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

July 12-15, 2021

Hosted by: The University of Vermont

AGENDA

(All times given are EDT – other time-zone agenda versions will be available before the conference.)

MONDAY, JULY 12

10:00-10:10 AM  Opening Remarks
Suresh V. Garimella, PhD, President
University of Vermont

Session I:  Technological Advances for in situ Analysis of Tissues
Moderators:
Ruben Dries, PhD ~ Boston University
Maias Magnusson, PhD ~ Lund University

10:10-10:40  Featured Presentation: High-Spatial-Resolution Multi-Omics Atlas Sequencing
Rong Fan, PhD ~ Yale University

10:40-11:10  Featured Presentation: Live-cell Single Particle Imaging
Timothée Lionnet, PhD ~ New York University Langone Medical Center

11:10-11:40  Featured Presentation: Multimodal Imaging of Subcellular Structures in the Mouse Lung
Vera Hutchison, BA ~ MD Anderson Cancer Center

11:40-12:00  Panel Discussion

Session II:  Therapeutic Immunomodulation of the Lung
Moderator:
Erica Herzog, MD, PhD ~ Yale School of Medicine

1:00-1:30 PM  Featured Presentation: Inhalation of Lung Spheroid Cell Secretome and Exosomes Promotes Lung Repair in Pulmonary Fibrosis
Ke Cheng, PhD ~ University of North Carolina Chapel Hill

1:30-2:00  Featured Presentation: Alveolar Macrophages: Roles in Therapeutic Intervention and Disease Pathogenesis
Bruce Trapnell, MD ~ Cincinnati Children’s Hospital Medical Center

2:00-2:30  Featured Presentation: Localization of Macrophages in the Human Lung via Design-based Stereology
Pat Hume, MD, PhD ~ University of Colorado Anschutz Medical Campus

2:30-2:45  Outstanding Abstract Achievement Award Presentation
TRAINEE ~ TBD from abstracts

2:45-3:05  Panel Discussion

3:15-4:30 PM  TRAINEE NETWORKING EVENT
TUESDAY, JULY 13

9:45-10:00 AM Welcome and Introduction
Richard L. Page, MD, Dean ~
The Larner College of Medicine at the University of Vermont

Session III: New Insights into Cellular Plasticity in the Lung
Moderator:
Rob Hynds ~ University College London

10:00-10:30 AM Featured Presentation: Organoid Modeling of Lung Disease and Lung Cancer
Carla Kim, PhD ~ Children’s Hospital Boston

10:30-11:00 AM Featured Presentation: Role of CLDN18 in Cellular Plasticity in the Lung
Zea Borok, MB ChB ~ University of Southern California

11:00-11:15 AM Outstanding Abstract Achievement Award Presentation
TRAINEE ~ TBD from abstracts

11:15-11:35 AM Panel Discussion

11:45-12:30 PM “Minute to Win It” Competition – Commercialize Your Research for Industry Sponsorship or SBIR/STTR Collaboration
Moderators:
Ben Calvert, PhD ~ University of Southern California
Thomas Lynch, PhD ~ University of Iowa

Introductory Remarks
Kirk Dombrowski, PhD, Vice President for Research ~
The Larner College of Medicine at the University of Vermont

Panel of Senior Investigator Judges:
Erik Monsen, PhD, MBA ~ Grossman School of Business, University of Vermont
Kirk Dombrowski, PhD ~ University of Vermont
Enid Neptune, MD ~ Johns Hopkins
Angela Panoskaltsis-Mortari, PhD ~ University of Minnesota
Kathryn Doyle, PhD, JD ~ Saul Ewing Arnstein & Lehr LLP

One Minute Elevator Pitch Competition for Junior Trainees.
1 slide allowed: 1-minute buzzer. Two prizes awarded.

12:30-1:30 PM MENTORING/MEET THE FACULTY LUNCH
Session IV: Stem Cell Signaling in Lung Remodeling

Moderator:
Naftali Kaminski, MD ~ Yale University School of Medicine

1:30-2:00 PM  
Featured Presentation: Mesenchymal-Epithelial Interactions in Lung Fibrosis  
Tien Peng, MD ~ University of California San Francisco

2:00-2:30  
Featured Presentation: TBD  
Jonathan Kropski, MD ~ Vanderbilt University

2:30-2:45  
Outstanding Abstract Achievement Award Presentation  
TRAINEE ~ TBD from abstracts

2:45-3:00  
Panel Discussion

3:00-4:15  
Thematic Poster Session #1

Poster Discussion Facilitators:  
Deniz Bölükbaşı, PhD ~ Lund University  
Sara Rolandsson Enes, PhD ~ Lund University

Session V: Careers in Stem Cells, Cell Therapies, and Lung Bioengineering – Part I

Moderators  
Zea Borok, MB ChB ~ University of Southern California

4:15 PM  
Welcome ~ Gordon L. Jensen, MD, PhD, Senior Associate Dean for Research ~ The Larner College of Medicine at the University of Vermont

4:20-4:50  
Featured Presentation: Bioengineering Approaches to Recovery of Injured Human Lungs  
Gordana Vunjak-Novakovic, PhD ~ Columbia University

5:00-6:00  
WOMEN AND DIVERSITY PANEL AND NETWORKING

Sarah Mojarad, MS ~ University of Southern California  
Zea Borok, MB ChB ~ University of Southern California  
Anne Dixon, BM BCh ~ University of Vermont  
Patricia Sime, MD, FRCP ~ Virginia Commonwealth University  
Patricia Rieken Macêdo Rocco, MD, PhD ~ Federal University of Rio de Janeiro  
Aina Martin-Medina, PhD ~ Balearic Islands Health Research Institute (IdISBa)
WEDNESDAY, JULY 14

Session VI: Careers in Stem Cells, Cell Therapies, and Lung Bioengineering – Part II

Breakfast Sessions - Concurrent
9.30-10:30 Finding a Position and Starting Your Own Lab – Panel Discussion
Panel
Jaime Hook, MD ~ Icahn School of Medicine at Mount Sinai
Marko Nikolić, MD, PhD ~ University College London
Gregg Duncan, PhD ~ University of Maryland

9.30-10:30 Funding and Financial Management of Your Lab – Panel Discussion
Panel
Brian Cunniff, PhD ~ University of Vermont
Dimitry Krementsov, PhD ~ University of Vermont
Bridget Carney, BS ~ Grant Proposal Manager, University of Vermont

Session VII: Matrix Biomechanics and Stem Cell Dynamics in Lung Health and Disease
Moderators:
Jin-Ah Park, PhD ~ Harvard University
Darcy Wagner, PhD ~ Lund University, University of Vermont

10:30-11:00 Featured Presentation: Regulation of Alveolar Type 2 cells by ER Stress in IPF
Mike Beers, MD ~ University of Pennsylvania

11:00-11:30 Featured Presentation: TBD
Sarah Gilpin, PhD ~ United Therapeutics

11:30-11:45 Outstanding Abstract Achievement Award Presentation
TRAINEE ~ TBD from abstracts

11:45-12:05 PM Panel Discussion

12:15-1:30 Thematic Poster Session #2
Poster Discussion Facilitators:
Mareike Lehmann, PhD ~ University of Munich
Johnatas Dutra Silva, PhD ~ Queen's University Belfast
Session VIII: **Dame Julia Polak Memorial Bioengineering Session**  
**Engineering Models of Lung Disease and Regeneration**  
**Moderators:**  
Steven Skolasinski, MD ~ University of Minnesota  
Janette Burgess, PhD ~ University Medical Center Groningen  

1:00-1:30 PM  
**Featured Presentation: Engineering Hybrid-Hydrogels to Model Chronic Pulmonary Diseases In Vitro**  
Chelsea M. Magin, PhD ~ University of Colorado, Denver|Anschu  

1:30-2:00  
**Featured Presentation: Modelling Hyperoxia Induced Lung Injury**  
Jennifer Sucre, MD ~ Vanderbilt University Medical Center  

2:00-2:30  
**Featured Junior Presentation: Lung-Chip Models of Airway Infection**  
Janna Nawroth, PhD – University of Southern California  

2:30-2:45  
**Outstanding Abstract Achievement Award Presentation**  
TRAINEE ~ TBD from abstracts  

2:45-3:05  
**Panel Discussion**

Session IX: **Direct-to-Consumer Cell-based Interventions for Respiratory Diseases: Stratagems and Countermeasures**  
**Moderators:**  
Leigh Turner, PhD ~ University of Minnesota  
Sarah Mojarad, MS ~ University of Southern California  

3:15-3:35 PM  
**Featured Presentation: The Evolving Global Landscape of Unproven Cell-based Products and Services**  
Laertis Ikonomou, PhD ~ State University of New York at Buffalo  

3:35-3:55  
**Featured Presentation: Non-trial Pre-Approval Access for Cell-based Interventions: Regulatory and Ethical Considerations**  
Patti Zettler, JD ~ The Ohio State University  

3:55-4:15  
**Featured Presentation: Physician Perspectives on Unproven Stem Cell and Regenerative Therapies and Their Approaches to Consult Patients**  
Zubin Master, PhD ~ Mayo Clinic  

4:15-4:45  
**Panel Discussion**  

5:00-6:30  
**Evening Online Social Event**
THURSDAY, JULY 15

Session X: Careers in Stem Cells, Cell Therapies, and Lung Bioengineering – Part III

Breakfast Sessions - Concurrent
9:30-10:30 AM Meet the Editors – Panel Discussion.
Panel
Graham Parker, PhD ~ Stem Cells and Development
Donald Phinney, PhD ~ Cytotherapy
Prithi Rajan, PhD ~ Cell Stem Cell

9:30-10:30 Navigating Funding Mechanisms – Panel Discussion
Panel
Laurel Kuxhaus, PhD ~ National Science Foundation
John Sheridan, PhD ~ Cystic Fibrosis Foundation
Sara Lin, PhD ~ NIH, National Heart, Lung and Blood Institute
Sandy Snyder, MSN ~ Congressionally Directed Medical Research Programs, Department of Defense, US Army

9:30-10:30 Alternative Careers to Academic Science – Panel Discussion
Panel
Tushar Menon, PhD ~ Associate Director, Vertex Pharmaceuticals
Christine Gould, PhD ~ Scientific Director, Health Interactions
Aaron Parker, JD, PhD ~ Director, Intellectual Property and Transactions, Artiva

Session XI: Differentiating and Delivering Stem Cell Therapeutics to the Lung

Moderators:
John Mahoney, PhD ~ Cystic Fibrosis Foundation Therapeutics
Thomas Lynch, PhD ~ University of Iowa

10:30-11:00 AM Featured Presentation: TBD
TBD

11:00 -11:30 Featured Presentation: TBD
Jae-Won Shin, PhD ~ University of Illinois at Chicago

11:30-12:00 Featured Junior Presentation: Hybrid Hydrogels for Lung Stem Cell Regeneration
Deniz BölükbAŞ, PhD ~ Lund University

12:00-12:20 Panel Discussion
Session XII: **Aging Lung**

*Moderators:*
Marieke Lehmann, PhD ~ University of Munich
Victor Thannickal, MD ~ Tulane University School of Medicine

12:30-1:00 PM  
*Featured Presentation: ER Stress and Aging of the Lung*  
Mauricio Rojas, MD ~ University of Pittsburgh

1:00-1:30  
*Featured Presentation: Impact of Vascular Aging on Lung Fibrosis Resolution*  
Giovanni Ligresti, PhD ~ Boston University

1:30-1:45  
*Outstanding Abstract Achievement Award Presentation*  
TRAINEE ~ TBD from abstracts

1:45-2:05  
*Panel Discussion*

Session XIII: **Regeneration in Response to Viral Infection**

*Moderators:*
Jaime Hook, MD ~ Icahn School of Medicine at Mount Sinai
Andrew Vaughan, PhD ~ University of Pennsylvania School of Veterinary Medicine

2:15-2:45 PM  
*Featured Presentation: Pluripotent Stem Cells to Model Lung Development and Disease*  
Darrell Kotton, MD ~ Center for Regenerative Medicine (CReM) at Boston University and Boston Medical Center

2:45-3:15  
*Featured Presentation: TBD*  
TBD

3:15-3:30  
*Outstanding Abstract Achievement Award Presentation*  
TRAINEE ~ TBD from abstracts

3:30-3:50  
*Panel Discussion*

Session XIV: **Concluding Discussion**

*Moderator:*
Daniel J. Weiss, MD, PhD ~ University of Vermont

4:00-5:30 PM  
*Open Discussion - Setting Priorities and Recommendations to the NIH and Other Organizations Regarding Future Research Opportunities*