Short Course on the Genetics of Addiction

September 10-16, 2017
Course Organizers:
Elissa Chesler, Ph.D., The Jackson Laboratory and
Wade Berrettini, M.D., Ph.D., University of Pennsylvania

For more information please contact Erin McDevitt, erin.mcdevitt@jax.org

EVENT SCHEDULE
All sessions are at the Highseas Conference Center

Sunday, September 10th

PM
2:00 Registration Begins at Highseas Conference Center
6:00-7:00 Dinner

Monday, September 11th
Modeling Addiction

AM
7:30-8:15 Breakfast
8:15-8:30 Course Welcome and Introductions
   Elissa J. Chesler, Ph.D., The Jackson Laboratory
8:30-9:30 Overview of Alcoholism, Addiction, Drugs and the Brain
   Wade Berrettini, M.D., Ph.D., University of Pennsylvania
9:30-10:30 Overview of Model Organism Based Genetic Studies of Addiction
   Elissa J. Chesler, Ph.D., The Jackson Laboratory
10:30-11:00 Break
11:00-12:00  Methods in Behavioral Phenotyping  
*Stacey Rizzo, Ph.D., The Jackson Laboratory*

PM
12:00-1:00  Lunch

1:00-2:30  WORKSHOP: Reproducibility and Traceability  
*Timothy Reynolds, The Jackson Laboratory*

2:30-3:00  Break

3:00-5:00  WORKSHOP: Accessing Mouse Data Resources  
*Timothy Reynolds, The Jackson Laboratory*

5:00-6:00  Town Hall Discussion

6:00-7:00  Dinner

7:00  Student Presentations and Introductions

**Tuesday, September 12th**

*Mouse Models*

AM
7:30-8:15  Breakfast

8:15-8:30  Announcements

8:30-9:30  Characterizing the Molecular Mechanisms of Addiction Using Mouse Models  
*Paul J. Kenny, Ph.D., Icahn School of Medicine at Mount Sinai*

9:30-10:30  Modeling Addiction-Relevant SNPs: *Oprm1* in Mice and Men  
*Julie A. Blendy, Ph.D. Perelman School of Medicine, University of Pennsylvania*

10:30-11:00  Break

11:00-12:00  Genetics of Addiction in Selected Lines  
*Nicholas Grahame, Ph.D., Indiana University – Purdue University Indianapolis*

PM
12:00-1:00  Lunch

1:00-2:00  Comparative Studies of Addiction Related Phenotypes  
*David Jentsch, Ph.D., University of California, Los Angeles*
2:00-2:30 Break

2:30-4:00 Workshop: Gene Expression Analysis, eQTL and human eQTL database
Vivek Philip, Ph.D., The Jackson Laboratory

4:00-5:00 Workshop: Differential Expression
Vivek Philip, Ph.D., The Jackson Laboratory

5:00-6:00 Town Hall Discussion

Wednesday, September 13th
Complex Traits

AM
7:30-8:15 Breakfast

8:15-8:30 Announcements

8:30-9:30 Complex Trait Analysis and Advanced Mouse Populations
Elissa Chesler, Ph.D., The Jackson Laboratory

9:30-10:30 Mapping Addiction in Closely Related Strains
Vivek Kumar, Ph.D., The Jackson Laboratory

10:30-11:00 Break

11:00-12:00 High Throughput Genetic Studies of Addiction
Lisa Tarantino, Ph.D., University of North Carolina

PM
12:00-1:00 Lunch

1:00-2:30 Workshop: DO & eQTL Mapping
Dan Gatti, Ph.D. and Susan McClatchy, M.S., The Jackson Laboratory

2:30-3:00 Break

3:00-5:00 Workshop: QTL2, Sanger Mouse Genomes

5:00-6:00 Town Hall Discussion
6:00-7:00  Dinner

7:00-8:00  Translation of Addiction Research into the Clinic
Bradley Evanoff, M.D., MPH, Washington University in St. Louis

Thursday, September 14th
Human Molecular Genetics

AM
7:30-8:15  Breakfast
8:15-8:30  Announcements
8:30-9:30  Advances in Human Genetics
Abraham Palmer, Ph.D., University of California, San Diego
9:30-10:30 Nicotine GWAS
Thorgeir E. Thorgeirsson, Ph.D., deCODE Genetics
10:30-11:00  Break
11:00-12:00  Psychiatric Genomics Consortium
Howard Edenberg, Ph.D., Indiana University School of Medicine

PM
12:00-1:00  Lunch
1:00-2:00  Epigenetics
Chris Pierce, Ph.D., University of Pennsylvania
2:00-2:30  Break
2:30-3:30  Career Paths and NIDA Funding Opportunities for Research on the Genetics of Addiction  (VIA VTC)
Jonathan Pollock, Ph.D., NIDA
3:00-3:30  Break
3:30-5:00  WORKSHOP: Human Genetic Analysis
Richard Crist, Ph.D., University of Pennsylvania
5:00-6:00  Town Hall Discussion
6:00-7:00  Lobster Dinner
**Friday, September 15th**

AM

7:30-8:15  Breakfast

8:15-8:30  Announcements

8:30-9:30  **Modeling Human Sequence Variation Using CRISPR-Cas 9**  
*Michael Wiles, Ph.D., The Jackson Laboratory*

9:30-10:30  **Guide Design**  
*Michael Wiles, Ph.D., Kevin Peterson, Ph.D., Vivek Philip, Ph.D., The Jackson Laboratory*

10:30-11:00  Break

11:00-12:00  **Pharmacogenetics: Case Study of Vivitrol**  
*Wade Berrettini, M.D., Ph.D., University of Pennsylvania*

12:00-1:00  Lunch

1:00-2:00  **Public Policy and Clinical Translation of Addiction Genetics**  
*Laura Bierut, M.D., Washington University, St Louis*

2:00-3:00  Closing Discussion

Adjourn