



# 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

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## **EVENT SCHEDULE**

*All sessions are at the Highseas Conference Center*

### **Sunday, September 10<sup>th</sup>**

PM

2:00            **Registration Begins at Highseas Conference Center**

6:00-7:00      **Dinner**

### **Monday, September 11<sup>th</sup>**

*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 12<sup>th</sup>**

### *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	<b>Break</b>
2:30-4:00	<b>Workshop: Gene Expression Analysis, eQTL and human eQTL database</b> <i>Vivek Philip, Ph.D., The Jackson Laboratory</i>
4:00-5:00	<b>Workshop: Differential Expression</b> <i>Vivek Philip, Ph.D., The Jackson Laboratory</i>
5:00-6:00	<b>Town Hall Discussion</b>
6:00	<b>Dinner</b>

**Wednesday, September 13<sup>th</sup>**  
*Complex Traits*

AM

7:30-8:15	<b>Breakfast</b>
8:15-8:30	<b>Announcements</b>
8:30-9:30	<b>Complex Trait Analysis and Advanced Mouse Populations</b> <i>Elissa Chesler, Ph.D., The Jackson Laboratory</i>
9:30-10:30	<b>Mapping Addiction in Closely Related Strains</b> <i>Vivek Kumar, Ph.D., The Jackson Laboratory</i>
10:30-11:00	<b>Break</b>
11:00-12:00	<b>High Throughput Genetic Studies of Addiction</b> <i>Lisa Tarantino, Ph.D., University of North Carolina</i>

PM

12:00-1:00	<b>Lunch</b>
1:00-2:30	<b>Workshop: DO &amp; eQTL Mapping</b> <i>Dan Gatti, Ph.D. and Susan McClatchy, M.S., The Jackson Laboratory</i>
2:30-3:00	<b>Break</b>
3:00-5:00	<b>Workshop: QTL2, Sanger Mouse Genomes</b>
5:00-6:00	<b>Town Hall Discussion</b>

- 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 14<sup>th</sup>**  
*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 15<sup>th</sup>**

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**