



**Modeling Hearing and Balance Disorders in Mice:
The Hear@JAX Workshop**
September 15 – 20, 2024

Sunday, Sept 15

- 3:00 – 6:00 PM **Registration** – Highseas Conference Center
- 6:00 – 6:30 PM **Welcome and Introductions** – Highseas 3rd floor
Basile Tarchini, Ph.D., *The Jackson Laboratory*
Matt Kelley, Ph.D., *National Institutes of Health, NIDCD*
Mike Bowl, Ph.D., *University College London*
Guy Richardson, Ph.D., *University of Sussex*
Ronna Hertzano, M.D., Ph.D., *National Institutes of Health, NIDCD*
Cat Weisz, Ph.D., *National Institutes of Health, NIDCD*
- 6:30 – 7:30 PM Dinner – Highseas
- 7:30 – 8:00 PM *Transportation to Bar Harbor, Atlantic Brewery Midtown*
- 8:00 – 9:30 PM **3-5 minute Introductory Presentations and Opening Mixer**
- 9:30 – 10:00 PM *Transportation back to Highseas*

Monday, Sept 16

- 7:00 – 8:00 AM Breakfast – Highseas 1st floor
- 8:00 – 8:30 AM **Sound and Inner Ear Anatomy Basics** – Highseas 3rd floor
Matt Kelley, Ph.D., *National Institutes of Health, NIDCD*
- 8:30 – 9:15 AM **Introduction to Inner Ear Development**
Betsy Driver, Ph.D., *National Institutes of Health, NIDCD*
- 9:15 – 10:00 AM **Hair Cell Development**
Matt Kelley, Ph.D., *National Institutes of Health, NIDCD*
- 10:00 – 10:15 AM Coffee Break
- 10:15 – 11:00 AM **Mechanisms of Planar Polarity in the inner ear**
Basile Tarchini, Ph.D., *The Jackson Laboratory*
- 11:00 – 11:45 AM **Afferent and efferent innervation of the inner ear**
Cat Weisz, Ph.D., *National Institutes of Health, NIDCD*

11:45 AM – 12:30 PM	Lunch - Highseas 1 st floor
12:30 – 1:00 PM	<i>Transportation to GRB Training Laboratory – Meet in Highseas 1st floor lobby</i>
1:00 – 5:30 PM	Laboratory Session: Dissection and Culturing of the Inner Ear, Microscopy, Immunohistochemistry – GRB Training Lab Matt Kelley, Ph.D., <i>National Institutes of Health, NIDCD</i> Guy Richardson, Ph.D., <i>University of Sussex</i> Basile Tarchini, Ph.D., <i>The Jackson Laboratory</i> Ronna Hertzano, M.D., Ph.D., <i>National Institutes of Health, NIDCD</i> Betsy Driver, Ph.D., <i>National Institutes of Health, NIDCD</i> <ul style="list-style-type: none">A. Cochlear dissection demonstrationB. Hands on cochlear dissectionC. Begin cochlear immunolabelingD. Lecture on Microscopy in Inner Ear Research – Betsy DriverE. Cochlear immunolabelling into primary antibody
5:30 – 6:00 PM	<i>Transportation to Highseas</i>
6:00 – 7:00 PM	Dinner - Highseas 1 st floor
7:00 – 8:00 PM	Poster Session
<u>Tuesday, Sept 17</u>	
7:00 – 8:00 AM	Breakfast – Highseas 1 st floor
8:00 – 8:45 AM	Hair cells, Mechanotransduction and Adaptation – Highseas 3 rd floor Guy Richardson, Ph.D., <i>University of Sussex</i>
8:45 – 9:30 AM	A historical perspective of the mouse as a model for deafness & ARRIVE guidelines Mike Bowl, Ph.D., <i>University College London</i>
9:30 – 9:45 AM	Coffee Break
9:45 – 10:30 AM	Surveying the genetic landscape of auditory function: mouse and human models of hearing loss Hela Azaiez, Ph.D., <i>University of Iowa</i>
10:30 – 11:15 AM	From gene discovery to ultrastructure Uli Mueller, Ph.D., <i>Johns Hopkins University School of Medicine</i>
11:15 – 11:45 AM	<i>Transportation to Main Entrance- Meet in Highseas 1st floor lobby</i>
11:45 AM – 12:30 PM	Lunch – Roscoe's

12:30 – 5:30 PM	Laboratory Session Basile Tarchini, Ph.D., <i>The Jackson Laboratory</i> Guy Richardson, Ph.D., <i>University of Sussex</i> Ronna Hertzano, M.D., Ph.D., <i>National Institutes of Health, NIDCD</i> Cat Weisz, Ph.D., <i>National Institutes of Health, NIDCD</i> Betsy Driver, Ph.D., <i>National Institutes of Health, NIDCD</i> <ul style="list-style-type: none">A. Continue cochlear immunolabelingB. Cochlear culture overview – Guy Richardson & Basile TarchiniC. Dissect cochleae for cultureD. Complete immunolabeling and mount cochleae for imagingE. Begin immunos for cochlear mutant challenge exercise
5:30 – 6:00 PM	<i>Transportation to Highseas</i>
6:00 – 7:00 PM	Dinner - Highseas 1 st floor
7:00 – 7:30 PM	<i>Transport to Bar Harbor – Fogtown Brewery</i>
7:30 – 9:30 PM	The Approach to the patient with hearing loss - an otolaryngologist's perspective Ronna Hertzano, M.D., Ph.D., <i>National Institutes of Health, NIDCD</i>
9:30 PM	<i>Transportation back to Highseas</i>
<u>Wednesday, Sept 18</u>	
7:00 – 8:00 AM	Breakfast – Highseas 1 st floor
8:00 – 8:45 AM	OHC electromotility and basilar membrane motion Lisa Olson, Ph.D., <i>Columbia University</i>
8:45 – 9:30 AM	The vestibular periphery Radha Kalluri, Ph.D., <i>University of Southern California</i>
9:30 – 10:15 AM	Fast and powerful communication in the auditory brainstem Cat Weisz, Ph.D., <i>National Institutes of Health, NIDCD</i>
10:15 – 10:30 AM	Coffee Break
10:30 – 11:30 AM	Cell type-specific analysis of the inner ear Ronna Hertzano, M.D., Ph.D., <i>National Institutes of Health, NIDCD</i>
11:30 AM – 12:15 PM	CRISPR-Cas – primer and models for deafness Mike Bowl, Ph.D., <i>University College London</i>
12:15 – 1:00 PM	Lunch - Highseas 1 st floor
1:00 – 6:00 PM	Free afternoon (group activities will be organized)
6:00 – 7:00 PM	Dinner - Highseas 1 st floor

7:00 – 9:00 PM **gEAR workshop** - Highseas 3rd floor
Ronna Hertzano, M.D., Ph.D., *National Institutes of Health, NIDCD*

Thursday, Sept 19

7:00 – 8:00 AM Breakfast – Highseas 1st floor

8:00 – 8:45 AM **NIHL, ototoxicity & synaptopathy**
Matthew Ingersoll, Ph.D., *National Institutes of Health, NIDCD*

8:45 – 9:30 AM **Hair cell regeneration**
Ksenia Gnedeva, Ph.D., *University of Southern California*

9:30 – 10:15 AM **Gene therapy**
Jeff Holt, Ph.D., *Harvard Medical School*

10:15 AM – 1:30PM Working Lunch - Highseas 3rd floor
Tutorial Session: ABR, DPOAE, CAP, endocochlear potential (EP), VsEP Lecture
Ronna Hertzano, M.D., Ph.D., *National Institutes of Health, NIDCD*
Matthew Ingersoll, Ph.D., *National Institutes of Health, NIDCD*

1:30 – 2:00 PM *Transportation to GRB Training Laboratory – Meet in Highseas 1st floor lobby*

2:00 – 5:45 PM **Laboratory session: Microscopy (fixed & live samples), Injection for gene therapy, & Demos**
Matt Kelley, Ph.D., *National Institutes of Health, NIDCD*
Guy Richardson, Ph.D., *University of Sussex*
Betsy Driver, Ph.D., *National Institutes of Health, NIDCD*
Basile Tarchini, Ph.D., *The Jackson Laboratory*
Cat Weisz, Ph.D., *National Institutes of Health, NIDCD*
Ronna Hertzano, M.D., Ph.D., *National Institutes of Health, NIDCD*
A. MET Channel assay
B. Calcium imaging
C. Paint fill
D. Cochlear mutant challenge results

5:45 – 6:15 PM *Transportation to Highseas*

6:15 – 7:15 PM Lobster Dinner - Highseas 1st floor

7:30 – 8:15 PM **Inner Ear Jeopardy/Future for hearing research**
Ronna Hertzano, M.D., Ph.D., *National Institutes of Health, NIDCD*
Mike Bowl, Ph.D., *University College London*

Friday, Sept 20

7:30 – 8:30 AM Breakfast – To-go in Snack Room

9:00 AM Room check-out and departures