



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

July 17-20, 2023

Hosted by: The University of Vermont

AGENDA

Note: all times are EDT.

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, Denver | Anschutz, Aurora, 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 ~ United Therapeutics, Manchester, NH

6:40-7:05 *Featured Presentation: Kaizen for Pre-Clinical Models of Lung Disease – From static 2D to dynamic 3D and beyond*
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, MD, 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*
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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, PhD ~ 2023 Conference Chair

Richard L. Page, MD, Dean ~ The Larner College of Medicine at the University of Vermont

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

Jaime Hook, MD – 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:

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10:30-10:50

Panel Discussion

10:50-11:05

Coffee and Networking Break

11:05-12:05 PM

“Minute to Win It” Competition

Moderators:

Finn Hawkins PhD, Boston University, Boston, MA

Thien-Khoi (TK) N. Phung, PhD ~ Novartis Institutes of BioMedical Research

Introductory Remarks: **Kirk Dombrowski, PhD – Vice President, Research, University of Vermont**

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

John 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 of Belfast, Northern Ireland

Patrick Hume, MD, 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, MD, 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 Zentrum Munich, Germany

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:*

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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**

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 Noël, PhD, MSc ~ 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, Bethesda, MD

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

Moderators:

Sriram Vaidyanathan, PhD ~ Nationwide Children's Hospital, Columbus OH

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

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

Laura Matrka, MD ~ Ohio State University Wexner Medical Center, 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:*

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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, M.Eng, PhD ~ University at Buffalo, Buffalo, NY;

Chair of the ISCT Committee on the Ethics of Cell and Gene Therapy

Patricia Zettler, JD ~ The 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 Pharmaceuticals
- 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 ~ Ichan School of Medicine at Mount Sinai, NY
- 4:00-4:15 *Outstanding Abstract Achievement Award Presentation:*
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- 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*
Jaime Hook, MD ~ Ichan School of Medicine at Mount Sinai, NY
Sriram Vaidyanathan, PhD ~ Stanford University, Stanford, CA
Jaymin Kathiriya, PhD ~ Ichan School of Medicine at Mount Sinai, NY
Jeremy Katzen, MD ~ University of Pennsylvania, PA

Session VIII: Dame Julia Polak Memorial Bioengineering Session **[Mechanotransduction in Lung Development and Disease](#)**

Moderators:

Jin-Ah Park, PhD ~ Harvard University, TH Chan School of Public Health, Boston, 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*
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- 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, MSc ~ Ottawa Hospital Research Institute, Ottawa, CA

- 10:50-11:05 *Panel Presentation*
Tracy Heng, PhD ~ Monash University, Melbourne, Australia

11:05-11:20 *Panel Presentation*
Lauralyn McIntyre, MD ~ Ottawa Hospital Research Institute, ON, Canada

11:20-11:35 *Panel Presentation*
Jacques Galipeau, MD ~ University of Wisconsin Madison, WI; President, International Society of Cell & Gene Therapy

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 Medical Center, Groningen, The Netherlands
Alicia Tanneberger, MS ~ 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:*
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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.