Teams

D.K. Costa, PhD, RN, Ann Arbor, MI

3:03 In Pursuit of the Optimal Patient Load for Intensivists

H. Wunsch, MD, MSc, Toronto, Canada

3:21 Determining ICU Net Benefit in Peri-Critical Illness

G.L. Anesi, MD, MBE, Philadelphia, PA

3:39 Modeling ICU Patient Flow to Optimize Bed Allocation

K.S. Mathews, MD, MPH, New York, NY

3:57 Who's in Charge: Novel Organizational Models of Centralized Critical Care Governance

S.M. Pastores, MD, New York, NY

CLINICAL • TRANSLATIONAL**SCIENTIFIC SYMPOSIUM****B87 PAYING TOO HIGH A PRICE! THE LUNG HEALTH COST OF ENERGY EXTRACTION**

Assemblies on Environmental, Occupational and Population Health; Clinical Problems; Nursing; Pediatrics; Environmental Health Policy Committee; Health Policy Committee; International Health Committee; Health Equality and Diversity Committee

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

Target Audience

Providers of lung health, particularly those with clinical, epidemiological or translational research, administrative responsibilities, policy makers, and energy industry

Objectives

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

- diagnose and manage coal mine dust lung disease and uranium miners' pneumoconiosis, using newer descriptions of disease that vary from the classical disease descriptions
- understand hazards associated with petrochemical/natural gas industry.
- determine the health hazards of climate change and lung health-based need for renewable energy

The acquisition, processing and transport of energy resources have significant direct and indirect effects on human lung health in the United States and across the world. This session will educate clinicians about novel aspects related to lung disease seen in workers in the fossil fuel energy industry and look to the future of renewables.

Chairing: A. Sood, MD, MPH, Albuquerque, NM
T.K. Takaro, MD, New Westminster, Canada
M.B. Rice, MD, MPH, Boston, MA

2:15 A Day in the Life of an American Miner

W. Jarrell, CMSP, Grants, NM

2:25 The Life Cycle of Respiratory Disease in Coal Miners

R.A. Cohen, MD, Chicago, IL

2:45 Update on Respiratory Hazards of Natural Gas Extraction by Hydraulic Fracturing (Fracking)

D.N. Weissman, MD, Morgantown, WV

3:00 Petrochemical Industry and the Lung: A Clinical Translational Study on the Gulf of Mexico Oil Spill

V.B. Antony, MD, Birmingham, AL

3:20 Uranium Industry and Lung Disease: Why "Clean" Fuel Might Not Be so Clean!

N.A. Assad, MD, Albuquerque, NM

3:35 The Health Impact of Greenhouse Gas Production: A Nigerian Perspective

O.N. Nwankwo, MBBS, MSc, Calabar, Nigeria

3:55 Alternatives to Fossil Fuels: California's Policies to Promote Clean Energy*Speaker To Be Announced***BEHAVIORAL • CLINICAL • TRANSLATIONAL****SCIENTIFIC SYMPOSIUM****B88 JUST DO IT: REDUCING PEDIATRIC RESPIRATORY HEALTH DISPARITIES**

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

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

Target Audience

Clinicians, behavioral scientists, researchers, fellows, pediatricians, internists, nurses, asthma and other health educators

Objectives

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

- Identify populations at risk for health disparities across several pediatric pulmonary diseases
- Advocate for legislative and policy changes affecting poor and at risk children.
- Integrate new strategies in clinical practice and research that will have the effect of closing the disparity gap for economically disadvantaged and at risk children in the US and globally.

The American Thoracic Society and the European Respiratory Society have defined respiratory health disparities as “significant differences in respiratory health that are closely linked to racial ancestry, social, economic, and or environmental differences affecting millions worldwide and leading to significant morbidity, decreased quality of life, and increased mortality”(1). During this session we will examine the effect of poverty on health disparities in children and review interventions and research aimed at reducing respiratory health disparities in cystic fibrosis, asthma, sleep, and pneumonia, both in the United States and beyond. Speakers will focus on innovations, challenges, and barriers to successfully closing the respiratory health disparities gap in children. 1. Celedon JC, Burchard EG, Schraufnagel D, Castillo-Salgado C, Schenker M, Balmes J, Neptune E, Cummings KJ, Holguin F, Reikert KA, Wisniewsky JP, Garcia JGN, Roman J, Kittles R, Ortega VE, Redline S, Mathias R, Thomas A, Samet J, Ford JG. American Thoracic Society and the National Heart, Lung, and Blood Institute. An American Thoracic Society/National Heart, Lung, and Blood Institute Workshop Report: Addressing Respiratory Health Equality in the United States. *Ann Am Thorac Soc.* 2017 May;14 (5):814-826.

Chairing: B.J. Sheares, MD, MS, New York, NY
S. Lovinsky-Desir, MD, New York, NY
E. Brigham, MD, MHS, Baltimore, MD

2:15 Targeting Poverty to Reduce Respiratory Health Disparities in Children
B. Dreyer, MD, New York, NY

2:40 Pediatric Asthma Disparities: Better, Worse, or About the Same
E.G. Burchard, MD, MPH, Danville, CA

3:00 Upscaling Interventions to Reduce Disparities in Childhood Pneumonia: A Global Imperative
H.J. Zar, MD, PhD, Cape Town, South Africa

3:20 Disparities in Cystic Fibrosis Outcomes: How Can We Close the Gap?
S.A. McColley, MD, Chicago, IL

3:40 Disparities in Sleep: Is This a Silent Epidemic?
B.J. Sheares, MD, MS, New York, NY

BASIC • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

B89 NOT JUST THE LUNGS: PAH AS A SYSTEMIC VASCULAR DISORDER

Assemblies on Pulmonary Circulation; Respiratory Cell and Molecular Biology; Respiratory Structure and Function

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

Target Audience

Pulmonary and critical care physicians, cardiologists, nurse practitioners, pulmonary vascular biologists and trainees who conduct research in diseases of the pulmonary circulation.

Objectives

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

- Review the state of the art knowledge regarding vascular dysfunction in PAH and introduce novel evidence that links higher incidence of systemic vascular diseases in these patients.
- Discuss similarities and differences in disease mechanisms of vascular dysfunction in pulmonary vs. systemic manifestations of PAH.
- Discuss recent evidence that link PAH with higher incidence of the following diseases: CAD, stroke, renal vasculopathy, bronchial arterial vasculopathy, PVOD as well as new developments in microbiome research pertinent to PAH.

Since its initial description, pulmonary arterial hypertension (PAH) has been considered a vascular disease exclusive to the lungs. However, recent studies have uncovered evidence that patients with PAH also

demonstrate abnormalities in the systemic circulation that compound the clinical impact of the lung disease. Understanding the nature of this crosstalk between pulmonary and systemic circulation promises to open exciting possibilities not only to understand the mechanisms behind vascular dysfunction but also revise our approach to patient care in PAH.

Chairing: V. De Jesus Perez, MD, Palo Alto, CA
K. Goss, MD, Madison, WI
K. Tran-Lundmark, MD, PhD, Lund, Sweden

2:15 A Patient's Perspective

Speaker To Be Announced

2:20 Insulin Resistance, Diabetes and Pulmonary Hypertension

A. Hemnes, MD, Nashville, TN

2:35 The Systemic Bronchial Circulation in PAH: Friend or Foe?

P. Dorfmueller, PhD, MD, Le Plessis Robinson, France

2:50 The Microbiome and Gut-Lung Axis in PAH

F. Perros, PhD, Le Kremlin Bicetre, France

3:05 PVOD: The Other Pulmonary Hypertension

D. Montani, MD, PhD, Le Kremlin Bicetre, France

3:20 PAH, the Brain and the Heart

S. Bonnet, PhD, MSc, Quebec City, Canada

3:35 Lung-Renal Vascular Dysfunction in PAH

E.D. Austin, MD, Nashville, TN

3:50 Skeletal Muscle Dysfunction in PAH

S. Provencher, MD, Quebec City, Canada

CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

B90 RAPID MOLECULAR DIAGNOSTICS FOR PNEUMONIA: IS SPEED THE ONLY THING?

Assemblies on Pulmonary Infections and Tuberculosis; Clinical Problems; Critical Care; Thoracic Oncology

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

Target Audience

Pulmonologists, critical care physicians, hospitalists, microbiologists, oncologists, infectious disease specialists, and infection control specialists

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;
- implement new strategies to treat patients with CAP or VAP.

This session will provide attendees an update on the development of diagnostic technologies for rapid identification and susceptibility of pathogens causing acute pneumonia. The speakers will 1) describe the scientific basis of the new molecular tests; 2) provide a perspective from the clinical microbiology laboratory on the advantages and challenges in implementing and integrating these new and emerging methodologies into clinical practice; and 3) assess the clinical utility of the rapidly evolving diagnostic technology. Due to the number new tests and concepts, we plan to leave adequate time for Questions and Answers.

Chairing: R. Nusrat, MD, Princeton, NJ
R. Patel, MD, Rochester, MN
S. Yende, MD, Pittsburgh, PA

2:15 Introduction

R. Nusrat, MD, Princeton, NJ

2:19 The Microbiology Laboratory in the Age of Rapid Diagnostics

R. Patel, MD, Rochester, MN

2:39 Application of Rapid Technology to Community Acquired Pneumonia

M.L. Metersky, MD, Farmington, CT

2:59 Application of Technology to Hospital and Ventilator Associated Pneumonia

M.H. Kollef, MD, St. Louis, MO

3:19 Predictive Values and Cost Considerations

R. Nusrat, MD, Princeton, NJ

3:39 What Should a Research Agenda Look Like to Define the Clinical Utility of New Diagnostic Tests?

M.S. Niederman, MD, New York, NY

BASIC • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

B91 AT THE INTERFACE OF ENGINEERING AND RESPIRATORY MEDICINE: UPDATES AND APPLICATIONS

Assemblies on Respiratory Structure and Function;
Respiratory Cell and Molecular Biology

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

Target Audience

Basic, translational and clinical researchers and trainees interested in emerging approaches for lung in vitro pathophysiological modeling and regeneration

Objectives

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

- get familiarized and understand the latest engineered lung platforms in the field;
- understand the diversity and type of transnational applications that such systems offer;
- apply these methodologies in their research with the vision to address unmet needs in respiratory medicine.

This session will focus on cellular and tissue engineering approaches in the lungs. It will explore a variety of approaches including lung organoid/spheroid, microfluidic organ engineering methods like lung-on-a-chip, as well matrix based recellularized tissues. This symposium will also discuss application of such approaches for disease modeling, drug testing, biomarker discovery and regenerative medicine.

Chairing: Z. Borok, MD, Los Angeles, CA
B.R. Stripp, PhD, Los Angeles, CA

2:15 Lung Organoids: Current Uses and Future Promises

C. Barkauskas, MD, Durham, NC

2:39 Modeling Human Airway Diseases in Three Dimension: Introducing Small Airway-on-a-Chip and Breathing-Smoking Lung-on-a-Chip Microfluidic Technologies

K. Hajjipouran Benam, PhD, Aurora, CO

3:03 Engineering Native Biomaterials for Pulmonary Regenerative Therapeutics

X. Ren, PhD, Pittsburgh, PA

3:27 In Vivo Tissue-Engineering of Human Airways

E. Martinod, MD, Paris, France

3:51 Regenerative Pharmacology in COPD

R. Gosens, PhD, Groningen, Netherlands

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

B92 AJRCCM IN 2018

Assembly on ATS Publications

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

Target Audience

Researchers, including basic researchers and clinicians. It will be also an important session for early career researchers to attend

Objectives

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

- describe key issues in publication ethics and how they relate to 2018 papers submitted and published;
- highlight key papers published in past 12 months in AJRCCM and discuss some of the main statistical issues in submitted papers;
- understand some of the developments in publishing, including enhanced on-line material, checks for images and plagiarism and videos.

This session will explore some of the the issues in publication ethics and explain what the requirements are from authors with respect to good publication

practices. There will also be also a description of how the journal tackles issues of plagiarism, duplicate and overlapping in publications and image manipulation. The session will also describe some of the statistical issues in papers and how these should be addressed. During the session, an example of the videos produced for AJRCCM papers will be shown. The session will focus on some of the key papers in airways disease, critical care, neonatology and interstitial lung disease that have been recently published.

Chairing: J.A. Wedzicha, MD, London, United Kingdom
L.J. Brochard, MD, Toronto, Canada

- 2:15 Issues in Publication Ethics for Authors**
J.A. Wedzicha, MD, London, United Kingdom
- 2:35 Detecting Plagiarism and Image Manipulation**
E. Gumpert, ., New York, NY
- 2:50 Statistical Pointers for AJRCCM Authors**
G.C. Donaldson, PhD, BSc(Hons), London, United Kingdom
- 3:10 Highlights in Critical Care**
L.J. Brochard, MD, Toronto, Canada
- 3:25 Highlights in Asthma**
F.D. Martinez, MD, Tucson, AZ
- 3:40 Highlights in COPD and Interstitial Lung Disease**
F.J. Martinez, MD, MS, New York, NY
- 3:55 Neonatology and Paediatric Critical Care in AJRCCM**
S.H. Abman, MD, Aurora, 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.

4:30 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 Assemblies on Behavioral Science and Health Services Research and Pediatrics meetings are held on Sunday, May 20th.

ALLERGY, IMMUNOLOGY AND INFLAMMATION

Chairing: Bethany B. Moore, PhD, Ann Arbor, MI

BEHAVIORAL SCIENCE AND HEALTH SERVICES RESEARCH

Chairing: Christopher H. Goss, MD, MSc, Seattle, WA
This meeting will be held on Sunday, May 20th.

CLINICAL PROBLEMS

Chairing: Sanjay Sethi, MD, Buffalo, NY

CRITICAL CARE

Chairing: John P. Kress, MD, Chicago, IL

ENVIRONMENTAL OCCUPATIONAL AND POPULATION HEALTH

Chairing: Howard M. Kippen, MD, MPH, Piscataway, NJ

PULMONARY INFECTIONS AND TUBERCULOSIS

Chairing: Kevin P. Fennelly, MD, MPH, Bethesda, MD

NURSING

Chairing: Eileen G. Collins, PhD, Chicago, IL

PEDIATRICS

Chairing: Stephanie D. Davis, MD, Indianapolis, IN
This meeting will be held on Sunday, May 20th.

PULMONARY CIRCULATION

Chairing: Karen A. Fagan, MD, Mobile, AL

PULMONARY REHABILITATION

Chairing: Richard Casaburi, MD, PhD, Torrance, CA

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: Sanjay R. Patel MD, Pittsburgh, PA

THORACIC ONCOLOGY

Chairing: Maria Patricia Rivera, MD, Chapel Hill, NC

7:00 p.m. - 10:00 p.m.

ASSEMBLY 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 reception 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 - \$22.00
Member - \$42.00
Non-Member - \$52.00

**Assembly on Sleep
and Respiratory Neurobiology Reception**
Fellow - \$25.00
Member - \$65.00
Non-Member - \$75.00



ATS 2018
Where today's science
meets tomorrow's care™

**International Conference
San Diego, CA**

Tuesday Morning, May 22

CLINICAL

PEDIATRIC CLINICAL CORE CURRICULUM

PCC3 PEDIATRIC CLINICAL CORE CURRICULUM

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: D.M. Boyer, MD, Boston, MA

- 7:00 Dysphagia and Aspiration (Diagnosis)**
S.L. Peterson-Carmichael, MD, Indianapolis, IN
- 7:30 Multidisciplinary Approaches to the Care of Children with Aerodigestive Disorders**
R.L. Rosen, MD, MPH, 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.

- SS201 UNIFYING DIAGNOSIS: IMPLEMENTATION AND UTILITY OF A MULTIDISCIPLINARY APPROACH TO CTD-ILD**
L. Pourzand, MD, Los Angeles, CA
E. Volkmann, MD,MS, Los Angeles, CA
S. Weigt, MD,MS, Los Angeles, CA
J. Goldin, MD, PhD, Santa Monica, CA
- SS202 THE IMMUNOLOGY OF SEPSIS FROM AN INTENSIVIST'S PERSPECTIVE**
P.A. Verhoef, PhD, MD, Chicago, IL
- SS203 SHARED DECISION MAKING FOR PULMONOLOGISTS**
C.C. Dobler, MD, PhD, Rochester, MN
M.E. Wilson, MD, Rochester, MN
- SS204 WHEN INHALERS AREN'T ENOUGH: TREATING AND PREVENTING COPD EXACERBATIONS**
M. Duloher, MD, Rochester, MN

SS205 RECOGNIZING AND MANAGING COMPLICATIONS AND COMORBIDITIES AFTER LUNG TRANSPLANTATION

K.K. Patel, MD, Tampa, FL
K.M. Wille, MD, MSPH, Birmingham, AL
C. Caldeira, MD, Tampa, FL

SS206 COPD 2018: COMPREHENSIVE MANAGEMENT

N.-C. Liang, MD, La Jolla, CA
D.R. Crouch, MD, MS, La Jolla, CA
K. Afshar, DO, Los Angeles, CA

SS207 ADVANCED THERAPIES FOR SARCOIDOSIS: RESEARCH AND CLINICAL APPLICATION

R. Rissmiller, MD, Charleston, SC
W.E. James, MD, Charleston, SC

SS208 BRONCHOSCOPIC MANAGEMENT OF HEMOPTYSIS

A.H. Alraiyes, MD, Zion, IL
F. Kheir, MSCR, MD, New Orleans, LA

SS209 DIFFUSE CYSTIC LUNG DISEASE: EVALUATION AND MANAGEMENT

B. Collins, MD, Seattle, WA

SS210 PULMONARY TOXICITY DUE TO CHECKPOINT IMMUNOTHERAPY

K. Suresh, MD, Baltimore, MD

SS211 CHALLENGING CASES IN CRITICAL CARE ULTRASOUND

D. Pradhan, MD, New York, NY

SS212 INNOVATIVE APPROACHES TO IMPROVING INTER-PROFESSIONAL RESUSCITATION CARE: NOVEL TECHNOLOGIES AND EDUCATIONAL STRATEGIES

S.M. Kassutto, MD, Philadelphia, PA

SS213 AN UPDATE IN PULMONARY ALVEOLAR PROTEINOSIS

A. Kumar, Michigan, Grand Rapids, MI

SS214 THE INS AND OUTS OF PLEURAL SPACE INFECTION

O. Ibrahim, MD, Farmington, CT

SS215 EVALUATION AND MANAGEMENT OF SEVERE ASTHMA IN CHILDREN: A PERSONALIZED APPROACH

C. Rosas-Salazar, MD, MPH, Nashville, TN

SS216 LIFE AFTER LYTICS: UPDATES ON POST PULMONARY EMBOLISM CARE

S. Pugliese, MD, Philadelphia, PA

SS217 SMALL AIRWAY TESTS: READY FOR CLINICS?

P. Robinson, MD, PhD, Westmead, Australia
C. Thamrin, PhD, Glebe, Australia

SS218 NON-INVASIVE VENTILATION IN CHILDREN

H.-L. Tan, MBBS, London, United Kingdom

SS219 MANAGING THE AIRWAYS COMPLICATIONS OF THORACIC MALIGNANCIES

S. Shojaee, MD, CHDA, Richmond, VA

FACULTY DEVELOPMENT SEMINAR

FD2 USING SOCIAL MEDIA AS A TOOL AND NOT JUST A TOY: HOW TO USE SOCIAL MEDIA FOR CAREER DEVELOPMENT AND NETWORKING

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

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

Target Audience

Early and mid-career clinical and/or research faculty, clinical & postdoctoral fellows, medical and graduate students, residents, nurses, and allied health professionals involved in or seeking careers in academic pulmonary, critical care and/or sleep medicine

Objectives

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

- sign up for Twitter and understand the lingo associated with the online social media platform;
- identify strategies and practical ideas to be able to promote their professional academic career development;
- engage in networking with colleagues using social media tools.

Social media can advance your career, but trainees are not taught how to productively use social media in this

manner. This seminar provides concrete social media strategies for trainees and early career faculty to promote their work, engage trainees, and network. A faculty panel with knowledge in leveraging social media will provide concrete advice for effectively using social media for career advancement and scholarly success. Specifically, speakers will provide general overviews of tools, strategies, and best practices for academic success using social media. Subsequently, speakers and

participants will participate in small group interactive discussions based on specific areas of interest.

Chairing: M.N. Ballinger, PhD, Columbus, OH

Speakers: N. Seam, Bethesda, MD
M. Koenigshoff, MD, PhD, Aurora, CO
G.S. Martin, MD, MSc, Atlanta, GA



BASIC • CLINICAL • TRANSLATIONAL**ATS KEYNOTE SERIES**

The Keynote Series focuses on topics thought to be timely and of high relevance to the pulmonary, critical care, and sleep medicine community.

Two sessions are presented each morning during the conference.
Below are the topics for Tuesday, May 22.

K5 HYPOXEMIC AND ISCHEMIC PROTECTION IN DEEP-DIVING SEALS

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

Speaker: Paul Ponganis, MD, La Jolla, CA

K6 BACTERIOPHAGE THERAPY FOR SERIOUS MULTIDRUG RESISTANT BACTERIAL INFECTIONS

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

Speakers: Robert T. Schooley, MD, La Jolla, CA
Steffanie A. Strathdee, PhD, La Jolla, CA
Thomas Patterson, PhD, La Jolla, CA



CLINICAL

YEAR IN REVIEW

C1 CLINICAL YEAR IN REVIEW 3

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

Target Audience

Providers including physicians, nurses, respiratory therapists, nurse practitioners, 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;
- learn new findings about key conditions in pulmonary, critical care and sleep;
- have new strategies to manage the care of common conditions in pulmonary, critical care, and sleep.

The annual Clinical Year in Review symposia provides concise summaries of the most impactful clinical research publications related to specific clinical topics. Speakers will highlight 5 of the most important and influential publications on their topic in written format and during their talks.

Chairing: D.W. Ford, MD, Charleston, SC
V.E. Ortega, MD, PhD, Winston Salem, NC
J.S. Lee, MD, Aurora, CO

9:15 Genomics and Precision Medicine in Lung Disease

V.E. Ortega, MD, PhD, Winston Salem, NC

9:45 ARDS

A.J. Goodwin, MD, MSCR, Charleston, SC

10:15 Cystic Fibrosis

N.E. West, MD, Baltimore, MD

10:45 Sleep Disordered Breathing

S. Shafazand, MD, MS, Miami, FL

CLINICAL

CLINICAL TOPICS IN PULMONARY MEDICINE

C2 INTERSTITIAL LUNG DISEASE FROM CRADLE TO GRAVE**Assemblies on Clinical Problems; Pediatrics**

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

Target Audience

Providers caring for patients with interstitial lung disease

Objectives

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

- improve knowledge on the state of the art comprehensive care of patients with interstitial lung disease;
- enable participants to develop new strategies to address management dilemmas in the care of patients with interstitial lung disease;
- integrate patient' needs to facilitate the discussion of palliative care.

This session will review the current knowledge on state of the art comprehensive care of interstitial lung disease from the entire life and disease spectrum. It will cover evolving areas in the management of interstitial lung disease. Case vignettes will illustrate the clinical relevance and introduce each of the topics. An audience response system will be used to engage the audience and gauge the clinical practices and management decisions of attendees before and after each presentation.

Chairing: J. Morisset, MD, Montreal, Canada
M. Wijsenbeek, MD, PhD, Rotterdam, Netherlands
H.R. Collard, MD, San Francisco, CA

9:15 Introduction

J. Morisset, MD, Montreal, Canada

9:20 Case Vignette 1

M. Wijsenbeek, MD, PhD, Rotterdam, Netherlands

9:25 CHILD: From Infancy to Puberty and Beyond

R.R. Deterding, MD, Aurora, CO

9:50 Case Vignette 2

M. Wijsenbeek, MD, PhD, Rotterdam, Netherlands

- 9:55 ILA: The Unexpected Detected and What Now?**
G.M. Hunninghake, MD, MPH, Boston, MA
- 10:20 Case Vignette 3**
M. Wijsenbeek, MD, PhD, Rotterdam, Netherlands
- 10:25 Pulmonary Fibrosis: One Size Fits All?**
K.K. Brown, MD, Denver, CO
- 10:50 Case Vignette 4**
M. Wijsenbeek, MD, PhD, Rotterdam, Netherlands
- 10:55 ILD Care: A Matter of Life and Death**
J. Morisset, MD, Montreal, Canada

CLINICAL

CLINICAL TOPICS IN PULMONARY MEDICINE

C3 STATE OF THE ART PLEURAL DISEASE MANAGEMENT: CLINICAL TRIALS CHANGING CARE PRACTICE

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

Target Audience

Clinicians and allied health professionals with clinical & research responsibilities in respiratory diseases; chest physicians, pulmonologists, oncologists, nurses, surgeons, internists, GP, junior staff & scientists engaged in translational research

Objectives

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

- understand and review the latest clinical trial evidence on best management of malignant pleural effusions, especially regarding the use of indwelling pleural catheters vs pleurodesis; especially recently published trials in the field;
- 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 regime;
- review the latest research finding in TB pleural effusion and in pneumothorax management. How these work would influence clinical care will be discussed.

Recent years have seen many multicentered pleural disease trials completed with immediate impact on

clinical care. These studies have been published in high impact journals: including trials on malignant effusions (eg TIME-1 and -2 trials - both in JAMA), mesothelioma (SMART trial - Lancet Oncology; MAPPs and Meso-VATS - Lancet), and pleural infection (eg MIST-2 - NEJM), and pneumothorax. Several large trials eg the AMPLE-1, IPC-PLUS, ASAP, PLEASE and MIST-3 are completed and will report results in 2017/early 2018. The proposed session will update the audience of the latest exciting advances from RCTs that impact care.

Chairing: C. Broaddus, MD, San Francisco, CA
D.J. Feller-Kopman, MD, Baltimore, MD

- 9:15 State of the Art Management of Malignant Pleural Effusions**
N. Maskell, MD, Bristol, United Kingdom
- 9:40 State of the Art Management of Pleural Infection**
Y.C.G. Lee, MBChB, PhD, Perth, Australia
- 10:05 State of the Art Translational Advances in Tuberculous Pleural Effusions**
C.F. Koegelenberg, MD, PhD, Cape Town, South Africa
- 10:25 State of the Art Management of Pneumothorax**
N. Rahman, BM BCH, MSc, DPhil, Oxford, United Kingdom
- 10:50 State of the Art Application of Biomarkers for Pleural Diseases**
J.M. Porcel, MD, Lleida, Spain

BEHAVIORAL • CLINICAL

CRITICAL CARE TRACK

C4 MODERN DILEMMAS IN CRITICAL CARE: WHY A LITTLE BIT OF KNOWLEDGE CAN BE A DANGEROUS THING

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

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

Target Audience

Critical care physicians/providers, nurses, and researchers; clinicians-in-training

Objectives

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

- learn the state of current evidence on 5 major topics within critical care—airway management, early mobilization, palliative care communication, when to allow ARDS patients to breathe spontaneously, and shock management in the setting of sepsis;
- integrate new evidence into one's own understanding of best-practices;
- learn how to approach reconciling new evidence that contradicts preconceptions of good clinical care.

We aim to provide evidence-based care as a means to ensure quality, effectiveness, and safety to our critically ill patients. It often feels like the more we “learn”, however, the more confused our understanding of critical illness and its optimal therapies becomes. In this session, speakers will outline the challenges in performing quality critical care research and, using a heterogeneous array of topics—airway management, early mobilization in the ICU, palliative care communication strategies, and ARDS—with recent evidence, help us to understand how they incorporate unexpected and often conflicting study findings into the care of their patients.

Chairing: K. Hibbert, MD, Boston, MA
M. Hua, MD, MSci, New York, NY
H.B. Gershengorn, MD, Miami, FL

9:15 Why the Data in Critical Care Are so Difficult
T.J. Iwashyna, MD, PhD, Ann Arbor, MI

9:33 Should We Teach the Old Ways? DL vs VL in Airway Management
M.W. Semler, MD, MSc, Nashville, TN

9:51 Should We Re-Evaluate the Evidence? Early Physical and Occupational Therapy in the ICU
R. Bakhru, MD, Winston-Salem, NC

10:09 Should We Believe Counter-Intuitive Data? Palliative Care Communication and Increased Symptomatology
J.E. Nelson, MD, New York, NY

10:27 How Far Should We Extrapolate Data? Spontaneous Breathing in ARDS
M.B. Amato, MD, Sao Paulo, Brazil

10:45 How Do We Reconcile Conflicting Data? Fluids Are Harmful, but so Are Pressors
N. Shapiro, MD, MPH, Boston, MA

11:03 Panel Discussion
K. Hibbert, MD, Boston, MA

BASIC • TRANSLATIONAL**BASIC SCIENCE CORE**

C5 MITOCHONDRIA-TARGETED THERAPEUTICS FOR PREVENTING OR TREATING LUNG DISEASES

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

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

Target Audience

Basic and translational researchers in respiratory disease biology and clinical researchers interested in exploring new frontiers

Objectives

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

- learn new findings about how mitochondrial health is a critical determinant of the ability of the lung to appropriately respond to stress and how mitochondria-targeted therapeutics are showing promise in chronic lung diseases and acute lung injury;
- apply knowledge about the use of mitochondria-targeted antioxidants to improve quality of life of patients;
- apply knowledge of mitochondrial metabolism and nutritional stress to better understand preventive strategies in lung disease.

Positioned at the hub of cellular metabolic flux, mitochondria are uniquely adapted to communicate with the nucleus to bring about cellular as well as extra-cellular responses to perceived threats. Lung epithelial cells are exposed to high levels of environmental stress and mitochondrial dysfunction critically contributes to the pathogenesis of a variety of lung diseases ranging from

development of smoking related COPD to hypoxia induced pulmonary arterial hypertension (PAH). Mitochondria targeted antioxidants substantially improve abnormal cellular biology of airway smooth muscle from COPD patients. This session will review the current knowledge on the role of mitochondrial dysfunction in connecting environmental stress to lung disease, recent advances in targeting mitochondria and the therapeutic potential for such strategies.

Chairing: A. Agrawal, MD, PhD, New Delhi, India
J. Bhattacharya, MD, New York, NY

9:15 Mitochondrial Redox Signals Regulate Cell Stress Responses

P.T. Schumacker, PhD, Chicago, IL

9:35 Mitochondrial Mechanisms in Pulmonary Vascular Disease

S.C. Erzurum, MD, Cleveland, OH

9:55 Smoke Induced Mitochondrial Dysfunction in Pathogenesis of Airway Disease

C.M. Pabelick, MD, Rochester, MN

10:15 Accelerated Lung Aging in COPD: The Role of Mitochondrial Dysfunction and the Promise of Mitochondria-Targeted Antioxidants

P.J. Barnes, MD, DSc, London, United Kingdom

10:35 Acute Lung Injury Is a Mitochondrial Disease

M.N. Islam, PhD, New York, NY

10:55 Delivery of Exogenous Functional Mitochondria into Damaged Cells

A. Krasnodembskaya, PhD, Belfast, United Kingdom

BASIC • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

C6 COPD PROGRESSION: CULPRITS AND MODIFIERS

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

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

Target Audience

Basic and translational investigators and trainees who wish to understand how alterations in the immune system induced by cigarette smoke exposure perpetuate lung inflammation and damage after smoking cessation

Objectives

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

- appreciate that in COPD lung inflammation persists long after smoking cessation;
- understand how alterations in the airway epithelium, immune system, or microbiome induced by cigarette smoke become self-perpetuating after smoking cessation.

Chronic exposure to cigarette smoke or other combustible organic matter is the strongest known risk factor for the development of chronic obstructive pulmonary disease (COPD). However, inflammation and lung damage persist in many patients with COPD despite smoking cessation. This session will highlight recent basic and translational studies that address why inflammation is disproportionately increased in COPD patients compared to smokers without COPD and why disease progression persists in some COPD patients even after smoking cessation.

Chairing: B.W. Richmond, MD, PhD, Nashville, TN
I. Petrache, MD, Denver, CO
J.L. Curtis, MD, Ann Arbor, MI

9:15 A Patient's Perspective
Speaker To Be Announced

9:20 Cellular Senescence and Oxidative Stress Drive Persistent Inflammation and Disease Progression in COPD
P.J. Barnes, MD, DSc, London, United Kingdom

9:40 Biologic Changes to the Human Small Airway Epithelium Following Smoking Cessation
R.G. Crystal, MD, New York, NY

10:00 SigA Deficiency Drives Chronic Airway Inflammation in COPD
B.W. Richmond, MD, PhD, Nashville, TN

10:15 Microbiome: Breaking Bad in Chronic Lung Disease
K. Yadava, PhD, Oxford, United Kingdom

- 10:30 Immunity and Autoimmunity in COPD: Two Faces of the Same Coin?**
F. Polverino, MD, PhD, Boston, MA
- 10:45 Dendritic Cells Drive NK Cytotoxicity in COPD, Even After Smoking Cessation**
C.M. Freeman, PhD, Ann Arbor, MI
- 11:00 When Smoke Doesn't Clear: Nano Carbon Black Induces Th17 Cell-Mediated Emphysema**
F. Kheradmand, MD, Houston, TX

CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

C7 MEDICATION AND BEYOND: TARGETED SYMPTOM MANAGEMENT FOR THE MECHANICALLY VENTILATED PATIENT

Assemblies on Nursing; Critical Care

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

Target Audience

Clinicians and researchers who interact with individuals receiving mechanical ventilation

Objectives

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

- assess common symptoms experienced by mechanically ventilated patients.
- integrate safe and effective targeted interventions into clinical practice to manage mechanically ventilated patients' symptoms of anxiety, pain/discomfort, ventilator dyssynchrony, and dyspnea;
- identify current knowledge gaps and directions for future research and clinical practice relevant to targeted management of mechanically ventilated patient symptoms.

This session will provide an overview of the current state of the science surrounding symptom assessment and targeted interventions for the management of distressful symptoms experienced by patients during mechanical ventilation. Speakers will first summarize the evidence on common patient reported symptoms,

symptom assessment tools, and communication strategies to facilitate symptom assessment with this nonvocal patient population. Current knowledge in the use of targeted interventions including nonpharmacological management of pain/discomfort, anxiety, ventilator dyssynchrony, and dyspnea will be featured. Implications for clinical practice and research will be discussed.

Chairing: J.L. Guttormson, PhD, Milwaukee, WI
R.O. Hopkins, PhD, Murray, UT

- 9:15 The Patient Experience of Mechanical Ventilation: What Symptoms Should We Be Assessing?**
B.A. Khan, MD, Indianapolis, IN
- 9:30 Symptom Assessment During Mechanical Ventilation: Strategies to Address Challenges with Self-Report in Nonvocal Patients**
J.L. Guttormson, PhD, Milwaukee, WI
- 9:45 Management of Anxiety During Mechanical Ventilation**
L.L. Chlan, PhD, RN, Rochester, MN
- 10:05 Managing Pain and Discomfort During Mechanical Ventilation**
C. Gelinias, BScN, MScN, PhD, Montreal, Canada
- 10:25 Management of Ventilator Dyssynchrony and Dyspnea During Mechanical Ventilation**
K.G. Mellott, PhD, MSN, BSN, RN, Houston, TX
- 10:45 Pediatric Patients on the Ventilator: Targeted Symptom Management**
M.A. Curley, PhD, RN, Philadelphia, PA
- 11:05 Panel Discussion: Integrating Targeted Symptom Assessment and Management into Your Clinical Practice**
J.L. Guttormson, PhD, Milwaukee, WI

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

C8 TRANSLATIONAL IMMUNOLOGY AND LUNG DISEASE: INTEGRATING PATHOBIOLOGY TO THERAPY

Assembly on Allergy, Immunology and Inflammation

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

Target Audience

Pulmonary and allergy physicians, and physicians in training, who are focused on care of patients with immune based lung disease. Clinical, translational, and basic science researchers involved in studies of lung immunology and immunotherapy

Objectives

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

- learn new information about the immune basis of lung diseases;
- understand the scientific basis for new immunotherapies and how to best utilize these new therapies;
- gain new strategies for the management of patients with immune based lung disease.

This session will provide a review of several important immune based lung diseases by experts in the field of translational immunology. The talks will emphasize the immune basis of the disorders as well as the prospects for immunotherapy.

Chairing: B.D. Medoff, MD, Boston, MA
L. Koth, MD, San Francisco, CA

9:15 COPD: Therapeutic Implications of Novel Immunologic Insights

G.G. Brusselle, MD, PhD, Ghent, Belgium

9:40 Asthma: Is Inflammation Only Half of the Story?

J.L. Cho, MD, Boston, MA

10:05 IPF: T Cell Co-Stimulatory Molecules in Idiopathic Pulmonary Fibrosis: Biomarkers or Players?

A.I. Sperling, PhD, Chicago, IL

10:30 Occupational: What Have We Learned About Lung Immunity from Berylliosis?

A.P. Fontenot, MD, Aurora, CO

10:55 Uncovering Mechanisms of Autoimmune-Mediated Lung Disease Through Studies of Rare Mendelian Disorders

A. Shum, MD, San Francisco, CA

CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

C9 MAKING TUBERCULOSIS PREVENTION GREAT AGAIN

Assemblies on Pulmonary Infections and Tuberculosis;
Clinical Problems

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

Target Audience

Providers of lung health, public health officials, researchers interested in tuberculosis, policy makers

Objectives

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

- apply current tests for latent tuberculosis infection (LTBI);
- treat LTBI using short-course regimens;
- learn new findings about predictive biomarkers and novel drug regimens that could facilitate further scale-up of targeted testing and treatment of LTBI.

More than 50 years ago, Comstock and colleagues demonstrated among Inuit communities in Alaska that mass testing and treatment of latent tuberculosis infection (LTBI) could achieve the levels of decline in tuberculosis (TB) incidence required for elimination. With the renewed emphasis on TB elimination globally and in the United States, there is increasing momentum for scale-up of LTBI testing and treatment. This symposium will explore the following: impact and cost-effectiveness of scale-up; how current tests and treatment regimens should be utilized; novel approaches in the pipeline to further improve testing and treatment; and gaps in implementation of LTBI testing and treatment.

- Chairing:** A. Cattamanchi, MD, San Francisco, CA
P.A. Lobue, MD, Atlanta, GA
C.D. Hamilton, MD, Durham, NC
- 9:15 Making the Case for Scaling-Up LTBI Testing and Treatment: Insights From Modeling Studies**
P.B. Shete, MD, San Francisco, CA
- 9:30 Accuracy and Recommended Use of Current Blood Tests for Diagnosing LTBI**
J.E. Stout, MD, Durham, NC
- 9:45 Decoding the Immune Response to Predict Risk of Progression to Active TB**
D.M. Lewinsohn, MD, PhD, Portland, OR
- 10:00 Current Options for Short-Course LTBI Treatment**
C.D. Hamilton, MD, Durham, NC
- 10:15 Can We Go Even Shorter? Novel Approaches to LTBI Treatment**
T.R. Sterling, MD, Nashville, TN
- 10:30 The TB Prevention Continuum of Care: Where Are the Gaps and How Can We Close Them?**
A. Cattamanchi, MD, San Francisco, CA
- 10:45 Panel Discussion: Scaling-Up LTBI Testing and Treatment**
P.A. Lobue, MD, Atlanta, GA

CLINICAL

SCIENTIFIC SYMPOSIUM

C10 NOVEL STRATEGIES TO COMPLEMENT PULMONARY REHABILITATION IN COPD

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

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

Target Audience

Pulmonologists, nurses, respiratory therapists, physical therapists and exercise physiologists with clinical and research interests in pulmonary rehabilitation in COPD, and newer ways of delivering rehabilitation

Objectives

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

- learn applicability of telehealth interventions for pulmonary rehabilitation and patient education;
- using alternative strategies such as yoga, tai chi and electrical stimulation to complement aerobic training;
- understand differences in enhancing physical activity is complementary but distinct from pulmonary rehabilitation, and learn strategies to increase physical activity.

Pulmonary rehabilitation is effective in improving the quality of life of patients with COPD. However, there are significant barriers to access to PR. In this session, speakers will describe novel strategies to enhance and deliver PR, including using smart technology for remote tele-rehabilitation, novel use of yoga, tai chi and neuromuscular electrical stimulation to complement traditional pulmonary rehabilitation, and also increase physical activity beyond the period of rehabilitation.

Chairing: S.P. Bhatt, MD, Birmingham, AL
C. Garvey, FNP, MSN, MPH, San Francisco, CA
R.S. Goldstein, MD, Toronto, Canada

- 9:15 Newer Devices for Rehabilitative Training**
M.A. Spruit, PT, PhD, Horn, Netherlands
- 9:35 Neuromuscular Electrical Stimulation: Can It Replace or Augment Conventional Pulmonary Rehabilitation?**
M. Maddocks, PhD, London, United Kingdom
- 9:55 Telehealth Interventions for Pulmonary Rehabilitation**
S.P. Bhatt, MD, Birmingham, AL
- 10:15 Strategies to Enhance the Physical Activity Benefits of Pulmonary Rehabilitation**
R. Casaburi, MD, PhD, Torrance, CA
- 10:35 Web-Based Self Management Programs**
S.J. Singh, PhD, Leicester, United Kingdom
- 10:55 Tai Chi and Yoga to Maintain Benefits of Pulmonary Rehabilitation Over the Long-Term**
M. Moy, MD, MSc, Boston, MA

TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

C11 NEW PARADIGMS FOR RESOLVING SLEEP APNEA HETEROGENEITY: DEEP PHENOTYPING AND GENOMICS

Assembly on Sleep and Respiratory Neurobiology

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

Target Audience

Providers of respiratory and sleep medicine; trainees in pulmonary and sleep medicine; translational, clinical and basic researchers

Objectives

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

- identify national/international resources for supporting large scale genomics studies of respiratory and sleep traits;
- describe methods for deriving physiological informative risk/susceptibility phenotypes from polysomnography studies, better characterizing subgroups with sleep apnea related risk and etiology;
- understand modern approaches for analysis of large scale omics data and identify molecular pathways that influence risk of sleep apnea.

This session will bring together international leaders in Precision Medicine initiatives as well as an inter-disciplinary group of researchers who have made advances in sleep apnea phenotyping and genomic studies of sleep apnea-related traits. The session aims to describe a modern paradigm for resolving heterogeneity of sleep apnea and for identifying risk factors for sleep apnea susceptibility that utilize quantitative phenotyping and genetic analyses. The goals are to challenge clinicians and researchers to consider a broader array of sleep apnea phenotypes both for clinical assessments and in research studies, including use in small and large-scale genetic studies. The session also will make the community aware of recent progress in linking novel sleep apnea phenotypes to genomic risk factors.

Chairing: S.S. Redline, MD, Boston, MA
S.A. Sands, BSc, PhD, Cambridge, MA
S. Chowdhuri, MD, MS, Detroit, MI

- 9:15 National Investments in Precision Medicine**
C.J. O'Donnell, MD, MPH, Boston, MA
- 9:25 Deep Phenotyping and Tailored Interventions**
B.A. Edwards, PhD, Melbourne, Australia
- 9:50 Clinical Sleep Apnea Phenotypes and Cardiovascular Disease**
A. Zinchuk, MD, New Haven, CT
- 10:10 Predicting Metabolic and Hemodynamic Responses to Sleep Apnea Treatment**
J.C. Jun, MD, Baltimore, MD
- 10:30 Genetic Associations for Novel Sleep Apnea Phenotypes From Large Population Studies**
B.E. Cade, PhD, Boston, MA
- 10:55 Lessons Learned From Pulmonary Genomics Studies**
S.A. Gharib, MD, Seattle, WA

BEHAVIORAL • CLINICAL

SCIENTIFIC SYMPOSIUM

C12 CHOOSING RIGHTLY: AT THE INTERSECTION OF PERSONALIZED MEDICINE AND DE-ADOPTION OF LOW-VALUE CARE

Assemblies on Behavioral Science and Health Services Research; Clinical Problems; Critical Care; Nursing; Pulmonary Circulation; Thoracic Oncology

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

Target Audience

Clinicians and scientists seeking to evaluate value in decision making or interested in original research aimed at personalized medicine and de-adoptive practices will benefit from attending this session

Objectives

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

- apply new strategies to evaluate value in health care;

- learn about unique areas of research across pulmonary medicine focused on the intersection between patient selection and optimizing value;
- evaluate future directions for patients and clinicians in value-based care.

Choosing Wisely® and other interventions to reduce low-value health care are vital. Yet, de-adoption of unnecessary care has proved difficult, partly due to the challenges of recognizing which patients are actually receiving low-value care. This session emphasizes how de-adoptive practices and personalized medicine can work together to reduce low-value care while also selecting patients likely to benefit from therapies. The session looks at quality of care across pulmonary medicine as leading experts discuss: areas where appropriate therapies are underutilized or misused; cutting-edge research aimed at preventing overuse; and future directions targeted to improve value in health care.

Chairing: T.S. Valley, MD, MSc, Ann Arbor, MI
R.S. Wiener, MD, MPH, Boston, MA
L.C. Feemster, MSc, MD, Seattle, WA

- 9:15 Identifying Pneumonia Patients Who Need Intensive Care (and Those Who Don't)**
T.S. Valley, MD, MSc, Ann Arbor, MI
- 9:35 Personalizing Lung Cancer Screening Through Risk Modeling and Shared Decision-Making**
G.A. Silvestri, MD, Charleston, SC
- 9:55 Take a Deep Breath: Approaches to Selecting Patients with Chronic Lung Diseases for Self-Management**
R. Disler, PhD, RN, Melbourne, Australia
- 10:15 Don't Take Five: How Can We Reduce Inappropriate Use of PDE5 Inhibitors in Pulmonary Hypertension?**
R.S. Wiener, MD, MPH, Boston, MA
- 10:35 Improving Safety Through De-Implementation of Unnecessary Inhaled Corticosteroids in COPD**
L.C. Feemster, MSc, MD, Seattle, WA

- 10:55 What Do We Do After We're Done Choosing Wisely®**
S.D. Halpern, MD, PhD, Philadelphia, PA

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 2018
Where today's science
meets tomorrow's care™

**International Conference
San Diego, CA**

Tuesday Mid-day, May 22

11:45 a.m. – 1:15 p.m

ATS PLENARY SESSION

The ATS Plenary Session will feature a keynote talk outlining important issues to the Society and health care professionals in pulmonary, critical care and sleep medicine. The Plenary Session will also feature the introduction of the ATS slate of officers, the presentation of several Respiratory Health Awards, and remarks from ATS President **Marc Moss, MD** and ATS President-Elect **Polly Parsons, MD**.

The following awards will be presented:

Outstanding Educator:

Carey C. Thomson, MD, MPH, Boston, MA

Research Innovation and Translation

Achievement Award:

Hector G. Ortega, MD, MSc, MBA, La Jolla, CA

Steve W. Yancey, MD, Research Triangle, NC

Outstanding Clinician:

Awardee To Be Announced

BASIC • CLINICAL • TRANSLATIONAL

WORKSHOP

WS5 CAREER DEVELOPMENT WORKSHOP: SWIMMING IN THE SEA OF BIG DATA FOR PULMONARY RESEARCH

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

Assemblies on Respiratory Structure and Function; Allergy, Immunology and Inflammation; Clinical Problems; Critical Care; Environmental, Occupational and Population Health; Pulmonary Infections and Tuberculosis; Pediatrics; Pulmonary Circulation; Respiratory Cell and Molecular Biology; Sleep and Respiratory Neurobiology

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

Target Audience

Graduate students, Ph.D., M.D., postdoctoral / clinical fellows and faculty interested in developing research in "big data" from epidemiological, clinical or basic research datasets

Objectives

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

- understand how big data relates specifically to pulmonary biomedical and basic science research;
- emphasize and discuss the role of collaborations for the success of any big data project;
- learn strategies and pitfalls when dealing with big data.

The participants will interact with faculty who are expert in collection, analysis and interpretation of big data and also with junior/senior scientists/clinicians that are just starting to work with big data. Interactive discussion will be promoted to address major questions for those who are starting a project or plan to write a research proposal.

Chairing: D.I. Kasahara, PhD, Boston, MA
J. Jaffar, PhD, Melbourne, Australia
G. Ijpma, PhD, Montreal, Canada

11:45 Entering Big Data

W.T. Gerthoffer, PhD, Reno, NV

- 11:55 So, Do You Think You Can Code?: Tools of Big Data**
R. Knight, PhD, La Jolla, CA
- 12:05 Challenges Ahead**
N. Cox, PhD, Nashville, TN
- 12:15 Case Reports: This Is How We Do It - Examples from the Experts**
S.T. Weiss, MD, Boston, MA
- 12:25 Case Reports: This Is How We Do It - Examples from the Experts**
N. Kaminski, MD, New Haven, CT
- 12:35 The Future: Where Are We Going From Here?**
D.I. Kasahara, PhD, Boston, MA

CLINICAL

WORKSHOP

WS6 BRONCHOSCOPIC APPROACH TO THE PERIPHERAL LUNG NODULE

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

Assemblies on Thoracic Oncology; Clinical Problems

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

Target Audience

Broad audience appeal to providers including: general pulmonary physicians, advance bronchoscopists, interventional pulmonologist, thoracic surgeons, and trainees

Objectives

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

- apply new knowledge on how to combine r-EBUS and navigation bronchoscopy to achieve improved yield when sampling peripheral nodules;
- evaluate peripheral nodules with new navigational systems;
- improve use of r-EBUS in assessing peripheral pulmonary nodules.

Lung cancer screening in highrisk population has been shown to effectively detect early lung cancer in the NLST trial. As such, United States Prevention Service

Task Force has given a Grade B recommendation to annual low dose chest computed tomography scan for lung cancer screening. Since this development, there have been an increasing number of pulmonary nodules detected. The American College of Chest Physicians lung cancer guidelines recommended biopsies in patients who has moderate risk or patients who has high risk but desire tissue confirmation prior to resection. As a result, bronchoscopic approaches to reach peripheral lung nodule have become an integral part of the pulmonary practice. Development of navigational bronchoscopy and the use of radial EBUS probe has improved biopsy yield compared to conventional flexible bronchoscopy. Understanding the limitations and best applications of these tools will allow physicians to achieve better yield when diagnosing peripheral lung nodules.

Chairing: M.M. Wahidi, MBA, MD, Durham, NC
G.Z. Cheng, MD, PhD, Durham, NC

- 11:45 Current Approaches in Electromagnetic Navigation Bronchoscopy 1**
M.M. Wahidi, MBA, MD, Durham, NC
- 12:00 The Role of Radial Endobronchial Ultrasound in Peripheral Bronchoscopy 1**
A.C. Chen, MD, St. Louis, MO
- 12:15 Interactive Session: Learning from the Experts**
G.Z. Cheng, MD, PhD, Durham, NC
A.C. Chen, MD, St. Louis, MO
M.M. Wahidi, MBA, MD, Durham, NC
L.B. Yarmus, DO, Baltimore, MD

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 REAL WORLD CHALLENGES IN THE DIAGNOSIS OF IPF

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

MP603 UPDATE ON THE MANAGEMENT OF EMPYEMA AND INFECTIOUS PLEURAL LOCULATION AND INTRAPLEURAL FIBRINOLYTIC THERAPY

S. Idell, MD, PhD, Tyler, TX

MP604 CF UPDATE FOR THE NON-CF PROVIDER

G. Allada, MD, Portland, OR

MP605 CLINICOPATHOLOGIC CORRELATION OF AUTOIMMUNE DISORDERS-ASSOCIATED LUNG DISEASE

A.V. Arrossi, MD, Cleveland, OH

K.B. Highland, MD, Cleveland, OH

MP606 UNDERSTANDING SLEEP IN THE ICU AND A PRACTICAL APPROACH TO IMPLEMENTING PROTOCOLS

M.A. Pisani, MD, MPH, New Haven, CT

MP607 UNDERSTANDING VENTILATOR WAVEFORMS

H.L. Manning, MD, Lebanon, NH

MP608 CONTROVERSIES IN BRONCHIECTASIS: A CASE BASED PRO/CON DISCUSSION

A.E. O'Donnell, MD, Washington, DC

G. Tino, MD, Philadelphia, PA

MP609 CHRONIC COUGH IN CHILDREN: AN ALGORITHMIC APPROACH TO DIAGNOSIS

M.M. Weinberger, MD, San Diego, CA

MP610 CHALLENGES IN THE DIAGNOSIS AND MANAGEMENT OF PULMONARY HYPERTENSION GROUPS 2 AND 3

R. Girgis, MD, Grand Rapids, MI

MP611 PULMONARY REHABILITATION IN THE MOST SEVERE COPD PATIENTS

L. Vanfleteren, MD, PhD, Horn, Netherlands

MP612 THE STEM CELL NICHE: APPLICATIONS IN PULMONARY DISEASES

T.L. Bonfield, PhD, Cleveland, OH

MP613 RUNNING, SLEEPING, AND PREGNANT: UNDERSTANDING ASTHMA IN SPECIAL CIRCUMSTANCES

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

MP614 DISCOVER THE HIDDEN GEMS OF HOME SLEEP TESTING

O.E. Burschtin, MD, New York, NY

MP615 TISSUE ACQUISITION, EXPANDED MOLECULAR AND IMMUNOLOGIC TESTING IN LUNG CANCER: WHAT THE CHEST PHYSICIAN NEEDS TO KNOW

J. Akulian, MD, MPH, Chapel Hill, NC

M.M. Wahidi, MBA, MD, Durham, NC

L.B. Yarnus, DO, Baltimore, MD

MEDICAL EDUCATION SEMINAR

ME3 HOW DOCTORS THINK: DEFINING AND TEACHING CRITICAL THINKING IN CRITICAL CARE

R Registration Fee: \$70 (includes box lunch)
Attendance is limited. Pre-registration is required.

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

Target Audience

Residents, fellows, and other members in training, as well as anyone who has teaching responsibilities, including nurses and respiratory therapists

Objectives

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

- To define the importance of critical thinking in the fast paced, high acuity critical care environment and describe its effect on patient outcomes
- Create questions to ask learners that stimulate critical thinking
- Utilize concept mapping to foster critical thinking in the intensive care unit

This 60 minute session will begin with a brief overview and definition of critical thinking and cognitive science. Then tangible strategies for teaching critical thinking will be discussed with an emphasis on asking appropriate questions and utilizing concept mapping.

Speakers: M. Hayes, MD, Boston, MA

R. Schwartzstein, MD, Boston, MA

J. Richards, MD, MA, Boston, MA

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

CLINICAL

THEMATIC SEMINAR SERIES

TSS1 NEUROMUSCULAR RESPIRATORY FAILURE: PART 3

R Registration Fee: \$140 for full series (includes box lunch)
Attendance is limited. Pre-registration is required.

This is part 3 of a 3-part series. Those registering for this seminar series will be registered for all 3 parts. The program for the full series is included with the Sunday, May 20, 12:15 p.m. program.

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

Management of Respiratory Failure in ALS: The VA as a Model in Team Based Approach to Care
K.A. Provost, DO, PhD, Buffalo, NY

Advance Disease Management and Transitioning to Hospice
J.O. Benditt, MD, Seattle, WA



ATS 2018
Where today's science meets tomorrow's care™

**International Conference
San Diego, CA**

Tuesday 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.

CLINICAL

ADULT CLINICAL CORE CURRICULUM

CC4 CRITICAL CARE CLINICAL CORE CURRICULUM II

2:15 p.m. - 4:15 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: J.I. McSparron, MD, Ann Arbor, MI
M.M. Hayes, MD, Boston, MA
A. Luks, MD, Seattle, WA

2:15 Infectious Diseases: CNS Infections

J. Town, MD, Seattle, WA
J. Moore, MD, Seattle, WA

2:45 Infectious Diseases: Emerging Viral Infections

W.A. Fischer, MD, Chapel Hill, NC

3:15 Infectious Diseases: Empyema and Mediastinitis

L. Frye, MD, Chicago, IL

3:45 Infectious Diseases: Pneumonia CAP/HCAP/VAP

K. Hibbert, MD, Boston, MA

BEHAVIORAL • CLINICAL • TRANSLATIONAL

CLINICAL TOPICS IN PULMONARY MEDICINE

C82 SHIFTING FOCUS: HOW TO STUDY LUNG HEALTH INSTEAD OF DISEASE

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

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

Target Audience

Clinicians and clinical and translational researchers focused on lung health and prevention of lung disease

Objectives

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

- apply how the presence of respiratory symptoms, even in the absence of disease, has implications for both respiratory and overall health outcomes;
- learn new findings about how novel chest imaging findings relate to lung health and respiratory outcomes;
- integrate the current understanding of lung health and its manifestations and consequences to better inform testable hypotheses that can be incorporated into new research studies targeting the prevention of chronic lung disease.

Historically, respiratory research has been highly focused on risk factors and treatment of established lung disease rather than true disease prevention. A central component of disease prevention is health promotion. We will emphasize recent findings that inform how we, as a respiratory community, can shift away from exclusively studying disease and instead develop studies of lung health. Presentations will use current evidence from a variety of observational cohorts which have and continue to publish state of the art work around concepts of lung health. The session will serve as an update and inventory of current evidence and a preliminary understanding of what a true chronic lung disease prevention research agenda ought to include.

Chairing: R. Kalhan, MD, MS, Chicago, IL
N.N. Hansel, MD, MPH, Baltimore, MD
M.T. Dransfield, MD, Birmingham, AL

2:15 Introduction

R. Kalhan, MD, MS, Chicago, IL

2:18 Lung Health Across the Lifespan:What Birth Cohorts Teach Us

M.R. Sears, MD, Hamilton, Canada

- 2:38 The Implications of Impaired Lung Health From Young Adulthood to Middle Age**
G.R. Washko, MD, Boston, MA
- 2:58 Impaired Lung Health: Interstitial Changes in Healthy Populations**
D.J. Lederer, MD, MS, New York, NY
- 3:18 Lung Health Cannot Be Defined by Normal Spirometry**
M.K. Han, MD, MS, Ann Arbor, MI
- 3:38 Setting the Research Agenda for Lung Health in the 21st Century**
J.P. Kiley, PhD, Bethesda, MD
- 3:58 General Discussion**
R. Kalhan, MD, MS, Chicago, IL

CLINICAL

CLINICAL TOPICS IN PULMONARY MEDICINE

C83 PEDIATRIC CLINICAL CHEST ROUNDS

Assembly on Pediatrics

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

Target Audience

Members of the Pediatric Assembly who provide clinical care. Although this session is a favorite among trainees, there is broad appeal to all clinical providers.

Objectives

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

- generate a broad differential diagnosis for challenging cases in pediatric pulmonary medicine;
- apply current diagnostic testing to the management of challenging cases in pediatric pulmonary medicine;
- discuss state of the art management of challenging pediatric pulmonary cases.

Pediatric Clinical Chest Rounds consists of 4 clinical cases selected from the case reports submitted to the Pediatrics Assembly and focuses on challenges in diagnosis and management. The format allows 4 trainees to highlight tough cases and 4 experts to discuss.

Chairing: J. Harrison, MBChB, MRCP, MRCPCH, Melbourne, Australia
J. Needleman, MD, Brooklyn, NY
A.G. Filbrun, MD, Ann Arbor, MI

2:15 Case Presentations and Discussion
Talks And Speakers To Be Announced

BEHAVIORAL • CLINICAL • TRANSLATIONAL

CRITICAL CARE TRACK

C84 MANAGING EARLY ACUTE HYPOXIC RESPIRATORY FAILURE

Assemblies on Critical Care; Behavioral Science and Health Services Research

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

Target Audience

Critical care clinicians, trainees, and researchers

Objectives

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

- become aware of evidence base for HFNC and NIPPV in early AHRF;
- understand pros/cons of early versus later intubation and invasive mechanical ventilation;
- learn about current knowledge gaps in treating AHRF and preventing progression to ARDS.

Acute hypoxemic respiratory failure (AHRF) is a leading cause of ICU admission, morbidity, and mortality, yet most research focuses specifically on mechanically ventilated patients with ARDS. Are AHRF and ARDS really different clinical entities? Should our approach to treatment differ? In this session, experts will discuss and debate best practices for managing early AHRF. Speakers will address common management decisions faced by intensivists every day, such as when to use HFNC, when to consider NIPPV, and when to intubate patients with ARHF. They will also identify gaps in our knowledge and discuss future directions for research.

Chairing: H.C. Prescott, MD, MSci, Ann Arbor, MI
V. Liu, MD, MS, Oakland, CA
B.K. Patel, MD, Chicago, IL

2:15 Are AHRF and ARDS Different? What Is the Proof?

T. Pham, MD, PhD, MPH, Toronto, Canada

2:32 High-Flow Nasal Cannula for All

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

2:49 Is There Still a Role for NIPPV?

B.K. Patel, MD, Chicago, IL

3:06 Preventing Progression to ARDS

M.N. Gong, MS, MD, Bronx, NY

3:23 PRO: Early Intubation

L.J. Brochard, MD, Toronto, Canada

3:40 CON: Early Intubation

J.P. Kress, MD, Chicago, IL

3:57 Early AHRF: Current Management and Future Directions

B.T. Thompson, MD, Boston, MA

- learn and understand the current research finding on how mitochondria are part of the pathogenesis of acute and chronic lung diseases;
- become familiar with experimental model systems, genetic, biochemical and imaging approaches that are being used to investigate mitochondrial function and signaling.

Mitochondria have traditionally been considered the “powerhouses” of the cell. Emerging data spanning diverse scientific disciplines have established the dynamic and pleiotropic role of mitochondria in cellular homeostasis, function, stress/injury, inflammation, senescence and repair responses. Our understanding of the maternally-inherited genetic programming of mitochondria, which possess a genome, proteome, and metabolome that are distinct from host cells, expands as mitochondrial-specific assays, imaging techniques and targeting become feasible. This session will highlight the critical physiologic and pathophysiologic roles of mitochondria in acute and chronic lung diseases as well as in systemic syndromes, such as sepsis and critical illness.

Chairing: A.M.K. Choi, MD, New York, NY
P. Lee, MD, New Haven, CT

2:15 Mitochondrial Oxidant and DNA Signaling in Lung Diseases

G. Shadel, PhD, New Haven, CT

2:30 Mitochondrial 8-Oxoguanine DNA Glycosylase (mtogg1) Mitigates Asbestos-Induced Aec Mitophagy Defects, Mitochondrial DNA Damage, Apoptosis And Lung Fibrosis

S. Kim, PhD, Chicago, IL

2:45 Caveolin1 Regulates Mitochondrial Homeostasis in the Alveolar Epithelium

H. Shaghghi, PhD, Philadelphia, PA

3:10 Cyb5R3 an External Mitochondrial NADH-Dependent Reductase Confers Protection Against Lung Fibrosis

M. Bueno, PhD, Pittsburgh, PA

3:15 Systemic Immune-Metabolic Deficiency in Tobacco and Biomass Smoke Exposed COPD Subjects

A.R. Agarwal, MS, PhD, Pune, India

BASIC • TRANSLATIONAL

ANDREW M. TAGER MEMORIAL SYMPOSIUM

C85 SCIENTIFIC BREAKTHROUGHS: CELL FUNCTION, FATE AND FITNESS: ROLE OF MITOCHONDRIA

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

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

Target Audience

Basic and translational scientists and physician-scientists, Lung health researchers and providers, trainees, fellows, junior faculty, research scientists, and residents

Objectives

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

- advance their understanding of basic and translational approaches for assessing mitochondrial function in disease and non-disease states;

3:30 Pharmacologically Enhanced Mitochondrial DNA Repair Improves Performance of Ex Vivo Perfused Lungs from Brain-Dead Pigs

D. Hall, MD, Gainesville, FL

3:45 Indolamine-2, 3-Dioxygenase in Myeloid-Derived Suppressor Cells Alters Mitochondrial Dynamics and Mediates Metabolic Reprogramming in the Tumor Microenvironment of Lung Cancer

J. Deshane, PhD, Birmingham, AL

4:00 Mitochondria and Proteostasis

K. Zhou, PhD, Novato, CA

vocabulary to aid in discussion of multi-omics integration; engender familiarity with literature on multi-omics technologies; and concretize conceptual and technical approaches to integration of multi-omics-derived data sets in lung health and disease.

Chairing: B.D. Singer, MD, Chicago, IL
N. Kaminski, MD, New Haven, CT
G. Ligresti, PhD, Rochester, MN

2:15 Integrating Epigenomics and Phenomics

H.M. Boezen, PhD, Groningen, Netherlands

2:35 Integrating Metabolomics and Epigenomics

N.S. Chandel, PhD, Chicago, IL

3:05 Integrating Proteomics and Interactomics

D.S. Phelps, PhD, Hershey, PA

3:25 Integrating Transcriptomics and Epigenomics

K. Lingappan, MBBS, Houston, TX

3:45 Integrating Transcriptomics and Proteomics

O. Eickelberg, MD, Denver, CO

BASIC

SCIENTIFIC SYMPOSIUM

C86 RISE AND ALIGN! INTEGRATING MULTI-OMICS TECHNOLOGIES

Assembly on Respiratory Cell and Molecular Biology

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

Target Audience

Investigators and clinicians engaged in big data omics-based research aimed at answering biological questions in lung health and disease

Objectives

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

- use the vocabulary of multi-omics to discuss the technologies with colleagues at their home and collaborating institutions;
- appraise scientific literature on omics-based technologies;
- conceptually or technically execute integration of data obtained from diverse omics technologies.

The explosion of large data sets derived from high-throughput multi-omics technologies holds great promise for answering fundamental questions in lung health and disease. The integration of data sets generated by different technologies—such as combining epigenetic profiling with transcriptional profiling—poses significant challenges. This session aims to provide a

CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

C87 WHAT'S OLD IS NEW AGAIN: REPURPOSING APPROVED MEDICATIONS FOR NOVEL THERAPEUTICS IN PAH - EARLY CLINICAL STUDIES

Assemblies on Pulmonary Circulation; Clinical Problems

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

Target Audience

Those interested in pulmonary hypertension and basic/translational science professionals

Objectives

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

- learn about novel pathways that are involved in the pathogenesis of pulmonary arterial hypertension and appreciate the limitations of the currently approved therapies for pulmonary arterial hypertension;

- familiarize novel therapeutic agents targeting the pulmonary vasculature and the right ventricle in pulmonary arterial hypertension that are in early phase 2 clinical trials;
- appreciate the potential for repurposing already FDA approved medications as novel treatment options for pulmonary arterial hypertension.

The goal of this session about be to discuss and highlight the early clinical study data for repurposing already approved medications for novel therapeutics targeting the pulmonary vasculature and right ventricle in PAH. As we continue to struggle with high costs of PAH-specific therapy and the significant lag in development of novel therapeutics, an attractive method moving forward would be to repurpose already approved medications as we could avoid the long delays for drug approval and proceed directly to clinical trials once there is strong preclinical evidence that they may be effective. This strategy may help us attack PAH pathophysiology through distinct mechanisms than the currently approved therapies do which increases the likelihood of identifying new agents to treat this devastating disease.

Chairing: I.M. Lang, MD PhD, Vienna, Austria
K. Prins, MD PhD, Minneapolis, MN

- 2:15 My Patient Is on Triple Therapy but Still Symptomatic, What's Next?**
Speaker To Be Announced
- 2:30 Metformin for End-Stage PAH (RV)**
A. Hemnes, MD, Nashville, TN
- 2:45 Beta-Blockers for RV Dysfunction in PAH (RV)**
T. Thenappan, MD, Minneapolis, MN
- 3:00 Anastrozole Reduces Estradiol Levels and Increases Walk Distance in PAH (Pulmonary Vasculature)**
S.M. Kawut, MD, MS, Philadelphia, PA
- 3:15 Tacrolimus for End-Stage PAH**
E.F. Spiekeroetter, MD, Palo Alto, CA
- 3:30 Ubenimex in Patients With Pulmonary Arterial Hypertension**
M.R. Nicolls, MD, Palo Alto, CA

CLINICAL

SCIENTIFIC SYMPOSIUM

C88 YES, YOUR PULMONARY PATIENT IS READY FOR PALLIATIVE CARE

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

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

Target Audience

Clinicians from all professional backgrounds (MD, RN, APN, PA, SW, chaplain, pharmacist, respiratory therapist) who care for patients with serious illness

Objectives

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

- list criteria for referral of outpatient pulmonary patients to palliative care;
- discuss evidence based strategies for managing symptoms, disease-related distress, and improving quality of life for patients with chronic respiratory disease;
- describe challenges and solutions to managing an outpatient pulmonary-focused palliative care clinic.

Outpatient palliative care can provide welcome relief to patients who may live for many years with serious respiratory disease. The focus on relieving symptom burden, illness related distress, and improving quality of life complements disease directed treatment throughout the course of illness. Keynote presentations from two visionary thought leaders in pulmonary focused palliative care will bookcase brief presentations of innovative implementation strategies from clinician scientists who are working in outpatient pulmonary palliative care.

Chairing: D.M. Donesky, PhD, ANP-BC, San Francisco, CA
K.O. Lindell, PhD, RN, Pittsburgh, PA

- 2:15 Developing and Funding a Breathlessness Service in Prehistoric Times**
S. Booth, MD, Cambridge, United Kingdom
- 2:45 Nurse-Led Palliative Care Interventions**
L.F. Reinke, PhD, APRN,BC, Seattle, WA

- 3:00 Transitions Across the Continuum of Care: Lessons From ILD**
A. Russell, MScN, London, United Kingdom
- 3:15 10 Tips for Setting Up a Multidisciplinary Breathlessness Clinic**
M.M. Roberts, RN, Westmead, Australia
- 3:30 Palliative Care as a Bridge Between Pulmonary Rehabilitation, Critical Care, and Hospice**
A.R. Stephens, MD, Aurora, CO
- 3:45 Pulmonary-Focused Palliative Care in 20 Years: Innovation and Initiative**
J.R. Curtis, MD, MPH, Seattle, WA

CLINICAL

SCIENTIFIC SYMPOSIUM

C89 FUTURE RESPIRATORY HEALTH IN CHILDREN: CLIMATE CHANGE AND INCREASING WORLD POPULATION

Assemblies on Pediatrics; Environmental, Occupational and Population Health; Pulmonary Infections and Tuberculosis

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

Target Audience

Pediatricians, public health providers and scientists, epidemiologists, population scientists, child health workers

Objectives

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

- gain new findings on the relationships between climate change and respiratory child health;
- understand relationships between global environment, biodiversity and respiratory child health;
- consider assisting in implementing strategies to address the issues of world population and respiratory child health.

Arguably the greatest concern humans face over the next 100 years is how climate change, the deterioration of our planet's environment and increasing world population will

affect the health and well-being of children. The greatest impacts are likely to be on respiratory health due to worsening air quality and increases in respiratory infections. Current climate change initiatives will be futile if present population increases continue. This session will present the latest projections of relationships between climate change, environmental threats and increasing population how these will affect the future respiratory health of children. Advocacy strategies addressing these issues will be discussed.

Chairing: P.N. Le Souef, MD, MBBS, Perth, Australia

- 2:15 Current Projections of Climate Change and Respiratory Health in Children**
Speaker To Be Announced
- 2:40 100 Year Projection of Child Health Outcomes By Population, Region and Age**
C. Bradshaw, PhD, Adelaide, Australia
- 3:05 The Effects of Loss of Biodiversity on Children's Respiratory Health**
A. Annamalay, PhD, Perth, Australia
- 3:30 The Effect of Climate Change on Respiratory Disease in Developing Countries**
R.T. Stein, MD, Porto Alegre, Brazil
- 3:50 100 Year Projections of Future Child Respiratory Health: Environment and World Population**
P.N. Le Souef, MD, MBBS, Perth, Australia

BASIC

PUBLIC ADVISORY ROUNDTABLE

C90 SLEEP AND LUNG DISEASE: COMMON AND ILLICIT BED PARTNERS

Public Advisory Roundtable; Assemblies on Clinical Problems; Sleep and Respiratory Neurobiology

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

Target Audience

Physicians, basic and translational scientists, clinical-investigators, registered nurses, advanced practice nurses, nurse practitioners, patient, and caregiver

Objectives

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

- inform on the prevalence and clinical presentation of sleep apnea when another lung disease co-exists in the context of several prevalent respiratory diseases such as asthma, COPD and ILD;
- illustrate potential interactions and mutually reciprocal effects of sleep apnea treatment on the clinical course of lung diseases and vice-versa;
- emphasize the potential impact of poor quality sleep on underlying lung diseases manifestations and clinical course.

The growing recognition of sleep apnea by clinicians and health systems, has led to the realization that sleep apnea is a chronic and complex disease with a wide range of phenotypic manifestations and morbidities. Furthermore, it has prompted observations that it may co-occur in the context of other respiratory diseases, and that such concurrent presence of sleep apnea and a lung disease may mutually alter their clinical presentation and course, as well as modify the response to treatment. This session will explore the current state of the art in the context of sleep apnea co-existing with other frequent lung diseases and identify potential clinical, research and educational opportunities in this relatively unexplored area.

Chairing: K. Connolly, BS, Danvers, MA
D. Gozal, MD, MBA, Chicago, IL

- 2:15 Annual PAR Awards Presentation**
K. Connolly, BS, Danvers, MA
- 2:25 Obstructive Sleep Apnea and Asthma in Kids: Bedtime Stories**
L. Kheirandish-Gozal, MD, MSc, Chicago, IL
- 2:45 Asthma and Obstructive Sleep Apnea in Adults**
M. Teodorescu, MD, MS, Madison, WI
- 3:05 A Patient's Perspective**
Speaker To Be Announced
- 3:10 COPD and Obstructive Sleep Apnea: Overlapping What?**
X. Soler, MD, PhD, San Diego, CA

3:30 Interstitial Lung Disease and Obstructive Sleep Apnea

D.J. Lederer, MD, MS, New York, NY

3:50 Insomnia, Sleep Quality and Lung Disease Burden

P.J. Strollo, MD, Pittsburgh, PA

4:10 Questions and Answers

K. Connolly, BS, Danvers, MA

BASIC • TRANSLATIONAL**SCIENTIFIC SYMPOSIUM****C91 HUMAN LUNG DEVELOPMENT: NEW TOOLS AND THERAPEUTIC STRATEGIES**

Assemblies on Respiratory Cell and Molecular Biology; Pediatrics

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

Target Audience

Basic scientists, clinicians, students and postdoctoral trainees

Objectives

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

- gain knowledge in the use novel systems to model human lung development to accelerate mechanistic studies;
- learn new paradigms about temporal and spatial regulation of Wnt signaling in development and tissue homeostasis and approaches to study of developmental pathways;
- highlight new advances in stem cell therapeutics and clinical translation.

This session will present new approaches to study of human lung development, recent progress made in deciphering the signaling pathways and mechanisms underlying human lung development, and the therapeutic potential for stem cell therapies and corrective technologies.

Chairing: L.R. Young, MD, Nashville, TN
M. Koenigshoff, MD, PhD, Aurora, CO
G. Deutsch, MD, Seattle, WA

- 2:15 Lung Development Gone Awry**
G. Deutsch, MD, Seattle, WA
- 2:35 Signaling Pathways Controlling Early Human Lung Development**
D. Al Alam, PhD, MS, Los Angeles, CA
- 2:55 The Age of the Fibroblast**
A.T. Perl, PhD, Cincinnati, OH
- 3:15 3D Modeling of Human Lung Development and Disease**
J. Sucre, MD, Nashville, TN
- 3:35 In Vitro Models to Study Human Lung Development, Disease, and Homeostasis**
J. Spence, PhD, Ann Arbor, MI
- 3:55 Unproven Stem Cell Interventions for Respiratory Diseases**
L. Ikonomou, PhD, Boston, MA

CLINICAL

SCIENTIFIC SYMPOSIUM

C92 DISEASE MODIFICATION IN COPD: ARE WE THERE YET?

Assemblies on Clinical Problems; Environmental, Occupational and Population Health; Drug/Device Discovery and Development Committee

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

- understand parallels in disease progression in respiratory and other diseases;

- understand concepts of slowing disease progression and disease modification and the potential impact to patients with respiratory disease;
- learn the currently available science and the tools available to assess changes to respiratory physiology.

This session will provide a forward looking discussion around concepts of disease modification and future opportunities to change the course of chronic respiratory disease. It will bring forth new treatment paradigms that will ultimately impact the goals of therapy. There will be a review of the current landscape of disease progression and modification in respiratory medicine (e.g. IPF, ILDs, CF, A1T1-deficiency) and other therapeutic areas (e.g. RA, IBD), to identify potential parallels with chronic obstructive lung disease. Additionally, we will identify considerations required for conducting clinical research such as relevant clinical end-points (including technological approaches e.g. imaging) and molecules that may have the potential to modify the course of Respiratory disease.

Chairing: C. Reisner, MD, Morristown, NJ
F.C. Sciruba, MD, Pittsburgh, PA
M. Bafadhel, MD, Oxford, United Kingdom

- 2:15 What is Disease Modification in COPD? What Are the Potential Methods for Assessment?**
M.K. Han, MD, MS, Ann Arbor, MI
- 2:32 Disease Modification in RA and IBD: Lessons Learned**
P. Lipsky, MD, Charlottesville, VA
- 2:49 What is Early COPD and Why Does It Matter?**
J.A. Wedzicha, MD, PhD, London, United Kingdom
- 3:06 Practical Considerations for Clinical Trial Design**
F.J. Martinez, MD, MS, New York, NY
- 3:23 Respiratory Disease Modification with Targeted Therapy: Is It Possible?**
G.P. Anderson, PhD, Parkville, Australia
- 3:40 Thinking Outside the Box**
B.R. Celli, MD, Boston, MA
- 3:57 Panel Questions and Answers**
C. Reisner, MD, Morristown, NJ

BEHAVIORAL • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

**C93 ATS CLINICAL PRACTICE GUIDELINES:
CLINICAL PRACTICE ON THE
CUTTING EDGE**

Assemblies on Behavioral Science and Health Services Research; Clinical Problems; Critical Care; Nursing; Pulmonary Rehabilitation; Quality Improvement and Implementation Committee; Documents Development and Implementation Committee

2:15 p.m. - 4:15 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 chronic obstructive pulmonary disease (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 prevent COPD exacerbations, to provide smoking cessation counseling in the context of low dose CT screening programs, to manage patients on non invasive mechanical ventilation, and to diagnose and treat patients with LAM.

This symposium will highlight guidelines and statements on COPD exacerbation, noninvasive ventilation, smoking cessation, lung cancer screening and lymphangioleiomyomatosis (LAM). 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.A. Dweik, MD, Cleveland, OH
R.C. Hyzy, MD, Ann Arbor, MI
C.C. Thomson, MPH, MD, Cambridge, MA

- 2:15 Welcome**
R.A. Dweik, MD, Cleveland, OH
- 2:20 Grading Strength of Recommendations and Quality of Evidence**
K.C. Wilson, MD, Boston, MA
- 2:30 Implementation of Clinical Practice Guidelines: How Can We Do Better?**
C.C. Thomson, MPH, MD, Cambridge, MA
- 2:50 Prevention of COPD Exacerbations**
M. Miravittles, MD, Barcelona, Spain
- 3:10 Smoking Cessation in Lung Cancer Screening**
H. Kathuria, MD, Boston, MA
- 3:30 Non-Invasive Mechanical Ventilation**
N.S. Hill, MD, Boston, MA
- 3:50 Diagnosis and Treatment of LAM**
N. Gupta, MD, Cincinnati, OH
- 4:10 Closing Remarks**
R.C. Hyzy, MD, Ann Arbor, MI

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.-6:30 p.m.

SECTION MEMBERSHIP MEETINGS

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: Jennifer W. McCallister, MD, Columbus, OH
Henry Fessler, MD, Baltimore, MD

TERRORISM AND INHALATION DISASTERS

Chairing: Carl W. White, MD, Denver, CO
Sven Jordt, PhD, Chapel Hill, NC



ATS 2018
Where today's science
meets tomorrow's care™

International Conference San Diego, CA

Wednesday Morning, May 23

CLINICAL

PEDIATRIC CLINICAL CORE CURRICULUM

PCC4 PEDIATRIC CLINICAL CORE CURRICULUM

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. Retting, MD, Boston, MA

7:00 **New Concepts in Pediatric Pulmonary Physiology**

C.L. Ren, MD, Indianapolis, IN

7:30 **How Pulmonary Physiology Guides Intensive Care Management**

P.A. Verhoef, PhD, MD, Chicago, IL

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.

SS301 **LOOKING FOR PATTERNS AND BEYOND IN RESPIRATORY DISEASES**

B. Suki, PhD, Boston, MA
T. Winkler, PhD, Boston, MA

SS302 **WHAT'S IN A NAME? ENDOTYPES AND PERSONALIZED MEDICINE IN LUNG DISEASE: 2018 AND BEYOND**

D. Russell, MD, Birmingham, AL

SS303 **ILD AND THE ANTISYNTHEASE SYNDROME: DIAGNOSTIC AND TREATMENT CHALLENGES**

R. Hallowell, MD, Boston, MA

SS304 **OPTIMIZING MY PATIENT FOR LUNG TRANSPLANTATION: A STEP BY STEP GUIDE TO REFERRAL, EVALUATION AND SELECTION**

A. Venado, MD, San Francisco, CA

- SS305 DIAGNOSTIC APPROACH TO THE ADULT PATIENT WITH CYSTIC LUNG DISEASE**
A. Kumar, MD, Grand Rapids, MI
- SS306 CONTROVERSIES IN THE DIAGNOSIS AND MANAGEMENT OF MALIGNANT PLEURAL EFFUSIONS**
O. Epelbaum, MD, Valhalla, NY
- SS307 “SARCOIDOLOGIST”: THE SHIP NEEDS A CAPTAIN**
K. Provost, DO, PhD, Buffalo, NY
- SS308 COMPLICATIONS OF BRONCHOSCOPY: MANAGEMENT STRATEGIES AND PREVENTION**
A.C. Argento, MD, Chicago, IL
- SS309 CLINICAL FRAILTY: A FUNCTIONAL OUTCOME IN IPF**
J.S. Sheth, MD, Ann Arbor, MI
- SS310 A GLOBAL PERSPECTIVE ON SEPSIS: IDENTIFICATION AND MANAGEMENT IN LOW, MIDDLE AND HIGH INCOME COUNTRIES**
S.T. Jacob, MD, MPH, Liverpool, United Kingdom
S. Murthy, MD, Vancouver, Canada
- SS311 UP IN SMOKE: THE EFFECT OF ALTITUDE AND SMOKE EXPOSURE ON LUNG GENE EXPRESSION**
J.P. Metcalf, MD, Oklahoma City, OK
- SS312 TAKE A DEEP BREATH: AEROSOLIZED ANTIBIOTICS FOR LUNG DISEASE**
G. Hong, MD, MHS, Philadelphia, PA
- SS313 WHEN IT’S NOT THE HEART: THE PULMONOLOGIST IN THE CARDIOLOGY CLINIC**
D. Liptzin, MD, MS, Aurora, CO
- SS314 CREATING A PULMONARY EMBOLISM RESPONSE TEAM**
P. Rali, MD, Philadelphia, PA
- SS315 ORGANS-ON-CHIPS FOR THE LUNGS: ADVANCED MICROPHYSIOLOGICAL SYSTEMS FOR BIOMARKER DISCOVERY AND DRUG DEVELOPMENT**
K. Hajjipouran Benam, PhD, Aurora, CO

- SS316 INVESTIGATING THE 3D PATHOLOGY OF THE HUMAN LUNG USING MULTI-RESOLUTION COMPUTED TOMOGRAPHY AND STEREOLOGY**
D.M. Vasilescu, PhD, Vancouver, Canada
- SS317 POSITIONAL THERAPY FOR THE TREATMENT OF OSA: EPIDEMIOLOGY, PATHOPHYSIOLOGY AND TREATMENT OPTIONS**
G. Hamilton, MBBS, PhD, Clayton, Australia

FACULTY DEVELOPMENT SEMINAR

- FD3 THE MENTOR/MENTEE RELATIONSHIP: HOW TO FORM AN EFFECTIVE PARTNERSHIP AND RESOLVE CONFLICTS**

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

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

Target Audience

Early and mid-career clinical and/or research faculty, clinical and postdoctoral fellows, medical and graduate students, residents, nurses, and allied health professionals involved in or seeking careers in academic pulmonary, critical care and/or sleep medicine

Objectives

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

- describe the importance of the mentor-mentee relationship and how this relationship will mature and change over time as the early career professional develops their independent career;
- describe a plan for achieving independence from their mentor, and delineate a plan to openly discuss and negotiate this transition;
- develop a specific career development plan for working with their mentor(s).

Supportive relationships between mentor and mentee are critical for early career professionals' success. Mentors can provide advice, infrastructure, monetary,

and other support critical to mentees' success. Successful mentors must recognize that each mentee has different qualities, capabilities and challenges. As part of career development, however, it is necessary for early career professionals to establish an independent career path that is distinguished from their mentors. This is a process and should be handled thoughtfully and openly by both the mentor and mentee. This session will focus on how to foster a supportive

partnership and anticipate and resolve any conflicts in the mentor/mentee relationship.

Chairing: G.P. Downey, MD, Denver, CO

Speakers: T. Blackwell, MD, Nashville, TN
B. Moore, PhD, Ann Arbor, MI
Z. Borok, MD, Los Angeles, CA
I. Petrache, MD, Denver, CO



BASIC • CLINICAL • TRANSLATIONAL

ATS KEYNOTE SERIES

The Keynote Series focuses on topics thought to be timely and of high relevance to the pulmonary, critical care, and sleep medicine community.

Two sessions are presented each morning during the conference.
Below are the topics for Wednesday, May 23.

K7 ON PHARMA: THE COMPLEXITY OF INNOVATION

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

Speaker: Theodore F. Reiss, MD, MBE, New Hope, PA

K8 THE PULMONOLOGIST AS MEDICAL EDUCATOR: A PERSONAL PERSPECTIVE

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

Speaker: Steven E. Weinberger, MD, Philadelphia, PA



CLINICAL

YEAR IN REVIEW

D1 CLINICAL YEAR IN REVIEW 4

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

Target Audience

Providers including physicians, nurses, respiratory therapists, nurse practitioners, 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;
- learn new findings about key conditions in pulmonary, critical care and sleep;
- have new strategies to manage the care of common conditions in pulmonary, critical care, and sleep.

The annual Clinical Year in Review symposia provides concise summaries of the most impactful clinical research publications related to specific clinical topics. Speakers will highlight 5 of the most important and influential publications on their topic in written format and during their talks.

Chairing: D.W. Ford, MD, Charleston, SC
V.E. Ortega, MD, PhD, Winston Salem, NC
J.S. Lee, MD, Aurora, CO

9:15 General Critical Care
H.C. Prescott, MD, MSci, Ann Arbor, MI

9:45 Critical Care Quality Improvement
A. Amaral, MD, Toronto, Canada

10:15 Health Disparities
E. Forno, MD, MPH, Pittsburgh, PA

10:45 Nosocomial Pneumonia
M. Klompas, MD, MPH, Boston, MA

CLINICAL • TRANSLATIONAL

CLINICAL TOPICS IN PULMONARY MEDICINE

D2 UNDERSTANDING CHRONIC LUNG ALLOGRAFT DYSFUNCTION: UPDATE FROM THE BEDSIDE AND BENCH

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

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

Target Audience

Clinicians, researchers and patient care providers in the field of lung transplantation

Objectives

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

- learn novel methodologies for monitoring graft function in lung transplant recipients and evaluating chronic graft failure;
- better define prognosis and select suitable treatment options for patients with CLAD;
- become aware of the ongoing research in the field and potential new therapeutic options on the horizon.

Recent discoveries in the clinical and basic science arena have changed the clinical and scientific approach to chronic graft failure after lung transplantation. This session will be of interests to clinicians and researchers alike. New clinical tools to phenotype patients, to improve prognostication, and to tailor therapeutic interventions in chronic lung allograft dysfunction (CLAD) will be discussed. Novel clinical, translational, and basic science methods being employed to further our understanding of CLAD will be reviewed.

Chairing: A.R. Glanville, MD, MBBS, Sydney, Australia
E. Belloli, MD, Ann Arbor, MI
V.N. Lama, MD, MS, Ann Arbor, MI

9:15 The CLAD Nomenclature: What Is in This Basket?
G.M. Verleden, MD, PhD, Leuven, Belgium

- 9:35 Graft Monitoring and Prognostication: How Can We Use Physiologic and Radiologic Methodologies to Guide Patient Care?**
E. Belloli, MD, Ann Arbor, MI
- 9:55 Immune Modulation as a Key in Targeting CLAD: Are We Getting Any Wiser?**
D. Kreisel, MD, PhD, St. Louis, MO
- 10:15 Is It All Fibrosis? Fibrotic Mechanisms in Pathogenesis of CLAD and Role of Anti-Fibrotic Therapeutic Modalities**
V.N. Lama, MD, MS, Ann Arbor, MI
- 10:35 Role of Guidelines in Advancing Clinical Care and Research in the Lung Transplant Arena**
A.R. Glanville, MD, MBBS, Sydney, Australia

CLINICAL

CLINICAL TOPICS IN PULMONARY MEDICINE

D3 WOMEN 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

Objectives

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

- advance clinicians and researchers knowledge about gender differences in specific pulmonary diseases (COPD, Lung Cancer, PAH, ILD, and Asthma);
- facilitate the integration of newly acquired knowledge into clinical practice by personalizing and improving management of women with specific lung diseases;
- improve patient related outcomes by delivering personalized medicine and identifying new areas for research leading to novel approaches.

Sex differences exist in pulmonary medicine. Certain diseases present differently in females, have a greater severity compared to males, or affect women almost exclusively. Some disorders have been traditionally

viewed as male-specific (COPD) or are rare diseases and diagnostic delays are common. Potential theories include detrimental effects of sex hormones, gender susceptibility and differences in lifestyle. Data also suggests that outcomes differ in females in specific pulmonary diseases. Current guidelines lack tailored approach to diagnose and manage women with pulmonary disorders. Nevertheless, experts in the field believe that more research leading to personalized management is needed to improve outcomes.

Chairing: T.Y. Beiko, MD, Charleston, SC
K.K. Guntupalli, MD, Houston, TX

- 9:15 A Patient's Perspective**
Speaker To Be Announced
- 9:20 Asthma in Women**
K.K. Guntupalli, MD, Houston, TX
- 9:43 COPD inWomen**
T.Y. Beiko, MD, Charleston, SC
- 10:06 ILD inWomen**
T.P. Whelan, MD, Charleston, SC
- 10:29 Lung Cancer in Women**
B. Bade, MD, New Haven, CT
- 10:52 PAH inWomen**
R.G. Argula, MBBS, MPH, Charleston, SC

CLINICAL

CRITICAL CARE TRACK

D4 EXTRACORPOREAL LIFE SUPPORT FOR RESPIRATORY FAILURE IN ADULTS: KEEPING PACE WITH THE DATA

Assembly on Critical Care

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

Target Audience

Clinicians and researchers, including trainees, with an interest in critical care and the management of patients with ECLS for respiratory failure

Objectives

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

- understand the role, impact, and limitations of the application of ECLS in ARDS;
- apply best conventional management strategies in ARDS;
- learn new findings about the use of ECLS for hypercarbic respiratory failure and bridge to lung transplantation.

Extracorporeal Life Support (ECLS), including extracorporeal membrane oxygenation (ECMO) and extracorporeal carbon dioxide removal (ECCO2R), is increasingly used in severe respiratory failure. However, the data supporting the use of ECLS are limited. This session will review the best available evidence regarding ECLS in the context of the acute respiratory distress syndrome, chronic obstructive pulmonary disease, and end-stage lung disease when ECLS is implemented as a bridge to transplantation. Emphasis will be placed on the anticipated results from the recently concluded EOLIA trial, the use of ECCO2R to minimize invasive mechanical ventilation, and how ultra-protective ventilation may be applied without ECLS.

Chairing: R.S. Stephens, MD, Baltimore, MD
D. Abrams, MD, New York, NY
C.L. Hodgson, PhD, Melbourne, Australia

- 9:15 EOLIA: Putting It Into Context**
N.D. Ferguson, MD, MSc, Toronto, Canada
- 9:40 ECCO2R: The Future of Extracorporeal Support for ARDS?**
M. Gillies, MD, Edinburgh, United Kingdom
- 10:00 We Don't Need ECLS for ARDS: Ultra-Protective Ventilation Without ECLS**
M.N. Gong, MS, MD, Bronx, NY
- 10:20 ECCO2R for COPD: Where Do We Stand?**
D. Brodie, MD, New York, NY
- 10:40 ECLS as Bridge to Transplant**
E. Fan, MD, PhD, Toronto, Canada
- 11:00 Panel Discussion**
R.S. Stephens, MD, Baltimore, MD

BASIC • CLINICAL • TRANSLATIONAL**SCIENTIFIC SYMPOSIUM****D5 MECHANOBIOLOGY IN THE AIRWAY ENVIRONMENT: FEEL THE FORCE**

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

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

Target Audience

Basic and translational scientists who wish to learn about emerging concepts in cell mechanics; impact of cell mechanics on airway function; in-vitro methods for characterizing cellular response to mechanical stimuli

Objectives

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

- appreciate newly discovered aspects of cell mechanics and its inter-relationships with airway function;
- learn new findings about physical mechanisms that may be independent of type 2 inflammation in asthma;
- target cell mechanics in drug screening and evaluation to overcome airway dysfunction.

Virtually all airway diseases involve alteration in cell mechanics. The extent to which these cell-level changes are influenced by intrinsic (stiffness, contraction, and gene expression) or extrinsic (exposures to environmental stimuli) factors, or combinations of both, remains unclear. This session will highlight our current knowledge, providing biomechanical insights into the complex mechanisms that make airway cells susceptible, or not, to mechanical dysfunction.

Chairing: R. Krishnan, PhD, MS, Boston, MA
A.J. Ammit, PhD, Ultimo, Australia
C. Pascoe, PhD, Winnipeg, Canada

- 9:15 Introduction**
R. Krishnan, PhD, MS, Boston, MA

- 9:21 Contractile Responses of Bioengineered Muscle Microtissues Under Physiologic and Pathologic Loading Conditions**
B. Fabry, PhD, Erlangen, Germany
- 9:40 Studying Morphogenesis and Remodeling in Airway Organoids**
D.J. Tschumperlin, PhD, Rochester, MN
- 9:59 Fluctuation-Driven Mechanotransduction Drives Mitochondrial-Network Structure and Function**
B. Suki, PhD, Boston, MA
- 10:18 Unjamming Transition of the Airway Epithelium: A Biomechanical Link to Asthma**
J.A. Park, PhD, Boston, MA
- 10:37 Tissue-Based Human Pulmonary Models for Mechanotransduction Research**
D.E. Wagner, PhD, Lund, Sweden
- 10:56 The Role of Extracellular Matrix Forces in Asthma**
T.L. Hackett, PhD, Vancouver, Canada

BASIC • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D6 MANIPULATING INFLAMMATORY AND EPITHELIAL NETWORKS FOR PREVENTION AND TREATMENT OF LUNG CANCER

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

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

Target Audience

Basic and translational researchers with an interest in the interaction between the airway epithelium and inflammatory cells, especially in premalignancy and early cancer

Objectives

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

- learn about new findings in interactions between the immune system and cancer cells;

- improve knowledge about immunotherapy and novel therapies aiming to manipulate immune evasion;
- understand the role of the immune system in cancer prevention.

Major recent advances in cancer biology have brought interactions between inflammatory and epithelial cells into sharp focus. Epithelial oncogenic alteration can predate tumor formation and may activate or inhibit inflammatory surveillance networks. The dynamics of this interaction dictate how a tumor may form, regress, or progress. This session will explore these dynamics, with a focus on strategies to manipulate the interaction of premalignant and malignant epithelial cells with infiltrating inflammatory cells to prevent or treat lung cancer.

Chairing: E. Ostrin, MD, PhD, Houston, TX
S.J. Moghaddam, MD, Houston, TX
R. Savai, PhD, Bad Nauheim, Germany

9:15 A Patient's Perspective
Speaker To Be Announced

9:20 The Role of the Immunoproteasome in Lung Carcinogenesis
E. Ostrin, MD, PhD, Houston, TX

9:40 Immune Checkpoint Inhibition in Lung Cancer Chemoprevention
R.L. Keith, MD, Denver, CO

10:00 Interplay Between STAT3/NF-κB Mediated Cytokine Network and Estrogen Signaling in K-Ras Mutant Lung Tumorigenesis
S.J. Moghaddam, MD, Houston, TX

10:20 Immunometabolism in Early and Advanced Lung Cancer
F. Kheradmand, MD, Houston, TX

10:40 Cancer Cell and Macrophage Cross-Talk in the Lung Tumor Microenvironment
R. Savai, PhD, Bad Nauheim, Germany

BASIC • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D7 FROM CANCER BIOLOGY TO NEW THERAPEUTICS: TARGETING CELL PROLIFERATION SIGNALING HUBS IN PULMONARY HYPERTENSION AND FIBROSIS

Assemblies on Pulmonary Circulation; Respiratory Cell and Molecular Biology; Respiratory Structure and Function; Thoracic Oncology

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

Target Audience

Clinicians and scientists who are interested in understanding the mechanisms driving disease pathogenesis and novel therapeutic developments in pulmonary hypertension, pulmonary fibrosis and lung cancer

Objectives

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

- understand the mechanistic roles of major pro-proliferative signaling pathways that act as “central signaling hubs” in PH, IPF and cancer;
- learn new findings about cellular, pre-clinical and clinical studies focused on cancer-shared PH and IPF abnormalities;
- learn about novel and emerging anti-proliferative therapies for PH and IPF.

Pulmonary hypertension (PH) and idiopathic pulmonary fibrosis (IPF) are progressive diseases with high mortality rates and poor treatment options, both of which share incredible number of pathological molecular mechanisms with human cancers. This offers exciting opportunity to employ cancer-specific strategies and/or re-purpose anti-cancer agents for treatment of those diseases. This session will provide overview of major pro-proliferative signaling pathways that act as “central signaling hubs” in PH, IPF and cancer, summarize recent progress in cellular, pre-clinical and clinical studies focused on

cancer-shared abnormalities, and discuss the opportunities for re-purposing or cross-development of anti-cancer agents that can be used in improving PH and IPF treatment.

Chairing: M. Rabinovitch, MD, Stanford, CA
W. Seeger, MD, Giessen, Germany

9:15 PH: Analogous Features with Carcinogenesis
R. Savai, PhD, Bad Nauheim, Germany

9:35 HIPPO-mTOR Signaling Hubs: Cancer-Like Alterations in Pulmonary Hypertension
E.A. Goncharova, PhD, Pittsburgh, PA

9:55 IPF: Analogous Features of Carcinogenesis - TGF β -ALK5 Signaling Hub as an Example
R.C. Chambers, PhD, London, United Kingdom

10:15 FoxO: Critical Integrator of Growth Factor and Inflammatory Signaling Hubs - FoxO Activation as a Strategy to Treat PH and IPF
S.S. Pullamsetti, PhD, Bad Nauheim, Germany

10:35 New Molecular Targets in Pulmonary Fibrosis: Experiences and Perspective From the Clinic
P.W. Noble, MD, Los Angeles, CA

10:55 PH: From Cancer Biology to New Therapeutics: Are We Ready to Translate?
M.T. Gladwin, MD, Pittsburgh, PA

BASIC

SCIENTIFIC SYMPOSIUM

D8 UNRAVELING THE MYSTERIES OF THE MITOCHONDRIA IN PULMONARY INFLAMMATION/INJURY

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

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

Target Audience

Clinical and basic science researchers

Objectives

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

- learn new findings about the significance of mitochondrial biogenesis signals in pulmonary inflammation;
- apply the mechanisms of mitochondrial dysfunction to infection or inflammation;
- discuss potential therapeutic targets to treat pulmonary inflammation.

Recent high impact papers show the critical role of the mitochondria in lung inflammation and associated tissue injury. Apart from the cellular energy powerhouse of the mitochondria, recent studies suggest critical inflammatory signaling pathways drive cell behavior and death. The goal of this symposium is to highlight recent exciting data that points to possible mitochondrial mechanisms (e.g. heme biosynthesis, oxygen sensing, mitochondria biogenesis, mitophagy, and mitochondrial repair) that drive pulmonary inflammation and injury. Targeting these pathways have the potential to lead to a novel therapeutic approach to treat acute lung tissue injury induced by inflammation.

Chairing: R.G. Scheraga, MD, Cleveland, OH
A. Rogers, MPH, MD, Stanford, CA
P.T. Schumacker, PhD, Chicago, IL

- 9:15 Mitochondrial Integrity in the Setting of Pulmonary Infection**
C.A. Piantadosi, MD, Durham, NC
- 9:35 Mitochondrial Damage and Inflammasome Activation**
M. Karin, PhD, La Jolla, CA
- 9:55 Mitochondrial Regulation of Lung Inflammation**
J. Bhattacharya, MD, New York, NY
- 10:15 Mitochondria Damage Associated Molecular Patterns (DAMPs) in Bacterial Pneumonia**
P. Ray, PhD, Pittsburgh, PA
- 10:35 Mitophagy and Mesenchymal Stem Cell Survival**
L.A. Ortiz, MD, Pittsburgh, PA
- 10:55 Autophagy and Mitochondrial Dysfunction**
S.M. Cloonan, PhD, New York, NY

CLINICAL

SCIENTIFIC SYMPOSIUM

D9 CONTROVERSIES IN CLINICAL PEDIATRIC PULMONOLOGY

Assemblies on Pediatrics; Allergy, Immunology and Inflammation; Clinical Problems; Respiratory Structure and Function

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

Target Audience

Pediatric pulmonologists; adult pulmonologists; respiratory therapists; nurses

Objectives

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

- learn about potential modes of transmission of pathogens in Cystic Fibrosis that are not prevented by the current methods of infection control;
- integrate the evaluation and management of the pulmonary complications of Sickle Cell Disease into the overall management of the disease;
- apply or modify the current guidelines for the management of viral bronchiolitis in clinical practice.

Despite the number of publications and the development of guidelines for the evaluation and management of various diseases, there are still many issues pertaining to their diagnosis and management that remain controversial. This session will present 3 such controversial topics in a "Pro/Con" format. The first topic refers to the clinical significance of the FEF25-75 in the evaluation of lung diseases. The second topic, discuss the clinical appropriateness of the most recent guidelines on bronchiolitis. The third topic is discussing the significance of the pulmonary evaluation of patients with Sickle Cell Disease.

Chairing: A.C. Koumbourlis, MD, MPH, Washington, DC

9:15 Introduction

A.C. Koumbourlis, MD, MPH, Washington, DC

- 9:20 PRO: Bronchodilators, Steroids and Oxygen Should Not Be Given in Viral Bronchiolitis**
M.A. Brown, MD, Aurora, CO

- 9:37 CON: Bronchodilators, Steroids and Oxygen Should Not Be Given in Viral Bronchiolitis**
M.A. Wall, MD, Portland, OR
- 9:54 PRO: Pulmonary Function Testing and Evaluation Are Not Necessary for the Standard Management of Patients with Sickle Cell Disease**
K. Smith-Whitley, MD, Philadelphia, PA
- 10:11 CON: Pulmonary Function Testing and Evaluation Are Not Necessary for the Standard Management of Patients with Sickle Cell Disease**
A.C. Koumbourlis, MD, MPH, Washington, DC
- 10:28 PRO: Routine Visits to the CF Clinics Should Be Reduced Due to the Increased Risk of Infection**
C. Wainwright, MBBS, MD, Brisbane, Australia
- 10:45 CON: Routine Visits to the CF Clinics Should Be Reduced Due to the Increased Risk of Infection**
G.S. Sawicki, MPH, MD, Boston, MA

BEHAVIORAL • CLINICAL

SCIENTIFIC SYMPOSIUM

D10 GROWING UP WITH CHRONIC PULMONARY DISEASE: CHALLENGES IN THE TRANSITION FROM PEDIATRIC TO ADULT FOCUSED HEALTH CARE

Assemblies on Pediatrics; Behavioral Science and Health Services Research; Clinical Problems; Nursing; Education Committee; Training Committee: Members in Transition and Training Committee

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

Target Audience

Physicians, nursing and allied health professionals providing care to those with chronic respiratory conditions of childhood in which successful transition to adult focused health care is of importance

Objectives

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

- develop new strategies to manage barriers and developmental challenges in the transition from pediatric to adult care for patients with chronic childhood-onset pulmonary disease;
- learn about successful evidence based transition models in pulmonary disease populations, focusing on key process and outcome measures for success;
- understand current needs in transitional care education and be able to integrate such topics in formal curricula for pediatric and adult pulmonary trainees.

Over the past several decades survival has increased dramatically amongst children with many chronic respiratory conditions including cystic fibrosis, chronic respiratory insufficiency, and neuromuscular disease. As a result, health systems need to develop and support programs to improve the transition from pediatric to adult focused health care. Adolescents and young adults are often ill equipped to complete this transition successfully, formalized transition programs are uncommon, and resources for certain populations are lacking within adult-focused health care systems. This symposium will address the challenges patients, their caregivers and clinicians have in transitioning care, and will review evidence-based tools used to foster this transition.

Chairing: E. Crowley, MD, Indianapolis, IN
D. Li, MD, Los Angeles, CA
G.S. Sawicki, MPH, MD, Boston, MA

- 9:15 A Patient's Perspective**
Speaker To Be Announced
- 9:20 Health Care Transition in the United States: Current State of Affairs**
G.S. Sawicki, MPH, MD, Boston, MA
- 9:35 Lost in Transition: Growing Older with Cystic Fibrosis**
C. Kvam, JD, MPP, Rochester, NY
- 9:50 Providing Care for a Changing Cystic Fibrosis Population: A Model for Health Care Transition**
E. Crowley, MD, Indianapolis, IN

10:10 Challenges in Pediatric to Adult Transition in Neuromuscular Disease

J.P. Brown, MD, PhD, Salt Lake City, UT

10:30 The Adolescent with Chronic Pulmonary Disease: Developmental and Psychosocial Challenges for Self-Management and Transition

J. Butcher, PhD, Ann Arbor, MI

10:50 A Better Workforce for Transitional Care: Training Issues

S.E. Kirkby, MD, Columbus, OH

BEHAVIORAL • CLINICAL**SCIENTIFIC SYMPOSIUM****D11 BATTLING BURNOUT: OVERCOMING THE BIGGEST THREAT TO HEALTH CARE QUALITY AND SAFETY**

Assemblies on Behavioral Science and Health Services Research; Clinical Problems; Critical Care; Nursing; Pediatrics; Thoracic Oncology; Membership Committee

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

Target Audience

Practicing health care workers, researchers, trainees, educators, health care administrators, and policy-makers

Objectives

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

- define burnout syndrome and describe the scope of the problem, including prevalence and adverse effects of burnout among health care workers with different clinical roles;
- identify major determinants of burnout among health care workers practicing in different clinical settings;
- describe specific interventions that can help reduce the burden of burnout.

The purpose of this session is to engage researchers, clinicians, educators, trainees and administrators in an effort to address the crisis of burnout syndrome among practicing health care workers. This is pertinent to clinicians who care for patients with critical illness,

cancer, advanced lung diseases, or children with chronic respiratory illnesses. We will discuss the scope of the problem, including the prevalence, risk factors, and outcomes related to burnout among nurses, advanced practitioners, physicians, and trainees. We will discuss evidence-based solutions and develop a platform to discuss future directions for research, policy, and clinical practice to overcome the burden of burnout.

Chairing: S. Rinne, MD, PhD, Bedford, MA
S.M. Kassutto, MD, Philadelphia, PA
R. Adamson, MBBS, Seattle, WA

9:15 The Root of the Matter: Understanding the Historical Context of Burnout in Health Care
S. Rinne, MD, PhD, Bedford, MA

9:25 The Cost of Burnout: Impact on Patients, Productivity, and Professional Satisfaction
M. Trockel, MD, Stanford, CA

9:45 Physicians in Critical Condition: Burnout Among Pulmonary and Critical Care Physicians
M. Moss, MD, Aurora, CO

10:05 Fallout on the Front: How Burnout Affects Nurses
D.K. Costa, PhD, RN, Ann Arbor, MI

10:25 Restoring Joy in Medicine: Health System Solutions to the Growing Burden of Burnout
T. Shah, MD, MPH, Washington, DC

10:45 Be Mindful of the Burn: Preventing Burnout Through Mindfulness
M. Mealer, PhD, Aurora, 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 2018
Where today's science
meets tomorrow's care™

International Conference San Diego, CA

Wednesday Mid-day, May 23

BEHAVIORAL • CLINICAL

WORKSHOP

WS7 DELIVERING PULMONARY REHABILITATION ACROSS THE SPECTRUM OF CARE FROM HOSPITAL TO COMMUNITY

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

Assemblies on Pulmonary Rehabilitation; Clinical
Problems; Nursing

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

Target Audience

Clinicians involved with mobilization, discharge planning,
and rehabilitation of patients of patients with respiratory
conditions in locations ranging from the ICU to home

Objectives

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

- describe examples of delivery of rehabilitation in different locations and in different systems;
- offer examples of system strategies and resources to offer to your patient;
- increase awareness of rehabilitative services available to pulmonary patients among health care providers throughout the continuum of care.

There is an increasing body of literature identifying improvements in outcomes such as length of stay, functional status and reduction in re admissions with the use of rehabilitation programs when they are carefully and appropriately implemented in a variety of settings ranging from the ICU to outpatient rehabilitation programs. This session provides a view of how to apply these studies in a range of health care systems and locations.

Chairing: E.P. Riesenfeld, MD, Cooperstown, NY
R.H. Crouch, DPT, MS, PT, Buies Creek, NC

11:45 Pulmonary Rehabilitation

R.H. Crouch, DPT, MS, PT, Buies Creek, NC

12:00 Pittsburgh Readmission Efforts

B.W. Carlin, MD, Sewickley, PA

12:10 Multiple Resources in a Rural Health Care Network

E.P. Riesenfeld, MD, Cooperstown, NY

12:20 Outpatient Resources Including VNA and PT and Finances

K. Hyden, MSN, MEd, APN-BC, ACHPN, Denver,
CO

12:35 Inpatient Rehabilitation

R.S. Novitch, MD, White Plains, NY

12:45 Early Rehabilitation in the ICU

C.T. Hough, MD, MSc, Seattle, WA

CLINICAL

WORKSHOP

WS8 SHOULD THIS STUDY CHANGE MY PRACTICE? SKILLS FOR ADEPT APPRAISAL OF CRITICAL CARE LITERATURE

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

Assemblies on Critical Care; Behavioral Science and
Health Services Research

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

Target Audience

Critical care practitioners and trainees who wish to

improve their ability to assess and apply clinical studies and non-intensivist clinicians as the principles are broadly applicable

Objectives

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

- understand features of observational studies, clinical trials, and meta-analyses that impact the quality of evidence;
- systematically evaluate clinical studies using validated tools;
- navigate challenges in applying clinical to an individual patient.

The goal of the session is to enhance the ability of critical care practitioners to systematically examine and apply clinical studies. Lectures will address core concepts in critical appraisal of observational studies, clinical trials, and meta-analyses. Guided by an expert panel, participants will use validated and publicly available frameworks to analyze two pre-read critical care publications. The session will conclude with a synopsis of the learning objectives and discussion of challenges encountered when applying research findings to individual patients.

Chairing: E.A. Vail, MD, San Antonio, TX
L.K. Vande Vusse, MD, MSc, Seattle, WA
R.S. Wiener, MD, MPH, Boston, MA

11:45 Principles of Appraising Clinical Research
E.A. Vail, MD, MSc, San Antonio, TX

11:55 Common Challenges with Clinical Trials and Meta-Analyses
D.C. Scales, MD, PhD, Toronto, Canada

12:15 Common Challenges in Interpreting Observational Studies
A.J. Walkey, MD, MSc, Boston, MA

12:35 Practice with Literature Appraisal Tools
M.J. Lanspa, MD, MSCR, Salt Lake City, UT

1:05 To the Bedside: Pitfalls in Applying Clinical Research to Our Patients
T.J. Iwashyna, MD, PhD, Ann Arbor, MI

CLINICAL

ADULT CLINICAL CORE CURRICULUM

CC5 PULMONARY CLINICAL CORE CURRICULUM I

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.L. Cho, MD, Denver, CO

11:45 Manifestations and Diagnosis of Connective Tissue Disease-Associated Interstitial Lung Disease
J. Solomon, MD, Denver, CO

12:15 Diagnosis and Management of Interstitial Lung Disease-Associated Pulmonary Hypertension
K.A. Smith, MD, Philadelphia, PA

12:45 Inherited Diffuse Parenchymal Lung Diseases
J.J. Swigris, DO, MS, Denver, CO

**CENTERS FOR DISEASE CONTROL AND
PREVENTION**

**L21 PREVENTING HALF A MILLION
ASTHMA-RELATED EMERGENCY
DEPARTMENT VISITS AND
HOSPITALIZATION IN CHILDREN**

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

Target Audience

Those serving pediatric populations; those who work across multiple sectors, such as health care, schools or public health; those who work with multidisciplinary asthma programs

Objectives

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

- learn more about evidence based interventions in children with asthma;
- understand the relationship between public health and health care to help reduce the burden of asthma;
- learn about a major initiative at the CDC.

CDC's National Asthma Control Program started a new initiative focused on reducing the number of hospitalizations and emergency room visits among children with asthma called CCARE (Controlling Childhood Asthma Reducing Emergencies). Our goal is to reduce emergency department and hospitalization visits for children by half a million in five years. We plan to do this by promoting public health and health care collaboration and asthma self-management education (AS-ME), extinguishing second hand smoke, home visits with AS-ME, guidelines-based medical management and asthma-friendly policies. We plan to promote interventions across sectors, and linkages between programs and clinicians.

Chairing: P.L. Garbe, DVM, Atlanta, GA

12:15 CCARE 101

K. Sircar, PhD, MPH, Chamblee, GA

12:30 Perspective on State Public Health Asthma Program

C. Bailey, PhD, Atlanta, GA

12:45 Linkages: An Opportunity to Improve Asthma Care

S.F. Beavers, MD, Chamblee, GA

DEPARTMENT OF VETERANS AFFAIRS

L22 VETERANS HEALTH STUDIES AND PROGRAMS IN PULMONARY DEPLOYMENT HEALTH

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

Target Audience

Pulmonary providers; those needing instruction in areas of medicine outside of their primary specialty; new and established investigators

Objectives

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

- learn new findings about military deployment-related exposures that is the focus of VA and DoD research programs;
- learn about VA and DoD research program and projects and research opportunities regarding Veterans pulmonary health;
- apply new knowledge regarding deployment health to the practice of pulmonary medicine.

There are over 2.5 million US Veterans with deployments to Iraq, Afghanistan, Kuwait, and other Southwest Asian countries. Those with land-based deployments were exposed to high levels of particulate matter from dust storms, burn pit smoke (i.e., smoke from solid waste combustion at US bases), and unregulated industrial and vehicular sources. This session will outline the pulmonary health conditions and exposures that are being assessed by Department of Defense (DoD) and VA funded investigators. The session will provide insight into resources and programs available to stimulate additional research in respiratory hazards and deployment health.

Chairing: E. Garshick, MD, West Roxbury, MA
J.K. Brown, MD, San Francisco, CA

- 12:15 Overview of Deployment Health Research**
E. Garshick, MD, West Roxbury, MA
- 12:20 Assessment of Respiratory Hazards in Deployed Military Personnel**
C. Baird, MD, MPH, Gunpowder, MD
- 12:31 Clinical findings in Veterans and the VA Airborne Hazards and Open Burn Pit Registry**
M.J. Falvo, PhD, East Orange, NJ
- 12:42 Lung Biopsy Findings and Research in Deployed Personnel**
C.S. Rose, MD, MPH, Denver, CO
- 12:53 Va and DoD-Based Veteran and Military Epidemiology Programs**
R. Rull, PhD, San Diego, CA
- 1:04 VA Merit Review, Cooperative Studies, Million Veteran Program, and Deployment Health**
K. Myrie, PhD, Washington, DC

**NATIONAL INSTITUTE FOR
OCCUPATIONAL SAFETY AND HEALTH**

L23 UPDATE ON WORK-RELATED AIRWAYS DISEASE

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

Target Audience

Those with an interest in preventing, caring for, or doing research to address work-related airways disease

Objectives

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

- recognize relationships between work exposures and asthma and the implications of work-related asthma for severity of disease;
- recognize and follow up on histories of occupational exposures potentially associated with work-related small airways disease.

This session will provide an update on a range of current topics in work-related airways disease. These will include an update on the national burden of work-related asthma as indicated by NIOSH

surveillance, emerging issues in work-related small airways diseases such as obliterative bronchiolitis, and the role of forced oscillation testing in providing diagnostic information about small airways disease beyond that provided by standard assessment using spirometry.

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

12:15 Burden of Work-Related Airways Disease: Findings From National Surveillance
J. Mazurek, MD, PhD, Morgantown, WV

12:35 Emerging Issues in Small Airways Disease
K.J. Cummings, MD, MPH, Morgantown, WV

12:55 Use of Forced Oscillation Testing (FOT) for Investigating Small Airways Disease
K.I. Berger, MD, New York, NY

**NATIONAL INSTITUTE OF
ENVIRONMENTAL HEALTH SCIENCES, NIH**

L24 NIEHS-NANOTECHNOLOGY HEALTH IMPLICATIONS RESEARCH CONSORTIUM

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

Target Audience

Basic and clinical researchers, physicians, pulmonologists, community and public health specialists

Objectives

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

- gain fundamental understanding on the interaction of nanomaterials with biological materials;
- understand health effects of engineered nanomaterials due to unintentional exposures;
- learn about potential pulmonary toxicity of fiber-like nanomaterials and related pathology.

The expanding field of Nanotechnology industry is leading to rapid growth in the use of engineered nanomaterials (ENMs) in thousands of consumer products. With subtle variation in physicochemical properties a near infinite number of ENMs can be

generated. The widespread use of ENMs in consumer products is a concern for potential unintended exposure to ENMs. The overarching goals of the Nanotechnology Health Implications Research (NHIR) consortium are to gain fundamental understanding on the molecular and pathological pathways involved in the toxicity of ENM-biological interactions for a library of ENMs representing high production, use in consumer products, including emerging two and three dimensional ENMs containing new transitional metals and whose toxicology is unknown. This session will highlight the goals, objectives and ongoing efforts by the NHIR consortium and opportunities for collaboration among materials science and toxicology research community in addressing this important public health issue.

Chairing: S.S. Nadadur, PhD, Durham, NC
K.E. Pinkerton, PhD, Davis, CA

12:15 NHIR Consortium

S.S. Nadadur, PhD, Durham, NC

12:22 Multiple pathways of exposure to Nanoparticles

K.E. Pinkerton, PhD, Davis, CA

12:38 Biological Response Profiles of Engineered Nanomaterials after Perinatal Inhalation Exposure

P.S. Thorne, PhD, MS, Iowa City, IA

12:54 Optical Methods for Studying Label Free Nanomaterial Uptake and Toxicology

K.K. Parker, PhD, Boston, MA

1:10 General Discussion

U.S. FOOD AND DRUG ADMINISTRATION (FDA)

L25 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 US, 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 Emerging Concepts and New Technologies for Bioequivalence of Orally Inhaled and Nasal Drug Products

K.A. Witzmann, MD, Silver Spring, MD

12:52 Update for Generic Orally Inhaled and Nasal Drug Products

B. Newman, PhD, Silver Spring, MD

1:09 Questions and Answers

K.A. Witzmann, MD, Silver Spring, MD

DIVISION OF LUNG DISEASES/NHLBI, NIH**L26 ASTHMANET: CURRENT CLINICAL TRIAL RESULTS****12:15 p.m. - 1:15 p.m.****Target Audience**

Clinicians managing asthma

Objectives

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

- understand approaches to manage African American patients with asthma;
- learn and understand the relevance of sputum eosinophilia;
- understand the differences in outcomes in African American children and adults with asthma.

Investigators from NHLBI's multi-site clinical trial network to address asthma management in children and adults will present the results of their recently completed clinical trials. The clinical trials to be presented will include alternative approaches to asthma treatment in specific populations of both children and adults. One of the clinical trials to be discussed will address the approach to asthma management in individuals who self-identify as African American: Best African American Response to Asthma Drugs (BARD). The other clinical trial presented will address asthma management based on one phenotype, Steroids in Eosinophil Negative Asthma (SIENA).

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

12:15 Best African American Response to Asthma Drugs (BARD)

M. Wechsler, MD, Denver, CO

12:45 Steroids in Eosinophil Negative Asthma (SIENA)

S.C. Lazarus, MD, San Francisco, CA

1:05 Questions and Answers/Discussion**DIVISION OF LUNG DISEASES/NHLBI, NIH****L27 LESSONS LEARNED FROM NHLBI SPONSORED INHALED PROGRAM: HIV AND AGING****12:15 p.m. - 1:15 p.m.****Target Audience**

Providers of lung health, medical fellows in training, graduate, post-doctoral fellows and established scientists in basic research on lung biology, HIV pathogenesis, and infection disease

Objectives

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

- better understand the mechanisms of HIV related lung diseases in the HAART era;
- improve the understanding of the accelerated aging process in the HIV lung;
- learn new findings about the role of the virome, immunosenescence and oxidative stress in the aging lung in the context of HIV infection.

Effective antiretroviral therapy has significantly reduced infectious complications in HIV infection by limiting the loss of immune function and promoting immune reconstitution. However, the decline in infectious complications have been offset by an increased frequency of pulmonary and vascular diseases associated with chronic inflammation. Interestingly, the types of complications seen in HIV infected subjects today mirror those seen in an older non-HIV infected population, leading to the suggestion that HIV infection is a model for premature aging. This session will explore similarities and differences in lung disease found in HIV infected subjects and non-HIV infected aging populations. Potential similar pathogenic mechanisms leading to chronic inflammation will be discussed, including alterations in host immunity resulting in T cell

immunosenesence, changes in the lung microbial composition (with a focus on viral changes), and excess oxidative stress. This work suggests a role for studying HIV infection as a potential model for chronic lung diseases found in the normal aging population.

Chairing: J.F. McDyer, MD, Pittsburgh, PA
E. Caler, PhD, Bethesda, MD

12:15 The Lung Virome, Inflammation, and Lung Complications in HIV Infection

H.L. Twigg, MD, Indianapolis, IN

12:27 Immunosenesence in the HIV Lung and the Aging Lung

A.P. Fontenot, MD, Aurora, CO

12:39 Oxidative Stress in the HIV Lung and Aging Lung

J. Roman, MD, Louisville, KY

12:51 Does the Lung in HIV Infection Structurally or at the Cellular Level Look and Behave Like An “Old” Lung?

R.G. Crystal, MD, New York, NY

1:03 Comparison of Epidemiology of Lung Disease in HIV Infection and Aging Population

J. Atkinson, MD, St. Louis, MO

DIVISION OF LUNG DISEASES/NHLBI, NIH

L28 LONGITUDINAL STABILITY OF SEVERE ASTHMA PHENOTYPES AND ENDOTYPES 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 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;
- improve understanding of how the clinical features of severe asthma varies in children and adults.

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, risk factors for asthma exacerbations, and, importantly, the change in pathophysiologic features of disease and phenotypes over time and their association with clinical outcome.

Chairing: S.E. Wenzel, MD, Pittsburgh, PA
T. Croxton, MD, PhD, Bethesda, MD

12:15 Stability of Severe Asthma Phenotypes

12:25 Severe Asthma Phenotypes in Pre- and Post-Adolescent Children

12:35 Metabolomic Profiles in Severe Asthma: Therapeutic Implications

12:45 Severe Asthma Research Program: Lessons Learned and Future Directions

1:00 Group Discussion

Speakers To Be Announced

DIVISION OF LUNG DISEASES/NHLBI, NIH

L29 NEW RESULTS FROM THE COPDGENE STUDY

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

Target Audience

Researchers, medical trainees, those with an interest in COPD pathogenesis

Objectives

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

- learn about imaging in the COPDGene study;
- understand and 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 heterologous 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. In this session, presenters will discuss new results from the COPDGene study, including protein biomarkers, genetics, and transcriptomics. In addition, presenters will discuss new insights that have developed from the COPDGene study into the diagnosis of prognosis of COPD patients.

Chairing: L. Postow, PhD, Bethesda, MD
J.D. Crapo, MD, Denver, CO
E.K. Silverman, MD, PhD, Boston, MA

12:15 Introduction: Translating COPDGene Results to Clinical Practice

J.D. Crapo, MD, Denver, CO

12:23 Imaging Updates from COPDGene

S.P. Bhatt, Birmingham, AL

12:36 Developing Biomarkers for COPD

C.P. Hersh, MD, MPH, Boston, MA

12:49 Insights into COPD Diagnosis from COPDGene

M.H. Cho, MPH, MD, Boston, MA

1:02 Insights into COPD Prognosis from COPDGene

G. Kinney, MPH, PhD, Aurora, CO



CLINICAL

ADULT CLINICAL CORE CURRICULUM

CC6 PULMONARY CLINICAL CORE CURRICULUM II

1:30 p.m. - 3:30 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: G.W. Garrison, MD, Burlington, VT

- 1:30 Pulmonary Complications of Neuromuscular Disease**
G.T. Bosslet, MD, MA, Indianapolis, IN
- 2:00 Lung Transplant for Interstitial Lung Disease: Allocation, Preparation, and Outcomes**
D. Sayah, MD, PhD, Los Angeles, CA
- 2:30 Occupational and Environmental Lung Disease: Pneumoconioses and Inhaled Toxins**
M.B. Rice, MD, MPH, Boston, MA
- 3:00 Drug-Induced Lung Disease: Chemotherapeutic and Non-Chemotherapeutic Agents**
S. Montesi, MD, Boston, MA

BEHAVIORAL • CLINICAL • TRANSLATIONAL

CLINICAL TOPICS IN PULMONARY MEDICINE

D82 INTERVENTIONAL APPROACHES TO THE TREATMENT OF OBSTRUCTIVE LUNG DISEASES

Assemblies on Clinical Problems; Critical Care; Nursing; Pulmonary Rehabilitation; Respiratory Structure and Function; Thoracic Oncology

1:30 p.m. - 3:30 p.m.

Target Audience

All clinicians, physicians, nurses, residents, fellows, therapists and researchers caring for patients with COPD

Objectives

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

- recognize the types of bronchoscopic interventions now available to treat irreversible airways obstruction;

- understand the need for a multidisciplinary approach (interventional pulmonologist, therapists, nurses, radiologists, thoracic surgeons, etc) to treat a patient with irreversible airways obstruction;
- understand the different levels of lung obstructive disorders- airways obstruction due to asthma vs chronic bronchitis or advanced emphysema and the role of the different techniques to alleviate the separate entities causing airways obstruction.

There have been major advances in diagnostic and therapeutic bronchoscopy over the past decade. New bronchoscopic techniques for the diagnosis and therapy of a range of lung disorders is now possible. One major evolving area of investigation is the treatment of patients with obstructive lung disorders. From asthma to emphysema, chronic bronchitis, central airways obstruction and dynamic large airway collapse selective bronchoscopic therapies to alleviate irreversible airflow obstruction is now possible. This session will review the new bronchoscopic approaches for these different entities.

Chairing: G.J. Criner, MD, Philadelphia, PA
F.J.F. Herth, MD, Heidelberg, Germany
D. Slebos, PhD, MD, Gromingen, Netherlands
P. Shah, MD, London, United Kingdom

- 1:30 Introduction to Obstructive Lung Diseases Amenable to Bronchoscopic Intervention**
G.J. Criner, MD, Philadelphia, PA
- 1:45 Technical Aspects of Bronchoscopic Interventions to Treat Obstructive Lung Diseases**
F.J.F. Herth, MD, Heidelberg, Germany
- 2:00 Bronchial Thermoplasty for Treatment of Severe Asthma**
D. Gompelmann, MD, Heidelberg, Germany
- 2:15 Use of Cryotherapy in Chronic Bronchitis**
P. Shah, MD, London, United Kingdom
- 2:30 Targeted Lung Denervation in Irreversible Airways Obstruction**
D. Slebos, PhD, MD, Gromingen, Netherlands

2:45 Lung Reduction in Advanced Emphysema
F.C. Sciurba, MD, Pittsburgh, PA

3:00 Dynamic Tracheobronchial Collapse
K. Klooster, RN, Groningen, Netherlands

3:15 Central Airways Obstruction
M. Weir, MBChB, Philadelphia, PA

CLINICAL • TRANSLATIONAL

CLINICAL TOPICS IN PULMONARY MEDICINE

D83 CLINICAL TRIAL DESIGN IN IPF

Assembly on Clinical Problems

1:30 p.m. - 3:30 p.m.

Target Audience

Clinicians, researchers, regulatory board members, industry

Objectives

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

- gain an understanding and appreciation for the basic tenets of clinical trial design. They will be expected to learn what constitutes a valid endpoint and surrogate endpoint for clinical trials of IPF and how other endpoints may be validated;
- understand the potential ethical and logistical impact on performing clinical trials in IPF;
- incorporate the lessons learned into the design of innovative randomized controlled trials in the future to study IPF.

While the approval of pirfenidone and nintedanib represents an exciting advancement in the treatment of IPF, many questions remain including when to initiate therapy, which therapy to choose, how to define drug efficacy given side effect profiles, and how these drugs should be incorporated into trials evaluating new therapies. To answer these questions, careful attention to trial design will be crucial. We will discuss the utility of clinical meaningful and surrogate endpoints in clinical IPF trials, including patient reported outcomes, serum biomarkers, and imaging characteristics. The

ethics and logistics of recruiting subjects for trials in the era of antifibrotic drugs will be addressed.

Chairing: M. Porteous, MD, MSCE, Philadelphia, PA
H.R. Collard, MD, San Francisco, CA
K. Anstrom, PhD, Durham, NC

1:30 Feels, Function, Survives: Are Clinically Meaningful Endpoints Feasible in IPF Clinical Trials?

L. Richeldi, MD, PhD, Rome, Italy

1:55 Surrogate Endpoints in IPF: Are They Ready for Prime Time?

B. Karimi-Shah, MD, Silver Spring, MD

2:20 Future of Imaging in IPF for Inclusion and Outcome Assessment

M. Porteous, MD, MSCE, Philadelphia, PA

2:45 Novel IPF Trial Design in the Era of Anti-Fibrotic Therapy

K. Anstrom, PhD, Durham, NC

3:10 Improving Efficiencies in Clinical Trial Conduct
P.J. Smith, PhD, MD, Durham, NC

CLINICAL • TRANSLATIONAL

CRITICAL CARE TRACK

D84 CRITICAL ILLNESS AND THE AGING BRAIN: DEMENTIA AND DELIRIUM IN THE ICU

Assemblies on Critical Care; Nursing

1:30 p.m. - 3:30 p.m.

Target Audience

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; clinical and translational scientists

Objectives

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

- identify tools to screen for cognitive impairment/dementia in patients with critical illness and to review common clinical problems among those with cognitive

impairment/dementia who are admitted to the ICU and discuss their management;

- understand best practices to facilitate communication, screen for delirium, and mobilize those with cognitive impairment/dementia with critical illness;
- understand important interrelated epidemiological trends related to aging, cognitive impairment/dementia, and critical illness and implications for critical care providers, health systems, and society.

The number of persons with cognitive impairment/dementia will triple in the next 30 years. The bidirectional relationship between cognitive impairment and critical illness means a growing number of persons with cognitive impairment/dementia will be admitted to the ICU. Moreover, among the growing number of survivors, up to 75% will develop new or worsened cognitive impairment as the result of their critical illness. This session will use a diverse and interdisciplinary panel of speakers to explore the associations between cognitive impairment and critical illness and discuss the unique issues that patients with cognitive impairment/dementia who become critically ill face in the ICU.

Chairing: N.E. Brummel, MD, MSci, Nashville, TN
C.A. Austin, MD, Chapel Hill, NC
M. Kho, PT, PhD, Hamilton, Canada

- 1:30 How Critical Illness Changed My Brain**
R. Langford, Nashville, TN
- 1:50 Dementia on the (ICU) Doorstep**
R.L. Owens, MD, La Jolla, CA
- 2:10 Clarifying the Confusion: Detecting Delirium During Dementia**
A. Slooter, MD, PhD, Utrecht, Netherlands
- 2:30 Silence is Not Golden: Communicating with Cognitively Impaired Patients in the ICU**
J. Tate, PhD, RN, Columbus, OH
- 2:50 This Is Your Brain on Exercise**
S. Berney, PhD, PT, Heidelberg, Australia
- 3:10 Critical Illness Brain Injury: Pathways from Delirium to Dementia**
N.E. Brummel, MD, MSCI, Nashville, TN

BASIC • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D85 HYPOGLOSSAL MOTONEURONS IN OSA: HOW TO FIX THE BROKEN ENGINE

Assembly on Sleep and Respiratory Neurobiology; Drug Device Discovery and Development Committee

1:30 p.m. - 3:30 p.m.

Target Audience

Health providers for sleep apnea patients those interested in developing novel therapies for sleep apnea

Objectives

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

- describe the role of hypoglossal neurons in obstructive sleep apnea pathogenesis.
- identify novel pathways that can be targeted in sleep apnea.
- recognize the scientific and regulatory process of developing pharmacotherapies for OSA.

Obstructive sleep apnea (OSA) is recurrent obstruction of upper airway during sleep caused by a combination of anatomical and functional factors. Among these, lack of airway neuromuscular tone during sleep is a major factor. Continuous positive airway pressure (CPAP) is the first-line therapy for OSA, but is often poorly tolerated. Recently, we improved our understanding of upper airway muscle control during sleep, opening new horizons for sleep apnea therapeutics. This Major Symposium will review the state of the art knowledge about control of hypoglossal neurons in health and disease, as well as novel approaches to pharmacotherapy of OSA.

Chairing: L.F. Drager, MD, Sao Paulo, Brazil
G.S. Gilmartin, MD, Boston, MA
A. Jordan, PhD, Parkville, Australia

- 1:30 Hypoglossal Neurons and Control of Breathing**
J. Feldman, PhD, Los Angeles, CA
- 1:55 Hypoglossal Motoneurons as a Drug Target in OSA**
R.L. Horner, PhD, Toronto, Canada

- 2:20 Chemogenetic Modulation of Hypoglossal Motoneurons: Can DREADDs Treat OSA?**
V.Y. Polotsky, MD, PhD, Baltimore, MD
- 2:45 Deep Phenotyping of the Upper Airway: What Is Wrong with the Motor?**
D.A. Wellman, MD, PhD, Boston, MA
- 3:10 What Is the Next Step for Pharmacotherapy of OSA: Round Table**
G.S. Gilmartin, MD, Boston, MA

BEHAVIORAL • CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D86 INTERDISCIPLINARY TEAMS: OPTIMIZING CARE IN ADULT AND PEDIATRIC PULMONARY AND CRITICAL CARE

Assemblies on Behavioral Science and Health Services Research; Nursing; Pediatrics

1:30 p.m. - 3:30 p.m.

Target Audience

Applicable to a broad span of attendee, including clinicians, administrators, and researchers who utilize or are considering team-based care models for clinical care and research.

Objectives

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

- explain the evidence for team based care, including patient and provider outcomes;
- describe several team based care models which include medical professionals and non-professionals and their outcomes;
- understand structure, feasibility, and financing of team-based care models in order to be able to replicate and adapt these models for their institutions.

Interdisciplinary health care teams are increasingly used to deliver high-quality, high value care. This symposium will examine the evidence for team based care, including patient and provider outcomes. We will feature various care models of teams that incorporate

professionals, non-professionals, patients or families to optimize care in adult and pediatric pulmonary and critical care across clinical and community settings. Examples include communication facilitators in critical care, integrated teams in pulmonary clinic, lay health workers in asthma care, and care coordinators outside the health care system. Each care model will share granular program components, including structure, feasibility, and financing, to allow attendees to replicate these models in their settings.

Chairing: A. Volerman, MD, Chicago, IL
N. Thakur, MD, MPH, San Francisco, CA
M.B. Happ, PhD, Columbus, OH

- 1:30 Introduction**
A. Volerman, MD, Chicago, IL
- 1:33 The Evidence For Team-Based Care in Pulmonary And Critical Care Medicine**
D.M. Donesky, PhD, ANP-BC, San Francisco, CA
- 1:45 Incorporating Communication Facilitators in Critical Care**
J.R. Curtis, MD, MPH, Seattle, WA
- 2:00 Integrating Former Patients on the Team to Improve Outcomes for ICU Survivors**
K.J. Haines, PhD, PT, St Albans, Australia
- 2:15 Maximizing the Role of Respiratory Therapists to Deliver COPD Care in Clinic**
G. Atkins, BSc(Hons), MBChB, MRCP, Lebanon, NH
H. Pelchat, RT, Lebanon, NH
- 2:30 Utilizing Patient Advocates to Facilitate Adult Asthma Care in Real World Practice**
A.J. Apter, MA, MD, MSc, Philadelphia, PA
- 2:45 Expanding Care Coordination to Outside the Health Care System**
N. Thakur, MD, MPH, San Francisco, CA
- 3:00 Integrating Lay Health Workers for Pediatric Asthma in Community Settings**
A. Volerman, MD, Chicago, IL
- 3:15 Summary and Panel Discussion**
M.B. Happ, PhD, Columbus, OH

BASIC • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D87 TO EACH ITS OWN: SINGLE CELL MRNA SEQUENCING IN LUNG DEVELOPMENT AND DISEASE

Assemblies on Respiratory Cell and Molecular Biology;
Pediatrics; Thoracic Oncology

1:30 p.m. - 3:30 p.m.

Target Audience

Providers of lung health; those with clinical and research responsibilities; and those needing instruction in novel approaches to studying disease biomarkers

Objectives

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

- learn new findings about the use of single-cell RNA-Seq to evaluate cellular heterogeneity in lung development and disease;
- understand the complexity of lung disease states such as cancer and fibrosis and how a diversity of affected cell types contribute to disease pathogenesis;
- develop an understanding of novel approaches that apply analysis of cellular complexity to the development of new treatments.

Speakers will represent a broad range of pulmonary investigation from development to cancer to fibrosis who are using the novel technique of single cell mRNA sequencing for discovery of cellular heterogeneity and novel pathways in lung biology. Major themes will include the use of advanced bioinformatic and big data approaches for understanding clusters and trends within single cell transcriptomic datasets; illustration of the unique advantages of single cell seq as a discovery tool; and application of the technology to clinical samples with attention to diagnostic and therapeutic implications.

Chairing: M. Bhattacharya, MD, San Francisco, CA
L. Ikonou, PhD, Boston, MA

1:30 Epithelial Cell Heterogeneity in IPF
Y. Xu, PhD, Cincinnati, OH

1:50 Specification of the Proximal-Distal Axis in Lung Epithelial Development

D.B. Frank, MD, PhD, Philadelphia, PA

2:10 Single Cell Genomic and Transcriptomic Analysis of Lung Cancer

A. Ramachandran, PhD, Boston, MA

2:30 Identifying Macrophages in Fibrotic Lung: Annotation of Single Cell mRNA Seq

D. Aran, PhD, San Francisco, CA

2:50 Multiplexed Single Cell mRNA Detection in Lung by Proximity Ligation

T. Desai, MD, MPH, Stanford, CA

3:10 Bioinformatic Approaches to Single Cell Analysis

Y. Brody, PhD, Cambridge, MA

BASIC • BEHAVIORAL

CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D88 PERSONALIZED PREVENTION OF LUNG DISEASE

Assemblies on Environmental, Occupational and Population Health; Allergy, Immunology and Inflammation; Behavioral Science and Health Services Research; Clinical Problems; Pulmonary Infections and Tuberculosis; Pediatrics

1:30 p.m. - 3:30 p.m.

Target Audience

Clinicians, researchers, educators. Those interested in exposures and personalized interventions may be most drawn, but there is outstanding applicability to a broad span of conference attendees. Co-chairs and speakers reflect a range of assemblies.

Objectives

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

- understand the framework and evidence for how a personalized approach can be brought to bear on prevention of lung disease;

- understand the clinical relevance and policy impacts of bringing a personalized perspective to prevention of lung disorders in the context of environmental exposures and genomics;
- apply the recent advances in clinical, in vivo, and in vitro models of personalized prevention for improved study design, better public health policies and interventions to improve respiratory health.

The prevailing focus within 'personalized medicine' emphasizes an individual's genes and therapy-focused biology that insufficiently incorporates the important role of environmental factors in lung disease etiology. Including these factors allows for personalized health, a more preventive orientation. For example, a better understanding of the relationship between environmental exposure and the lung epigenome might lead to more efficient preventive measures. This symposium brings together experts who present data supporting a personalized approach to preventing lung disease.

Chairing: C. Carlsten, MD, MPH, Vancouver, Canada
E. Brigham, MD, MHS, Baltimore, MD
T.D. LeVan, PhD, Omaha, NE

- 1:30 What Does Personalized Prevention of Lung Disease Really Mean?**
C. Carlsten, MD, MPH, Vancouver, Canada
- 1:50 Targeting Early Origins of Chronic Lung Disease: A Personalized Approach**
E. Melen, PhD, MD, Stockholm, Sweden
- 2:10 Personalized Dietary and Nutrient Interventions to Prevent Cardiopulmonary Disease**
R.G. Barr, MD, DrPH, New York, NY
- 2:30 Biomarkers to Guide Personalized Prevention of Lung Disease**
S. Guerra, MD, PhD, Tucson, AZ
- 2:50 Personalizing Prevention of COPD**
N.N. Hansel, MD, MPH, Baltimore, MD
- 3:10 Epigenetic Plasticity and Primary Prevention of Lung Disease**
D.L. DeMeo, MD, Boston, MA

CLINICAL • TRANSLATIONAL

SCIENTIFIC SYMPOSIUM

D89 LONG-TERM COMPLICATIONS AFTER RESPIRATORY INFECTIONS AND SEPSIS

Assemblies on Pulmonary Infections and Tuberculosis; Behavioral Science and Health Services Research; Clinical Problems; Critical Care

1:30 p.m. - 3:30 p.m.

Target Audience

Physicians who care for patients hospitalized with pneumonia (e.g., intensivists, pulmonologists, hospitalists, emergency medicine, infectious diseases), and those with research interests in respiratory infections

Objectives

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

- describe the impact of respiratory infections on long-term mortality and morbidity;
- explain the relationship of respiratory infections and cardiovascular events;
- describe the potential biomarkers associated with increased long-term mortality and morbidity in patients with respiratory infections.

This session will have internationally recognized experts review and synthesize the current literature on long-term (1 year) outcomes, including mortality, cardiac events, and lung function, for patients with respiratory infections including pneumonia and bronchiectasis, as well as sepsis. The lectures will focus on identifying those at risk for increased long term complications as well as potential treatments to avoid these complications.

Chairing: E.M. Mortensen, MD, MSc, Farmington, CT
N.C. Dean, MD, Murray, UT

1:30 Long-Term Outcomes After Pneumonia and Sepsis: It's Not Over Until It's Over!

E.M. Mortensen, MD, MSc, Farmington, CT

1:55 Cardiac Complications After Respiratory Infections

J.D. Chalmers, MD, PhD, Dundee, United Kingdom

2:15 Chronic Lung Disease After Respiratory Infections

C. Dela Cruz, MD, PhD, New Haven, CT

2:40 Complications of Bronchiectasis

M.L. Metersky, MD, Farmington, CT

3:00 Predictors of Long-Term Outcomes for Patients with Pneumonia and Sepsis

S. Yende, MD, Pittsburgh, PA

BEHAVIORAL • CLINICAL**SCIENTIFIC SYMPOSIUM****D90 DIVERSITY ACROSS THE CRITICAL CARE SPECTRUM FROM PATIENTS TO CLINICIANS TO LEADERS: WHY IT MATTERS****Assemblies on Critical Care; Behavioral Science and Health Services Research; Pediatrics**

1:30 p.m. - 3:30 p.m.

Target Audience

Trainees, clinicians, academics, and health care leaders seeking to understand the benefits of a diverse critical care field and interested in practical solutions to improve diversity will benefit from attendance

Objectives

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

- improve patient outcomes through strategies to reduce health care disparities;
- understand how workforce diversity can improve patient outcomes;
- develop practical strategies to improve workforce diversity.

Greater diversity has been shown to improve problem solving. Yet, gender and racial differences persist throughout the spectrum of critical care, from patients to clinicians. This session will start with talks on disparities in outcomes in critical illness and will introduce practical strategies to reduce disparities. We will subsequently demonstrate how diversity in leadership teams improves outcomes through real world case studies. The session will then focus on pragmatic strategies to diversify the critical

care workforce, research, and leadership committees, concluding with a panel discussion between the audience, speakers, and prominent leaders in critical care.

Chairing: T.S. Valley, MD, MSc, Ann Arbor, MI
H.B. Gershengorn, MD, Miami, FL
M. Hua, MD, MSci, New York, NY

1:30 Cross-Cultural Comparisons: Using International Critical Care Practices to Understand Differences in Patient Care
S. Murthy, MD, Vancouver, Canada

1:46 Interventions to Reduce Disparities in Critical Care: Lessons from Payment and Delivery System Reform
M. Chin, MD, MPH, Chicago, IL

2:04 Breaking the Mold: Diversifying the Emerging Critical Care Workforce
M.B. Lane-Fall, MD, MSHP, Philadelphia, PA

2:20 Why It Matters: Strategies to Maintain a Pipeline of Diverse Intensivists
B. Cryer, MD, Dallas, TX

2:38 An Evolving Workforce for the Evolving Needs of Critically Ill Children
C.L. Riley, MD, MPP, MHS, Cincinnati, OH

2:54 Learning From the Past and Moving Towards the Future: Gender Parity in Academic Medicine
S. Mehta, MD, Toronto, Canada

3:10 Panel Discussion
H.B. Gershengorn, MD, Miami, FL

BASIC**SCIENTIFIC SYMPOSIUM****D91 EPITHELIAL PROGENITOR CELLS: BIOLOGY, ROLE IN DISEASE, AND POTENTIAL THERAPEUTIC TARGETS**

130-3:30 pm

Target Audience

Basic scientists and clinicians, student and postdoctoral trainees with an interest in functions of epithelial progenitor cells and their role in disease and potential therapeutic targets

Objectives

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

- gain new findings about lung stem/progenitor cells;
- apply potential strategy to the therapy of lung diseases;

Speakers will cover recent discoveries related to identification and characterization of lung epithelial stem/progenitor cells in vivo and in vitro and their roles in development, adult lung homeostasis and injury/repair.

Speakers will also discuss the lung stem/epithelial progenitor cell niche (i.e., support by other cell types such as fibroblasts), and therapeutic potential for disease treatment.

Chairing: Z. Borok, MD Los Angeles, CA
W. Cardoso, MD, PhD, New York, NY
A. Firth, PhD, Los Angeles, CA

- 1:30 Developmental and Therapeutic Potential of Sox9+ Mouse Lung Progenitors**
M. Nichane, PhD, Stanford, CA
- 1:50 Epithelial Stem/Progenitor Cells in the Adult Lung: Role in Alveolar Epithelial Cell Homeostasis and Injury/Repair**
M.A. O'Reilly, PhD, Rochester, NY
- 2:10 Region-Specific Crosstalk Between Airway Stem Cells and Adjacent Mesenchymal Cells**
C. Kim, PhD, Boston, MA
- 2:30 Targeting the Vascular and Perivascular Niches as a Regenerative Therapy for Lung Fibrosis**
B. Ding, PhD, New York, NY
- 2:50 Modeling Lung Development and Disease Using Human Pluripotent Stem Cells**
H. Snoeck, MD, PhD, New York, NY
- 3:10 Differentiation of Human Pluripotent Stem Cells into Functional Lung Alveolar Epithelial Cells: Potential Therapeutic Applications**
D.N. Kotton, MD, Boston, MA

1:30 p.m. - 3:30 p.m.

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



Where today's science meets tomorrow's care™



ATS 2018
*Where today's science
meets tomorrow's care™*

May 18 - May 23, 2018
San Diego, CA
conference.thoracic.org