Stem Cells, Cell Therapies, and Bioengineering in Lung Biology
PRE-CONFERENCE WORKSHOP ~ July 15, 2019

Track 1: Practical/Theoretical Course on State-of-the-Art Methods in Stem Cells, Cell Therapies, and Bioengineering
Led by: Darcy Wagner, PhD, Lund University and Dan Weiss, PhD, University of Vermont

9:00-11:45 AM  Rotating stations for laboratory techniques:
• Decellularization of rodent lungs (Weiss Lab)
• Virtual Reality for Single Cell Seq (Soneji Lab)
• Preparations for precision cut lung slices (Wagner lab)
• 4D Imaging (Wagner Lab)
• Industry-sponsored technologies (TBD)

12:00-1:00 PM  Lunch with industry representatives
1:00-2:30 PM   Rotating stations for laboratory techniques: (as above)
2:30-2:45 PM   Coffee and networking break
2:45-4:00 PM   Rotating stations for laboratory techniques: (as above)

Track 2: Professional Skills Course: Introduction to Technology Commercialization and Business Communication
Led by: Chelsea Magin, University of Colorado Denver and Erik Monsen, University of Vermont

9:00-10:00 AM  Innovation and Product Conceptualization at the Benchtop
Adam Feinberg, PhD, Associate Professor, Arthur Hamerschlag Career Development Professor, Departments of Biomedical Engineering and Materials Science and Engineering, Carnegie Mellon University

10:00-11:00 AM Commercializing your Technology: A guide for Academic Researchers
Joan Herbers, PhD, Professor Emeritus, The Ohio State University

11:00-11:45 AM Lost in Translation: Moderated Discussion with Drs. Feinberg and Herbers addressing the challenges of commercializing research using examples from our audience.
Chelsea Magin, University of Colorado Denver and Erik Monsen, University of Vermont

12:00-1:00 PM  Lunch with industry representatives
1:00-2:30 PM   Elevator Pitch Workshop
Our panel will coach you through the dos and don’ts of a winning elevator pitch. Then we will work in teams to hone these skills. Each team will have a fact sheet describing their technology. They will develop and deliver a pitch to our panel for critique.
2:30-2:45 PM   Coffee and networking break
2:45-3:15 PM   Transitioning from Academia to a Commercial Product, Common Regulatory Pitfalls
Robert Lindblad, MD, Chief Medical Officer, Production Assistance for Cellular Therapies

3:15-4:00 PM   Commercializing Innovations by Balancing the Intersection of Science and Finance
Ethan E. Mann, PhD, Vice President of Marketing and Sales, Sharklet Technologies, Inc.
AGENDA

MONDAY, JULY 15

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

Session I: Understanding lung stem cells in the digital age  
(Location: Hotel Vermont)

Moderators:  
TBD Senior ~
Mattias Magnusson, PhD ~ Lund University

6:00-6:10 PM Opening Remarks  
Darcy Wagner, PhD, Conference Chair ~ Lund University, Lund, Sweden and University of Vermont, Burlington, Vermont

6:10-6:40 Featured Presentation: TBD (Late Breaking Paper on Lung Single Cell Seq paper)  
TBD

6:40-7:10 Featured Presentation: Visualizing single cell gene networks with virtual reality  
Shamit Soneji, PhD ~ Lund University, Lund, Sweden

7:10-7:40 Featured Presentation: Transcriptomic landscape of the blastema niche in regenerating adult axolotl limbs at single-cell resolution  
Nicholas Leigh, PhD ~ Harvard Medical School, Brigham and Women’s

7:40-8:00 Discussion  
Free night in Burlington, Dinner on Your Own
TUESDAY, JULY 16 ~ Dame Julia Polak Memorial Bioengineering Session  
(Location: Grand Maple Ballroom, Davis Center, UVM Campus)

7:45-8:30 AM  Shuttle bus looping between Hotel Vermont and UVM Campus
8:00-8:45  Continental Breakfast and Continued Registration
8:45-9:00  Welcome and Introduction  
Provost, University of Vermont  
Dean, Robert Larner, M.D. College of Medicine

**Session II: Building up the complexity of the lung: assessing lung stem and progenitor cells using 3D Models**

Moderators:
Sarah Gilpin, PhD ~ Massachusetts General Hospital, Harvard Medical School  
TBD Junior ~

9:00-9:30  Featured Presentation: 3D Bioprinting of Trachea  
Adam Feinberg, PhD ~ Carnegie Mellon University

9:30-10:00  Featured Presentation: Applications of hiPSCs to airway and alveolar disease modeling  
Shimpei Gotoh, MD, PhD ~ Kyoto University

10:00-10:20  Travel Award Presentation #1  
Decision announced in May

10:20-10:50  COFFEE and NETWORKING BREAK

**Session III: Stem cell niche interactions**

Moderator:
TBD Senior ~  
TBD Junior ~

10:50-11:20  Featured Presentation:  
TBD

11:20-11:50  Featured Junior Presentation #1: Senolytic drugs target alveolar epithelial cells and attenuate pulmonary fibrosis in an ex vivo lung model  
Mareike Lehmann, PhD ~ Comprehensive Pneumology Center, Munich

11:50-12:10  Travel Award Presentation #2  
Decision announced in May
12:10-12:40  Elevator Pitch Competition – Commercialize Your Research for Industry Sponsorship or SBIR/STTR Collaboration
Panel:
Erik Monsen, PhD ~ University of Vermont and selected members from small business
Chelsea Magin, PhD ~ University of Colorado Denver

One Minute Elevator Pitch Competition for Junior Trainees. 1 slide allowed; 1 minute buzzer. Panel of Senior Investigators and VT Tech Commercialization Group to judge. Two prizes awarded.

12:40-2:00  MENTORING LUNCH

2:00-3:00  Thematic Poster Session #1 – Bioengineering, Endogenous Progenitor Cells, and ESC/iPS
Poster Discussion Facilitators: Junior Planning Committee Members

Session IV:  Towards the development of new therapies using lung stem cells for cystic fibrosis
~ co-sponsorship by the Cystic Fibrosis Foundation
Moderators:
Amy (Firth) Ryan, PhD ~ University of Southern California
Brian Davis, PhD ~ University of Texas Health Science Center

3:00-3:30  Featured Presentation: TBD
John (Jed) Mahoney, PhD ~ Cystic Fibrosis Foundation

3:30-4:00  Featured Junior Presentation #2: TBD
Gianni Carraro, PhD ~ Cedars-Sinai Medical Center

4:00-4:20  Travel Award Presentation #3
Decision announced in May

4:20-4:40  Travel Award Presentation #4
Decision announced in May

4:40-5:00  Panel Discussion
Session V: **Careers in Stem Cells, Cell Therapies, and Lung Bioengineering – Part I**

5:00-5:45  
*Featured Presentation: Gender equity in STEM: why is this so hard?*
Joan Herbers, PhD ~ The Ohio State University

6:00-8:00  
**WOMEN AND DIVERSITY RECEPTION**
Sara Enes ~ University of Vermont, Burlington, Vermont

6:00-10:00  
Hop on the free Trolley Tours bus for a trip downtown. Bus will make continuous loops from the Davis Center, the lodging locations and Downtown Burlington.

Free night in Burlington, Dinner on your own
WEDNESDAY, JULY 17

8:30-9:00 AM  Shuttle bus looping between Sheraton Hotel and UVM Campus

8:30-9:00  Continental Breakfast

Session V:  Careers in Stem Cells, Cell Therapies, and Lung Bioengineering – Part II
Moderators:
Sara Enes ~ University of Vermont, Burlington, Vermont

9:00-9:30  TBD

9:30-10:00  TBD

10:00-10:15  COFFEE BREAK

10:15-10:45  Concurrent Sessions
Publishing and Reviewing
Diana Stanley, MD ~ Deputy Editor, Lancet Respiratory Medicine
Pre-print servers: What are they and how they can help your research and visibility?
Richard Sever, PhD ~ Assistant Director, Cold Spring Harbor Laboratory Press and Co-Founder, bioRxiv

10:45-11:00  COFFEE BREAK

Session VI:  Bringing cell and tissue-derived products to market: regulation and commercialization of regenerative medicine products
~ co-sponsored by the International Society for Cellular Therapies
Moderators:
Chelsea Magin, PhD ~ University of Colorado, Denver
Laertis Ikonomou, PhD ~ Boston University

11:00-11:30  Featured Presentation: Regenerative Medicine Cellular Products; How can PACT help?
Robert Lindblad, MD ~ NHLBI Progenitor Cell Translational Consortium (PACT)

11:30-12:00  Featured Presentation #3: TBD
Bruce Levine, PhD ~ University of Pennysylvania

12:00-12:20  Travel Award Presentation #5
Decision announced in May

12:20-1:30  GROUP PHOTO AND LUNCH

1:30-2:30  Thematic Poster Session #2 – Cell Therapies, Clinical Trials, Commercialization and Regulation
Poster Discussion Facilitators:
Session VII: Immunomodulation via cell therapy and cell-derived extracellular vesicles (MSCs, EPCs, and ASC)
Moderators: Anna Krasnodembskaya, PhD Queen’s University Belfast

2:30-3:00  
Featured Presentation: TBD  
Bernard Thébaud, MD, PhD ~ Ottawa Hospital Research Institute

3:00-3:30  
Featured Junior Presentation #4: TBD  
TBD

3:30-3:50  
Travel Award Presentation #6  
Decision announced in May

3:50-4:10  
Travel Award Presentation #7  
Decision announced in May

4:10-4:40  
Panel Discussion

Session VIII: Publishing and communicating with stem cells, cell therapies and bioengineering

4:40-5:10  
Journal editor presentations  
Donald Phinney, PhD ~ Senior Editor Cytotherapy, Official Journal of the International Society for Cell and Gene Therapy  
Richard Sever, PhD ~ Assistant Director, Cold Spring Harbor Laboratory Press  
Diana Stanley, MD ~ Deputy Editor, Lancet Respiratory Medicine

5:10-5:30  
Panel Discussion with editors

5:30-6:00  
Bus to dinner cruise

6:00-9:00  
Dinner Cruise on Lake Champlain  
Award Ceremony  
(Cruise boards from 6:00-6:30 and departs promptly at 6:30pm)

9:00  
Shuttle bus returning from Cruise to the lodging locations.
THURSDAY, July 18

8:30-9:00 Continental Breakfast

Session IX: **New strategies for cellular delivery**

Moderators:

9:00-9:30 *Featured Presentation: TBD*

TBD

9:30-10:00 *Featured Junior Presentation #5: TBD*

TBD

10:00-10:20 *Travel Award Presentation #8*

Decision announced in May

10:40-11:00 COFFEE and NETWORKING BREAK

Session X: **Visualizing lung regeneration**

11:00-11:30 *Featured Presentation: TBD*

TBD

11:30-12:00 *Featured Junior Presentation #6: Live-imaging alveolar defense mechanisms*

Galina Gusarova ~ Columbia University

12:00-12:20 *Travel Award Presentation #9*

Decision announced in May

12:20-2:00 BOX LUNCH and

*Open Discussion - Setting Priorities and Recommendations to the NIH and Other Organizations Regarding Future Research Opportunities*

Daniel Weiss, MD, PhD ~ University of Vermont, Burlington, Vermont