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:  TBA
TBA

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  
*A stepwise process regulating the neuroendocrine cell population and localization at the bifurcation points of the branching bronchioles*  
Mitsuru Morimoto, PhD ~ Riken Center for Developmental Biology (CDB)

11:00-11:30  Travel Award Recipient:  *Defining the role of LRIG1-dependent EGFR signaling pathway inhibition in airway homeostasis and lung cancer*  
Laura Succony, BM ~ University College London

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 ~ Nationwide Children’s Hospital  
Barry Stripp, PhD ~ Cedars-Sinai Medical Center

12:45-2:15  Mentoring Lunch
Session 3: **Embryonic Stem Cells, iPS, and Lung Regeneration**

Moderator: Wellington Cardoso, 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: *Rejuvenation of aging alveolar stem cells using interrupted reprogramming*

Lily Guo, MD, MSc ~ Toronto General Hospital Research Institute

5:30-6:00

Travel Award Recipient: *Induced Pluripotent Stem Cell derived Vascular Smooth Muscle Cells Stabilizes Endothelial Vascular Network Formation*

Mirabelle S. H. Ho, PhD ~ Ottawa Hospital Research Institute

6:00-6:45

Panel Discussion:

Darrell Kotton, MD ~ Boston University School of Medicine

Jay Rajagopal, MD ~ Massachusetts General Hospital

6:45

Free night in Burlington

Shuttle bus looping between UVM Campus and Hotel Vermont

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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  *Anatomical and Integrin Specific Re-endothelialization within Decellularized Rodent Lungs*  
Collin Stabler, PhD student ~ Temple University

11:00-11:30  Travel Award Recipient: *Advanced methods for endothelial and epithelial cell seeding and culture for whole lung tissue*  
Andrew Le, PhD ~ Yale University

11:30-12:00 PM  Travel Award Recipient: *Developing a Self-Assembling Vascularized Airway Organoid as a Step toward Lung Regeneration*  
Qi (Eric) Tan, PhD ~ Mayo Clinic

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  Lunchtime Featured Presentation:  Lessons from Evolution: A Different Kind of Lung
John West, MD, PhD ~ University of California – San Diego

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

4:45-5:50  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: Resident lung mesenchymal stromal cells are perturbed in experimental neonatal lung disease
Kathleen Atkins ~ Ottawa Hospital Research Institute

Noon-12:30 PM  Travel Award Recipient: Role of wnt/β-catenin signaling at the virus-host interface in stem/progenitor cell proliferative
Carole Schmoldt, PhD ~ University of Giessen

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
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