Stem Cells, Cell Therapies, and Bioengineering in Lung Biology and Lung Diseases Conference

AGENDA

MONDAY, JULY 27

8:30-4:30 PM  Hands-on workshop, Rowell Building, UVM Campus

5:00-6:00  Welcoming Reception and Registration, Hotel Vermont

Session 1:  Tracheal Bioengineering: Progress and Controversies
Follow up to ISCT Scientific Signature Series Tracheal Bioengineering Session (April 2014, Paris)

Moderators:
Scott Randell, PhD ~ UNC Marsico Lung Institute/CF Center
Thomas Waddell, MD, PhD ~ University of Toronto

(20 minute talks followed by 10 min Q/A)

6:00-6:30  Featured Presentation: Clinical Application of Bioengineered Trachea and Larynx
Martin Birchall, MD ~ University College London

6:30-7:00  Featured Presentation: Airway Regeneration using Aortic Homografts
Emmanuel Martinod, MD, PhD ~ Assistance Publique – Hôpitaux de Paris

7:00-7:30  Featured Presentation: Progress and Challenges in Tracheal Replacement
Laura Niklason, MD, PhD ~ Yale University School of Medicine

7:30-8:00  Featured Presentation: Re-epithelializing Tracheal Grafts
Thomas Gilbert, PhD ~ ACell, Inc.

8:00-8:30  Featured Presentation: Recellularizing Tracheal Grafts
Samuel Janes, MD, PhD ~ University College London

8:30-9:00  Discussion

9:00  Free night in Burlington, Dinner on Your Own
TUESDAY, JULY 28  (Location: UVM Davis Center)

6:30-7:15 AM  Shuttle bus looping between Hotel Vermont and UVM Campus

6:45-7:15  Continental Breakfast and Continued Registration
Grand Maple Ballroom, Davis Center, UVM Campus

7:15-7:30  Welcome and Introduction

Session 2:  **Endogenous Lung Progenitor Cells**
Moderator: Jason Rock, PhD ~ University of California, San Francisco

(30 minute talks followed by 10 min Q/A)

7:30-8:10  Featured Presentation: Proximal Airway and Submucosal Gland Regeneration
John Engelhardt, PhD ~ University of Iowa

8:10-8:50  Featured Presentation: Human Airway Progenitor Cells in Health and Disease
Renat Shaykhiev, MD, PhD ~ Weill Cornell Medical College

8:50-9:30  Featured Presentation: Lung Cancer Stem Cells
Mark Onaitis, MD ~ Duke University School of Medicine

9:30-10:00  BREAK

(All subsequent talks: 20 min followed by 10 min Q/A)

10:00-10:30  Epithelial-Mesenchymal Crosstalk in Lung Fibrosis and Alveolar Homeostasis
Christina Barkauskas, MD ~ Duke University School of Medicine

10:30-11:00  Developmental Processes Regulating Population and Distribution of Airway Stem Cells
Mitsuru Morimoto, PhD ~ Riken Center for Developmental Biology (CDB)

11:00-11:30  Travel Award Recipient:
TBA

11:30-12:00 PM  Travel Award Recipient:
TBA

12:00-12:45  Panel Moderated Discussion:  Mouse vs Human Epithelial Progenitors
Panelists: Brigitte Gomperts, MD ~ Mattel Children’s Hospital UCLA
Susan Majka, PhD ~ Vanderbilt University
Susan Reynolds, PhD ~ University of Colorado - Denver
Barry Stripp, PhD ~ Cedars-Sinai Medical Center

12:45-2:15  Mentoring Lunch
Session 3: **Embryonic Stem Cells, iPS, and Lung Regeneration**  
Moderator: Hans-Willem Snoeck, MD, PhD ~ Columbia University

(30 minute talks followed by 10 min Q/A)

2:15-2:55  
**Featured Presentation:** Lung Epithelial Progenitors and Differentiated Airway Epithelia from ESCs and iPS Cells: Progress and Pitfalls  
Paul Gadue, PhD ~ Children’s Hospital of Philadelphia

2:55-3:35  
**Featured Presentation:** Genome Editing and Disease Modeling: Applications to Studies of ESCs and iPS for Lung Diseases  
Chad Cowan, PhD ~ Harvard University

(All subsequent talks: 20 min followed by 10 min Q/A)

3:35-4:05  
**TALEN-Targeted Lineage Reporters to Purify and Interrogate Human iPS-Derived Lung Progenitors**  
Finn Hawkins, MBBCh ~ Boston University School of Medicine

4:05-4:35  
iPS-Derived Lung Epithelial Cells: Implications for Disease  
Amy Firth, PhD ~ Salk Institute of Biological Studies

4:35-5:00  
**BREAK**

5:00-5:30  
Travel Award Recipient:  
TBA  
TBD

5:30-6:00  
Travel Award Recipient:  
TBA  
TBD

6:00-6:45  
Panel Discussion:  
Darrell Kotton, MD ~ Boston University School of Medicine  
Edward Morrisey, PhD ~ University of Pennsylvania  
Jay Rajagopal, MD ~ Massachusetts General Hospital  
Hans-Willem Snoeck, MD, PhD ~ Columbia University

6:45  
Free night in Burlington

Shuttle bus looping between UVM Campus and Hotel Vermont
WEDNESDAY, JULY 29

6:45-7:15 AM  Shuttle bus looping between Hotel Vermont and UVM Campus

7:00-7:30  Continental Breakfast

Session 4:  **Bioengineering Approaches to Lung Regeneration**
Moderator: Harald Ott, MD ~ Massachusetts General Hospital

(30 minute talks followed by 10 min Q/A)

7:15-7:55  Featured Presentation:  Bioengineering Human Lung: From Screening Platforms to Whole-Lung Approaches
Gordana Vunjak-Novakovic, PhD ~ Columbia University

7:55-8:35  Featured Presentation:  Immunologic Aspects of Lung Recellularization and Implantation
Bryan Brown, PhD ~ University of Pittsburgh

(All subsequent talks: 20 min followed by 10 min Q/A)

8:35-9:05  Comparative Biology of Decellularized Lung Matrix
Jenna Balestrini, PhD ~ Yale University School of Medicine

9:05-9:35  Bioengineering the Lung’s Vasculature using hiPSC-Derived Cells
Charlie Xi Ren, PhD ~ Massachusetts General Hospital/Harvard Medical School

9:35-10:00  BREAK

10:00-10:30  Stiffness and Stretch Influences on Scaffold Regeneration
Franziska Uhl, PhD ~ University of Vermont

10:30-11:00  Developing Smart Scaffolds for Lung Regeneration
Collin Stabler, PhD student ~ Temple University

11:00-11:30  Travel Award Recipient:
TBA

11:30-12:00 PM  Travel Award Recipient:
TBA

12:00-12:45  Panel Discussion
Christine Finck, MD ~ Connecticut Children’s Medical Center
Peter Lelkes, PhD ~ Temple University
Laura Niklason, MD, PhD ~ Yale University School of Medicine
Angela Panoskaltsis-Mortari, PhD ~ University of Minnesota

12:45-1:00  BREAK/Lunch distribution

1:00-1:30  Luncheon Featured Presentation:  Lessons from Evolution: A Different Kind of Lung
John West, MD, PhD ~ University of California – San Diego

~ 4 ~
1:30-2:00  
*Publishing and ethics in stem cell research*  
Graham Parker, PhD ~ Wayne State University School of Medicine

2:00-2:30  
GROUP PHOTO AND BREAK

**Session 5:**  
**Careers in Stem Cells, Cell Therapies, and Lung Bioengineering**

Moderators:
- Darcy Wagner, PhD ~ Comprehensive Pneumology Center/Ludwig Maximilians University/Helmholtz Zentrum Munich
- Sarah Gilpin, PhD ~ Massachusetts General Hospital/Harvard Medical School

2:30-3:30  
*Featured Presentation: Academic Careers in Lung Stem Cells/Cell Therapies/Bioengineering: Where Is This All Headed?*

Timothy Moore, MD, PhD ~ National Institutes of Health (NHLBI)

*An Overview of Peer Review at the NIH Center for Scientific Review*

Ghenima Dirami, PhD ~ National Institutes of Health

3:30-4:45  
Poster Session

4:45-5:45  
Women and Diversity Reception

4:45-5:00  
Shuttle bus looping between UVM Campus and Hotel Vermont

6:00-9:00  
Dinner Cruise on Lake Champlain  
*(Cruise Boards from 6:00-6:30 and Departs promptly at 6:30pm)*

9:00  
Shuttle bus returning from Cruise to Hotel Vermont

**THURSDAY, July 30**

6:45-7:30 AM  
Shuttle bus looping between hotel and UVM Campus  
*(Recommend bringing luggage to the meeting)*

7:00-7:30  
Continental Breakfast

**Session 6:**  
**EPCs, MSCs, and Cell Therapy Approaches for Lung Diseases**

Moderator: Bernard Thébaud, MD, PhD ~ Ottawa Hospital Research Institute

(30 minute talks followed by 10 min Q/A)

7:30-8:10  
*Featured Presentation: Defining MSCs and EPCs: Consensus or Confusion*

Massimo Dominici, MD, President, ISCT ~ University of Modena

8:10-8:50  
*Featured Presentation: Amniotic Fluid Cells and Lung Repair/Regeneration State of the Field*

Euan Wallace, MD ~ Southern Clinical School/Monash University
8:50-9:30  
*Featured Presentation: Bone Marrow-Derived Mononuclear Cells and Lung Repair/Regeneration: State of the Field*  
Fernanda Cruz, MD, PhD ~ University of Vermont

9:30-9:50  
BREAK

9:50-10:30  
*Update in Cell Therapy Clinical Trials for Lung Diseases and Critical Illnesses*  
Kathleen Dori Liu, MD, PhD ~ UCSF School of Medicine

(20 minute talks followed by 10 min Q/A)

10:30-11:00  
*MSC Conditioned Media and the Microsome Fractions in Pre-clinical Studies of Lung Diseases*  
Antoine Monsel, MD ~ Hôpital Pitié Salpêtrière

11:00-11:30  
*Amniotic Fluid Cells, Stretch, and Lung Bioengineering*  
Charles Drinnan, PhD ~ University of Connecticut Health Center

11:30-Noon  
Travel Award Recipient:  
TBA

Noon-12:30 PM  
Travel Award Recipient:  
TBA

12:30-12:45  
BREAK/Lunch distribution

12:45-1:30  
Panel Discussion w/box lunch:  
Daniel Chambers, MBBS, MD ~ The Prince Charles Hospital  
Laszlo Farkas, MD ~ Virginia Commonwealth University  
Jae-Woo Lee, MD ~ University of California, San Francisco  
Michael Matthay, MD ~ Moffitt Hospital  
Duncan Stewart, MD ~ Ottawa Hospital Research Institute

**Session 7: Summation and Directions**
Moderator: Darwin Prockop, MD, PhD ~ Texas A&M Health Science Center COM

1:30-2:00  
*Featured Presentation: Stem Cell-based Products: FDA Update*  
Donald Fink, Jr., PhD ~ US Food and Drug Administration

2:00-3:00  
Open Discussion: Setting Priorities and Recommendations to the NIH and Other Organizations Regarding Future Research Opportunities

Shuttle Bus looping between UVM Campus / Hotel Vermont / Airport