



Short Course on the Genetics of Addiction

Bar Harbor, Maine
October 23 – 26, 2023

Schedule of Activities

Sunday, October 22nd, 2023

- 3:00 pm – 7:00pm Registration and Highseas Check-in
Participants are not permitted to enter Highseas prior to 3:00 pm.
- 5:00 – 6:00 pm *Social Hour*
- 6:00 – 7:00 pm *Dinner*

Monday, October 23rd, 2023

- 7:00 – 8:00 am *Breakfast*
- 8:00 – 8:30 am **Welcome**
Elissa Chesler, Ph.D., The Jackson Laboratory
- 8:30 – 9:15 am **An overview of substance use disorders**
Ingrid Tulloch, Ph.D., Morgan State University
- 9:15 – 10:00 am **Human Addiction Genetics - Historical and Modern Population Effects**
Rohan Palmer, Ph.D., Emory University
- 10:00 – 10:30 am *Break*
- 10:30 – 11:15 am **Initial Sensitivity and Psychomotor Sensitization**
Lisa Tarantino, Ph.D., UNC School of Medicine
- 11:15 – 12:00 pm **Models of drug response: Reward, reinforcement, and motivation**
David Jentsch, Ph.D., Binghamton University
- 12:00 – 1:30 pm *Lunch*
- 1:30 – 2:15 pm **Topic: In vivo machine learning based behavioral analysis**
Vivek Kumar, Ph.D., The Jackson Laboratory
- 2:15 – 3:00pm **Genetic regulation of opioid overdose vulnerability**
Jason Bubier, Ph.D., The Jackson Laboratory
- 3:00 – 3:45 pm *Break*

3:45 – 5:30 pm	Workshop: Overview of Mouse Phenome Database/Phenotypic Diversity in Addiction Vivek Philip, Ph.D., The Jackson Laboratory
5:30 – 6:30 pm	Town Hall Discussion & Social Hour
6:30 – 7:30 pm	<i>Dinner</i>
7:30 pm	Student Presentations and Introductions (Participants will use this time to identify their collaborators)

Tuesday, October 24th, 2023

7:00 – 8:00 am	Breakfast
8:00 – 8:15 am	Announcements
8:15 – 9:00 am	Using multiomic data to identify epigenomic regulatory networks in the mouse striatum Christopher Baker, Ph.D., The Jackson Laboratory
9:00 – 9:45 am	Linking genetics to addiction using comparative genomics and machine learning Andreas Pfennig, Ph.D., Carnegie Mellon University
9:45 – 10:00 am	<i>Break</i>
10:00 – 10:45 am	Epigenetic dysregulation linked to Opioid Overdose Olivia Corradin, Ph.D., Whitehead Institute
10:45 – 11:30 am	Functional and transcriptomic analysis of single neurons using Patch-seq Kristen O’Connell, Ph.D., The Jackson Laboratory
11:30 – 11:45 am	<i>Break</i>
11:45 – 12:30 pm	Topic: Systems Genetics- Tools and Analysis Vivek Philip, Ph.D., The Jackson Laboratory
12:30 – 1:30 pm	<i>Lunch</i>
1:30 – 3:00 pm	Workshop: Gene Network, QTL Viewer Jason Bubier, Ph.D., The Jackson Laboratory Elissa Chesler, Ph.D., The Jackson Laboratory Vivek Philip, Ph.D., The Jackson Laboratory
3:00 – 3:15 pm	<i>Break</i>
3:15 – 4:15 pm	Topic: Funding Opportunities in Addiction Research Amy Lossie, Ph.D., NIDA

4:15 – 5:00 pm	GWAS and beyond Howard Edenberg, Ph.D., Indiana University School of Medicine
5:00 – 5:30 pm	Free Time / Time to work on project proposals <i>(Participants will meet with their collaborators to formulate proposal concepts)</i>
5:30 – 6:30 pm	Townhall Discussion / Social Hour
6:30 – 7:30 pm	<i>Dinner</i>
7:30 pm	Free Time / Time to work on project proposals

Wednesday, October 25th

7:00 – 8:00 am	<i>Breakfast</i>
8:00 – 8:15 am	Announcements
8:15 – 9:00 am	Genetic Influences on Addiction Human Studies: Twin Studies, Heritability, Phenotype, & Development Danielle Dick, Ph.D., Rutgers University
9:00 – 9:45 am	GWAS Summary Statistics Of Addiction: Their Utility, Where to Find Them, and How to Use Them Alexander Hatoum, Ph.D., Washington University in St. Louis
9:45 – 10:00 am	<i>Break</i>
10:00 – 11:30 am	Workshop: Post GWAS Analysis Workshop Alexander Hatoum, Ph.D., Washington University in St. Louis Chelsie Benca-Bachman, Ph.D., Emory
11:30 – 11:45 am	<i>Break</i>
11:45 – 12:30 pm	Modeling Addiction; From mouse to man Julie Blendy, Ph.D., University of Pennsylvania
12:30 – 1:30 pm	<i>Lunch</i>
1:30– 2:45 pm	Workshop: Precision modeling in mice using CRISPR/Cas9 genome engineering Kevin Peterson, Ph.D., The Jackson Laboratory
2:45 – 3:15 pm	<i>Break</i>
3:15 – 4:30 pm	Topic: Examples of Integrated Model System with Human Data Chelsie Benca-Bachman, Ph.D., Emory University

- 4:30 – 5:30 pm Free time / Time to work on project proposals
(Participants will use this time to write out their aims)
- 5:30 – 6:30 pm **Townhall Discussion & Social Hour:**
Professional Development/Grantsmanship
- 6:30 – 7:30 pm *Lobster Dinner*

Thursday, October 26th, 2023

- 7:00 – 8:00 am *Breakfast*
- 8:00 – 8:15 am **Announcements**
- 8:15 – 9:00 am **Sex differences in a rodent model of co-occurrence of stress and cocaine use disorder**
Marian Sepulveda-Orengo, Ph.D., Ponce Health Sciences University/Ponce Research Institute (PHSU/PRI)
- 9:00 – 9:45 am **Cross Species Data Integration**
Robyn Ball, Ph.D., The Jackson Laboratory
- 9:45 – 11:00 am **Free Time / Work on Project Proposals**
(Participants will revise emails and create a slide to highlight the significance, innovation, and approach)
- 11:00 – 12:30 pm **Student Group Project Proposals**
Amy Lossie, Ph.D., NIDA
- 12:30 – 1:30 pm *Lunch*
- 1:30 – 2:30 pm **Student Group Project Proposals (Continued)**
Amy Lossie, Ph.D., NIDA
- 2:30 -3:30 pm **Panel Discussion: Current Problems and Future Directions**
- 3:30 pm **Adjourn**
- 3:30pm Free Time
Dinner will be on your own. The snack room will be available.

Friday, October 27th, 2023

- 7:00 - 9:00 am Grab-n-Go Breakfast & Departures
Participants may remain on the 1st floor until 12:00pm if needed.