



Making and Genetically Manipulating Mouse Embryos

March 10-13, 2024

The Jackson Laboratory in Bar Harbor, Maine.

This schedule is subject to change.

Sunday, March 9, 2024

3:00-6:00pm **Registration & Check-In** (Highseas)

6:00pm **Dinner** (Highseas)

Monday, March 10, 2024

7:00-8:00am **Breakfast** (Highseas)

8:00-8:30am **Course Overview and Introductions** (Highseas Conference Room, 3rd floor)

Robert Taft, Ph.D., Bree Means, M.S., Leanne Miceli, A.S., and Jennifer Corrigan, M.S., The Jackson Laboratory

8:30-9:00am **Cryobiology**
Robert Taft, Ph.D., The Jackson Laboratory

9:00-9:30am **Male and Female Reproductive Anatomy**
Robert Taft, Ph.D., The Jackson Laboratory

9:30-9:45am **Break**

9:45-10:45am **Using Assisted Reproductive Technologies (ARTs) to Generate Zygotes and Preserve Embryos**
Robert Taft, Ph.D., The Jackson Laboratory

10:45-11:00am **Break**

11:00am-12:00pm **Anesthesia, Analgesia and Aseptic Surgery Methods**
Hironori Kawano, D.V.M., The Jackson Laboratory

12:00-1:00pm **Lunch** (Highseas)

1:00-1:30pm *Transportation from Highseas to GRB Training Lab (meet in Highseas lobby)*

1:30- 2:45pm **Biomethods: Handling, Restraint & IP and Sub Q Injections** (Lab, GRB 3245)
Biomethods Training Team, The Jackson Laboratory

- 2:45-3:00pm **Break**
- 3:00-4:30am **Male and Female Anatomy: Demonstration and Practical** (Lab, GRB 3245)
Jennifer Corrigan, M.S., Leanne Miceli, A.S., RALAT, The Jackson Laboratory
- 4:30 *Transportation from GRB Training Lab to Highseas*
- 6:00-7:00pm **Dinner** (Highseas)

Tuesday, March 11, 2024

- 7:00-8:00am **Breakfast** (Highseas)
- 8:00 – 8:15am *Transportation from Highseas to Bld 64, B115*
- 8:15-9:00am **Liquid Nitrogen Safety, Dry Shippers, Biobank** (Bld 64, B115)
Michelle Burns and Bree Means, M.S., The Jackson Laboratory
- 9:00-9:15am **Walk to GRB Training Laboratory** (Lab, GRB 3245)
Michelle Burns and Bree Means, M.S., The Jackson Laboratory
- 9:15-11:15am **Concurrent Electives: Demos and Hands-on** (Lab, GRB 3245)
 - **Microcapillary Transfer Pipetting**
 - **Pulling Microcapillary Transfer Pipettes**
 - **Flushing Embryos produced from Natural Matings**
 - **Selecting Mice in Estrus for the Generation of Pseudopregnant Females**
Bree Means, M.S., Rachael Pelletier, B.S., Leanne Miceli, A.S., and
Jennifer Corrigan, M.S., The Jackson Laboratory
- 11:30am-12:30pm **In-Vitro Fertilization: Strain Selection, Superovulation, Project Planning and Trouble Shooting** (B18 1010 Auditorium)
Bree Means, M.S., The Jackson Laboratory
- 12:30-1:30pm **Lunch** (Roscoe's)
- 1:30-3:00pm **How to Generate New Mouse Models Using CRISPR Technology** (B18 1010 Auditorium)
Rebecca Boumil, Ph.D., The Jackson Laboratory
- 3:00-3:15pm **Break**
- 3:15-5:00pm **Non-Surgical Embryo Transfer (NSET)** (Lab, GRB 3245)
Barbara Stone, Ph.D., Paratechs
- 5:00pm *Transportation from GRB Training Lab to Highseas*
- 6:00-7:00pm **Lobster Dinner** (Highseas)

Wednesday, March 12, 2024

- 7:00-8:00am **Breakfast** (Highseas)
- 8:00-8:15am *Transportation from Highseas to GRB Training Lab*
- 8:15-9:45am **In-Vitro Fertilization Using Fresh Sperm** (Lab, GRB 3245)
Rachael Pelletier, B.S., Amy Lane, Leanne Miceli, A.S., RALAT and Jennifer Corrigan, M.S., The Jackson Laboratory
- 9:45-10:00am **Break**
- 10:00am -12:15pm **CRISPR Reagent Delivery via Electroporation of Mouse Zygotes** (Lab, GRB 3245)
Peter Kutny. B.S., The Jackson Laboratory
- 12:00-1:00pm **Lunch** – (Roscoe’s)
- 1:00-1:30pm **In Vitro Fertilization Change-Over** (Lab, GRB 3245)
Rachael Pelletier, B.S., Amy Lane, Leanne Miceli, A.S., RALAT and Jennifer Corrigan, M.S., The Jackson Laboratory
- 1:30-1:45pm **Break**
- 1:45-4:00pm **Surgical Procedures: Vasectomy and Embryo Transfer** (Lab, GRB 3245):
Rachael Pelletier, B.S., Bethany Butler, Leanne Miceli, A.S., RALAT and Jennifer Corrigan, M.S., The Jackson Laboratory
- 4:00pm *Transportation from GRB Training Lab to Highseas*
- 6:00-7:00pm **Dinner** (Highseas)

Thursday, March 13, 2024

- 7:00-8:00am **Breakfast** (Highseas)
- 8:00am *Transportation from Highseas to GRB Training Lab*
- 8:15-8:45am **Count/Evaluate Embryos from IVF** (Lab, GRB 3245)
Leanne Miceli, A.S., RALAT, Jennifer Corrigan, M.S., and Bree Means, M.S., The Jackson Laboratory
- 8:45-9:45am **Evaluate Electroporated Zygotes and Q&A** (Lab, GRB 3245)
Peter Kutny. B.S., The Jackson Laboratory
- 9:45-10:00am **Break**
- 10:00-10:45am **Introduction to Embryo Cryopreservation: Controlled Rate & Vitrification** (B18 1020 Staff Conference Room)
Bree Means, M.S., The Jackson Laboratory, Barbara Stone, Ph.D., Paratechs

10:45am-12:00pm **Embryo Cryopreservation: Controlled Rate Freeze Method** (Lab, GRB 3245)
Bree Means, M.S., Leanne Miceli, A.S., RALAT and Jennifer Corrigan, M.S., The Jackson Laboratory

12:00-1:00pm **Lunch** – (Roscoe’s)

1:00-2:00pm **Embryo Cryopreservation: Vitrification Method** (Lab, GRB 3245)
Barbara Stone, Ph.D., Paratechs

2:00-3:00pm **Thawing Embryos: Demonstration & Hands-on** (Lab, GRB 3245)

- **Controlled Rate Method**
Bree Means, M.S., Leanne Miceli, A.S., RALAT and Jennifer Corrigan, M.S., The Jackson Laboratory
- **Vitrification Method**
Barbara Stone, Ph.D., Paratechs, Bree Means, M.S., Leanne Miceli, A.S., RALAT and Jennifer Corrigan, M.S., The Jackson Laboratory

3:00pm *Transportation from GRB Training Lab to Highseas*

6:00-7:00pm **Dinner** (Highseas)

Friday, March 14, 2024

7:00-9:00am **To-Go Breakfast & Check Out**
Participants may remain on the 1st floor until 12:00 pm if needed

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