



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

July 17-20, 2023

Hosted by: The University of Vermont

AGENDA

MONDAY, JULY 17

8:30 AM-4:00 PM **Workshop** ~ See Workshop Program

4:30-6:00 PM **Welcome Reception** and Registration Check-In, Hotel Vermont

Transition to: *COURTYARD BURLINGTON HARBOR HOTEL, HARBOR ROOM*

6:00-6:10 PM Opening Remarks
Suresh V. Garimella, PhD ~ President, University of Vermont

Session I: Engineering New Models of Lung Disease and Repair

Moderators:

Chelsea Magin, PhD ~ University of Colorado, Anschutz, Denver, CO
Rebecca Heise, PhD ~ Virginia Commonwealth University, Richmond, VA

6:15-6:40 *Featured Presentation: 3D-Printed Lungs to End the Organ Shortage*
Keri Dame, PhD, Lung Biotechnology, Manchester, NH

6:40-7:05 *Featured Presentation: High-Resolution 3D Printing of Whole Lung Structure*
Jeremy Hirota, PhD, McMaster University, Hamilton, ON, Canada

7:05-7:30 *Featured Presentation: Microstructured Hydrogels to Guide Self-Assembly and Function of Lung Alveolospheres*
Claudia Loebel, PhD ~ University of Michigan, Ann Arbor, MI

7:30-7:55 *Featured Presentation: Engineering Motile Apical-Out Airway Organoid to Probe Respiratory Pathophysiology*
Xi (Charlie) Ren, PhD ~ Carnegie Mellon University, Pittsburgh, PA

7:55-8:10 *Outstanding Abstract Achievement Award Presentation*
~

8:10-8:30 *Panel Discussion*

TUESDAY, JULY 18

All sessions at the *Dudley H. Davis Center, UVM Campus, Grand Maple Ballroom.*

7:30-8:30 AM Breakfast

8:30-9:00 Welcome Remarks
Amy Ryan ~ 2023 Conference Chair
UVM Representatives

Session II: Lung Repair and Regeneration: Integrating Omics with Function

Moderators:

Christopher Waters, PhD ~ University of Kentucky, Lexington, KY
Alexander Misharin, MD, PhD ~ Northwestern University, Evanston, IL

9:00-9:25 AM *Featured Presentation: Spatial Metabolomics and Pulmonary Fibrosis*
Ramon Sun, PhD ~ University of Florida, Gainesville, FL

9:25-9:50 *Featured Presentation: Real-Time Imaging of Alveolar Recovery after Lung Injury: Studies Informed by Omics Data*
Jamie Hook, MD, PhD – Icahn School of Medicine at Mount Sinai, New York, NY

9:50-10:15 *Featured Presentation: TBD*
Alexander Misharin, MD, PhD ~ Northwestern University, Evanston, IL

10:15-10:30 *Outstanding Abstract Achievement Award Presentation:*
~

10:30-10:50 *Panel Discussion*

10:50-11:05 Coffee and Networking Break

“Minute to Win It” Competition

Moderators:

Finn Hawkins PhD, Boston University, Boston, MA
Thien-Khoi (TK) Phung, PhD ~ Harvard University, TH Chan School of Public Health, Boston, MA

Panel of Senior Investigator Judges:

Erik Monsen, PhD ~ University of Vermont, Burlington, VT
Kirk Dombrowski, PhD ~ University of Vermont, Burlington, VT
Sue Reynolds, PhD, Nationwide Children’s Hospital, Columbus, OH
Jed Mahoney, PhD, Cystic Fibrosis Foundation, Lexington, MA

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

12:05-1:00 PM Lunch

1:00-2:15

Poster Session #1

Poster Discussion Moderators:

~ A

~ B

Poster Judges:

~ A

~ B

~ C

~ D

~ E

Session III: Heterogeneity in Lung Immune Cells and Influences on Regeneration

Moderators:

Anna Krasnodembskaya, PhD ~ Queen's University, Belfast, Northern Ireland

Patrick Hume, PhD ~ National Jewish Health, Denver, CO

2:15-2:40 PM

Featured Presentation: Foxp3+ regulatory T cells (Tregs) in Immune Homeostasis and Repair of Damaged Lung Tissue

Jason Mock, PhD ~ University of North Carolina, Chapel Hill, NC

2:40-3:05

Featured Presentation: Immune Cell Signaling and Epithelial Regeneration in COPD

Thomas Conlon, PhD ~ Helmholtz, Munich (Postdoctoral Research Fellow)

3:05-3:30

Featured Presentation: Airspace Macrophage Populations in Health and Inflammation

Kara Mould, MD, MPH ~ National Jewish Health, Denver, CO

3:30-3:45

Outstanding Abstract Achievement Award Presentation:

~

3:45-4:00

Panel Discussion

4:00-4:15

Coffee and Networking Break

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

Moderator:

Amy Ryan, PhD ~ University of Iowa, Iowa City, IA

4:15-5:00

Featured Presentation: Pursuing Translational Biomedical Science in an Academic Lab

Polly Parsons, MD ~ University of Vermont, Burlington, VT

5:00-6:30

WOMEN AND DIVERSITY PANEL AND NETWORKING

Moderators:

Panelists

Enid Neptune, MD, PhD ~ Johns Hopkins University, Baltimore, MA

Venkataramana Sidhaye, MD ~ Johns Hopkins University, Baltimore, MA

Karen Ridge, PhD ~ Northwestern University, Chicago, IL

Alexandra Noel, PhD ~ Louisiana State University, Baton Rouge, LA

WEDNESDAY, JULY 19

7:30-8:30 AM Breakfast and **Breakfast Session 1**

7:30-8:30 *Funding and Financial Management of Your Lab – Panel Discussion*

~ NSF

~ DOD

~ NIH, Bethesda, MD

~ John Sheridan, PhD - Cystic Fibrosis Foundation, Lexington, MA

Session V: Application of Surgical Techniques to Advance Stem Cell Therapeutics

Moderators:

Sriram Vaidyanathan, PhD ~ Stanford University, Stanford, CA

Rob Hynds, PhD ~ University College London, London, UK

8:30-8:55 AM *Featured Presentation: TBD*

Laura Matrka, MD ~ Ohio State University College of Medicine, Columbus, OH

8:55-9:20 *Featured Presentation: TBD*

Tendy Chiang, MD, FACS ~ Nationwide Children's Hospital, Columbus, OH

9:20-9:55 *Featured Presentation: TBD*

Do-Yeon Cho, MD ~ University of Alabama, Birmingham, AL

9:55-10:10 *Outstanding Abstract Achievement Award Presentation:*

~

10:10-10:30 *Panel Discussion*

10:30-10:45 Coffee and Networking Break

Session VI: Compassionate Use of Cell and Gene Therapies

Co-sponsored by the International Society for
Cell & Gene Therapy (ISCT)



Moderators:

**Laertis Ikononou, PhD ~ University at Buffalo, Buffalo, NY; Chair of the ISCT
Committee on the Ethics of Cell and Gene Therapy**

**Patricia Zettler, JD ~ Ohio State University, Columbus, OH; Chair of the ISCT
Expanded Access Working Group**

10:45-11:00 *Panel Presentation: TBD*

Alison Bateman-House, PhD ~ NYU Grossman School of Medicine, New York, NY

11:00-11:15 *Panel Presentation: Compassionate Use Access to Unlicensed Products for Patients with Serious and Life-threatening Medical Conditions: An Industry Perspective*
Paul Aliu, PharmD ~ Novartis

11:15-11:30 *Panel Presentation: TBD*
Dean A. Lee, MD, PhD ~ Nationwide Children's Hospital, Columbus, OH

11:30-12:00 *Panel Discussion*

12:00-1:15 PM **MENTORING/MEET THE FACULTY LUNCH**

1:15-2:30 PM **Poster Session #2**

Poster Discussion Moderators:

~ A

~ B

Poster Judges:

~ A

~ B

~ C

~ D

~ E

2:30-2:45 Coffee and Networking Break

Session VII: Epithelial Plasticity: Cells Going Awry in Lung Injury

Moderators:

Michael Beers, MD ~ Perelman School of Medicine at the University of Pennsylvania

Yael Aschner, MD ~ University of Colorado Anschutz Medical Campus, Aurora, CO

2:45-3:10 *Featured Presentation: Ineffectual ATII-to-AT1 Cell Differentiation in Recovery after Lung Injury*

Rachel Zemans, MD ~ University of Michigan, Ann Arbor, MI

3:10-3:35 *Featured Presentation: Implications of Fibroblast Injury for Lung Regeneration*

Anne-Karina Perl, PhD ~ Cincinnati Children's Hospital, Cincinnati, OH

3:35-4:00 *Featured Presentation: Plastic or Metaplastic: Regenerative Responses of the Distal Lung Epithelium*

Jaymin Kathiriya, PhD ~ University of California, San Francisco, CA

4:00-4:15 *Outstanding Abstract Achievement Award Presentation:*

~

4:15-4:35 *Panel Discussion*

4:40-5:20 PM *Buses leave at intervals to transport to dinner cruise (and to hotels if not attending the dinner cruise).*

6:00 PM **Dinner Cruise on Lake Champlain ~ Award Ceremony**

(Cruise boards from 6:00-6:30 and departs promptly at 6:30pm.)

9:00 PM *Cruise disembarks.*

(Please advise UVM in advance if you will need transportation back to the hotel following the cruise. The distance to walk is about two blocks uphill.)

THURSDAY, JULY 20

7:30-8:30 AM **Breakfast and Breakfast Session 2**

7:30-8:30 *Finding a Position and Starting Your Own Lab – Panel Discussion*

Jamie Hook, MD ~ Ichan School of Medicine at Mount Sinai, NY

Sriram Vaidyanathan, PhD ~ Stanford University, Stanford, CA

Jaymin Kathiriya, PhD ~ University of California, San Francisco, CA

Jeremy Katzen PhD ~ University of Pennsylvania, PA

Session VIII: Dame Julia Polak Memorial Bioengineering Session

Mechanotransduction in Lung Development and Disease Laertis

Ikonomou, PhD ~ University at Buffalo, Buffalo, NY; Chair of the ISCT Committee on the Ethics of Cell and Gene Therapy

Patricia Zettler, JD ~ Ohio State University, Columbus, OH; Chair of the ISCT Expanded Access Working Group

Moderators:

Jin-Ah Park, PhD ~ Harvard University, Cambridge, MA

Daniel Tschumperlin, PhD ~ Mayo Clinic, Rochester, MN

8:30-8:55 AM *Featured Presentation: Mechanical Control in the Early Development of the Lung*

Celeste Nelson, PhD ~ Princeton University, Princeton, NJ

8:55-9:20 *Featured Presentation: Mechanochemical Control of Stem Cell Division in Health and Disease*

Thomas Worzfeld, PhD ~ Max Planck Institute for Heart and Lung Research, Germany

9:20-9:45 *Featured Presentation: Genetic and Epigenetic Regulations of Stem Cells by Mechanical Force*

Yekaterina Miroshnikova, PhD ~ NIH: NIDDK, Bethesda, MD

9:45-10:00 *Outstanding Abstract Achievement Award Presentation*

~

10:00-10:20 *Panel Discussion*

10:20-10:45 **Coffee / Networking Break and GROUP PHOTO**

Session IX: Challenges and Controversies in Human Mesenchymal Stromal Cell Therapy

Moderators:

Tracey Bonfield, PhD ~ Case Western, Cleveland, OH

- Shirley Mei, PhD ~ Ottawa Hospital Research Institute, Ottawa, CA**
 10:50-11:05 *Panel Presentation*
Tracy Heng, PhD ~ Monash University, Australia
- 11:05-11:20 *Panel Presentation*
Lauralyn McIntyre, MD ~ University of Toronto, Canada
- 11:20-11:35 *Panel Presentation*
Jacques Galipeau, MD ~ University of Wisconsin Madison, WI
- 11:35-12:00 *Panel Discussion*
- 12:00-1:15 PM Lunch Break
- Session X: [The Matrix Revealed: Understanding Extracellular Matrix Influence of Repair and Regeneration](#)**
Moderators:
Janette Burgess, PhD ~ University of Groningen, Groningen, Netherlands
Alicia Tanneberger ~ University of Colorado, Denver + Anschutz, Denver, CO
- 1:15-1:40 PM *Featured Presentation: TBD*
Martin Kolb, MD, PhD ~ McMaster University, Ontario, Canada
- 1:40-2:05 *Featured Presentation: TBD*
Amanda Tatler, PhD ~ Nottingham University, Nottingham, UK
- 2:05-2:30 *Featured Presentation: Complexities of Responses to ECM Mechanics in Pulmonary Fibrosis and Lung Metastasis*
Nuria Gavara, PhD ~ University of Barcelona, Barcelona, Spain
- 2:30-2:45 *Outstanding Abstract Achievement Award Presentation:*
 ~
- 2:45-3:05 *Panel Discussion*
- 3:05-3:20 Coffee and Networking Break
- Session XI: [Concluding Discussion](#)**
Moderator:
Daniel J. Weiss, MD, PhD ~ University of Vermont, Burlington, VT
- 3:20-5:00 PM *Open Discussion - Setting Priorities and Recommendations to the NIH and Other Organizations Regarding Future Research Opportunities*
- Shuttle bus - continuous looping from Davis Center to Airport and Hotels.*