



Workshop on Phenotyping Mouse Models of Lung Disease October 9-14, 2017

Monday, October 9th, 2017

Location: Highseas first floor

- 4:30pm Registration and reception
- 6:00pm Dinner (Highseas dining room)
- 7:30pm **Orientation and Introductions** (Highseas living room)
Wayne Mitzner, Ph.D., Johns Hopkins Bloomberg School of Public Health
Jennifer Corrigan, M.S., The Jackson Laboratory

Tuesday, October 10th, 2017 : *The Mouse and How We Use It*

AM sessions will be held in the Highseas 3rd floor lecture room

- 7:00am Breakfast
- 8:00am **Welcome**
Wayne Mitzner, Ph.D., Johns Hopkins Bloomberg School of Public Health
- 8:15am **Mouse Models of Lung Disease**
Wayne Mitzner, Ph.D., Johns Hopkins Bloomberg School of Public Health
- 9:15am Break
- 9:30am **Mouse Genetics, Husbandry and Breeding**
Marge Strobel, Ph.D., The Jackson Laboratory
- 11:30pm Lunch (Highseas dining room)
- 12:30pm **Introduction to Mouse Ventilation Systems**
Lennart K.A. Lundblad, Ph.D., The University of Vermont

- 1:30pm *Transportation to GRB Training Lab*
- 1:45pm **Hands-on Mouse Techniques: Handling, Restraint & IP Injection**
Kristen Cough, B.S., The Jackson Laboratory
- 3:15pm **Sampling Techniques: Cardiac Puncture, Mandibular Blood Collection & Bone Marrow Collection**
Michael Borchers, Ph.D., Univ. of Cincinnati
Jennifer Corrigan, M.S., The Jackson Laboratory
Kristen Cough, B.S., The Jackson Laboratory
- 4:30pm **Blood Smears**
Michael Borchers, Ph.D., Univ. of Cincinnati
- 5:00pm *Transportation to Highseas*
- 6:00pm Dinner (Highseas dining room)

Wednesday, October 11th, 2017: Assessment of Mouse Lung Function

AM sessions will be held in the Highseas 3rd floor lecture room

- 7:00am Breakfast
- 8:00am **Foundations of Lung Function and Assessment with Forced Oscillation**
Lennart K.A. Lundblad, Ph.D., The University of Vermont
- 9:00-9:45 **Lung Volumes, Pressure-Volume Curves, and Lung Diffusing Capacity**
Wayne Mitzner, Ph.D., Johns Hopkins Bloomberg School of Public Health
- 9:45am **Normal Mouse Cytology and the Role of Immune Cells in Mouse Models of Lung Disease**
Michael Borchers, Ph.D., Univ of Cincinnati
- 10:45 **Break**
- 11:00 am **Mouse Lung Intubation**
Wayne Mitzner, Ph.D., Johns Hopkins Bloomberg School of Public Health
- 11:15am **Introduction to the Flexivent**
Annette Robichaud, Ph.D., SCIREQ Scientific Respiratory Equipment Inc.
David Brunet, Ph.D., SCIREQ Scientific Respiratory Equipment Inc.
- 12:15pm Lunch (Highseas dining room)
- 1:00pm *Transportation to GRB Training Lab*

- 1:15pm **Tracheostomy**
 Jairus Pulczynski, B.S., Johns Hopkins Bloomberg School of Public Health
 Wayne Mitzner, Ph.D., Johns Hopkins Bloomberg School of Public Health
- 2:00pm **Concurrent Rotating Labs**
- **Flexivent: Tracheostomy and Pressure Volume Curves** (½ of class, 1.5 hrs)
 Annette Robichaud, Ph.D., SCIREQ Scientific Respiratory Equipment Inc.
 David Brunet, Ph.D., SCIREQ Scientific Respiratory Equipment Inc.
 Lennart K.A. Lundblad, Ph.D., The University of Vermont
 - **Lung Diffusing Capacity** (1/4 of class, 45 min then switch to blood sampling)
 Vince Giarrocco, M.S., Inficon, and Wayne Mitzner
 - **Sampling Techniques Continued: Lavage & Cover Slipping** (¼ of class, 45 min then switch to Lung Diffusing Capacity)
 Michael Borchers, Ph.D., Univ of Cincinnati
- 3:30pm **Rotate Concurrent Labs**
- 5:00pm Lab Clean Up
- 5:15pm Transportation to Highseas
- 6:00pm Dinner (Highseas dining room)

Thursday, October 12th, 2017 : Generating and Analyzing Pulmonary Mouse Models

AM sessions will be held in the Highseas 3rd floor lecture room

- 7:00am Breakfast
- 8:00am **Introduction to the Light Microscope and Optimizing Image Acquisition**
 Douglas Taatjes, Ph.D., The University of Vermont
- 9:00am **Pathology of Mouse Models of Lung Disease**
 Cory Brayton, D.V.M., ACVP, Johns Hopkins University School of Medicine
- 10:00am **Break**
- 10:15am **Harvest & Fixation Techniques**
 Wayne Mitzner, Ph.D., Johns Hopkins Bloomberg School of Public Health
- 10:45am **Introduction to Morphometry/Stereology and Sampling as Applied to the Lung**
 Matthias Ochs, M.D., Hannover Medical School
- 11:45pm Lunch (Highseas dining room)
- 12:45pm *Transportation to GRB Training Lab*

- 1:00pm **Concurrent Rotating Labs**
- **FlexiVent Dose Response Curves** (½ of class, 1.5 hrs)
Annette Robichaud, Ph.D., SCIREQ Scientific Respiratory Equipment Inc.
David Brunet, Ph.D., SCIREQ Scientific Respiratory Equipment Inc.
Lennart K.A. Lundblad, Ph.D., The University of Vermont
 - **Intubation & Lung Volume Measurement** (¼ of class, 45 min then switch to Lung Harvest & Fixation)
Wayne Mitzner, Ph.D., Johns Hopkins Bloomberg School of Public Health
 - **Lung Harvest & Fixation** (¼ of class, 45 min then switch to Intubation & Measuring Lung Volume)
Matthias Ochs, M.D., Hannover Medical School
- 2:30pm **Rotate Concurrent Labs**
- 4:00pm **Slide Review** (Bring your questions and fixed slides for analysis. **Note: Do NOT bring fresh tissue to The Jackson Laboratory!**)
Cory Brayton, D.V.M., ACVP, Johns Hopkins University School of Medicine
Douglas Taatjes, Ph.D., The University of Vermont
- 5:00m *Transportation to Highseas*
- 6:00pm Dinner (Highseas dining room)

Friday, October 13th, 2017 - Quantitative Lung Imaging
Sessions will be held in the Highseas 3rd floor lecture room

- 7:00am Breakfast
- 8:00am **Practical Exercise in Lung Stereology I: Volume Estimation**
Matthias Ochs, M.D., Hannover Medical School
- 9:15am **Practical Exercise in Lung Stereology II: Surface Area Estimation**
Matthias Ochs, M.D., Hannover Medical School
- 10:45am Break
- 11:00am **Considerations for Image Presentation and Imaging Ethics**
Douglas Taatjes, Ph.D., The University of Vermont
- 12:00pm Lunch (Highseas dining room)
- 1:00pm **CRISPR/CAS Mediated Genome Engineering in Mice**
Steve Murray, Ph.D., The Jackson Laboratory
- 2:00pm **Humanized Mice and Patient Derived Xenografts (PDX)**
Kristin Lamont, Ph.D., The Jackson Laboratory

3:00pm Free time

6:00pm Dinner (Highseas dining room)

Saturday, October 14th, 2017

Breakfast and departures (Room check-out is 9:00 A.M. You may stay in the Highseas common areas on the first floor until 2:00 pm.)