

## PRELIMINARY 2011 ZEBRAFISH GENETICS AND DEVELOPMENT COURSE SCHEDULE

### Sun 7 Aug

- 17:30 – 18:30 Light dinner (cold cuts & veggies)
- 18:15 – 18:30 Course Welcome: Dave Raible and Michael Granato (course directors);
- 18:30 – 20:00 Lecture: Overview and history of zebrafish fish development and genetics: Chuck Kimmel
- 20:00 – 22:00 Poster Session & Beers

### Mon 8 Aug

- 08:30 – 12:00 Pit Talk and Lab: Early zebrafish development and time-lapse imaging: Chuck Kimmel and Andres Collazo
- 13:00 – 16:00 Lab: continuation from the morning
- 16:00 – 17:30 Review Lecture: Developmental Genetics: Mary Mullins
- 17:30 – 18:15 IACUC training: Amy Hancock-Ronemus VMD
- 19:30 – 21:30 Research Lectures and Discussion: Will Talbot and Chuck Kimmel
- 21:30 – 22:00 Lab: Overnight time lapse set up with Andres Collazo/Jim Fadool

### Tue 9 Aug

- 08:30 – 12:30 Pit Talk and Lab: in vitro fertilization, sperm freezing, EP haploids: Charline Walker
- 13:30 – 14:30 Pit Talk: meiotic mapping, cloning mutations: Will Talbot and Ian Woods
- 14:30 – 17:00 Lab: Mapping with Bulk Segregant Analysis: Will Talbot and Ian Woods
- 17:00 – 18:00 Discussion: Responsible Conduct of Research: Dave Raible & Michael Granato
- 19:30 – 21:30 Research Lectures & Discussion: Alex Schier and Mary Mullins
- 21:30 – 22:00 Lab: Overnight time lapse set up with Andres Collazo/Jim Fadool

### Wed 10 Aug

- 08:30 – 12:00 Pit talk and lab: mRNA over-expression/rescue: Mary Mullins
- 13:00 – 14:30 Pit Talk: genomics and web resources: Will Talbot and Ian Woods
- 14:30 – 16:00 Bioinformatics Lab: Will Talbot and Ian Woods
- 16:00 – 17:30 Round Table: Mutagenesis Screens: Mary Mullins, Cecilia Moens, Michael Granato
- 19:30 – 20:30 Research Talk Cecilia Moens
- 20:30 - 22:00 Wrap-up In vitro fertilization and mRNA rescue: Charline Walker and Mary Mullins

### Thu 11 Aug

- 08:30 – 09:00 Pit Talk: Morpholino injections: Mary Mullins
- 09:00 – 12:00 Lab: Morpholino and DNA injections: Mary Mullins
- 13:00 – 14:00 Lecture: Introduction to Microscopy: Andres Collazo
- 14:00 – 18:00 Hands-on introduction to microscopes & image taking: Jim Fadool, Cecilia Moens, Andres Collazo, Dave Raible and Michael Granato
- 19:15 – 21:15 Research Lectures and Discussion: Steve Wilson and Corinne Houart
- 21:15 – 22:15 Wrap-up: morpholino and DNA injections: Mary Mullins

### Fri 12 Aug

- 08:30 – 09:00 Pit Talk: Immunostaining & in situ hybridization: Corinne Houart, Cecilia Moens & Steve Wilson
- 09:00 – 12:00 Lab: Mounting, analysis, and imaging of immunostained or in situ hybridized embryos: Corinne Houart, Cecilia Moens, and Steve Wilson.
- 13:00 – 16:00 Lab: Continuation from morning
- 16:00 – 18:30 Lab: Making powerpoint presentations from immunostaining and in situ hybridization data
- 19:30 – 21:30 Wrap-up: student presentations and advice with Corinne Houart, Cecilia Moens and Steve Wilson

### Sat 13 Aug

- 09:00 – 11:00 Lab: Adult dissection: Mary Mullins
- 11:00 – 12:00 Pit Talk: Fate mapping and lineage analysis: Debbie Yelon & Corinne Houart
- 13:00 – 16:00 Lab: Fate mapping, lineage analysis & somite transplants: Debbie Yelon & Corinne Houart

16:00 – 18:00 Lab: Research Lectures and Discussion: Debbie Yelon and Erez Raz  
19:00 – 23:30 Staff Party; Student Movie Night

**Meal times at Swope:** Breakfast: 07:00-08:30 Lunch: 11:30-13:00 Dinner: 17:00-19:00

### **Sun 14 Aug**

(Falmouth Road Race)

14:00 – 16:00 Wrap up: Fate mapping and lineage analysis: Debbie Yelon; if necessary)  
16:30 – 18:00 Student Faculty challenge  
18:30 – 21:00 Course BBQ  
21:00 – 21:45 Lab: Overnight time lapse set up with Andres Collazo/Jim Fadool

### **Mon 15 Aug**

09:00 – 10:00 Review Lecture: Comparative Neuroanatomy: Dave Raible  
10:00 – 12:00 Research Lectures and Discussion: Jim Fadool and Andres Collazo  
13:00 – 14:00 Pit Talk: Timelapse imaging of germ cell migration: Erez Raz  
14:00 – 18:00 Lab: Mounting embryos, imaging: Erez Raz  
19:00 – 21:30 Lab: Mounting, imaging germ cell migration, data processing continued: Erez Raz

### **Tue 16 Aug**

09:00 – 11:00 Wrap-up: Making movies and analysis of germ cell migration: Erez Raz  
11:00 – 12:00 Pit Talk: Chimeric Analysis: Cecilia Moens and Michael Granato  
13:00 – 18:00 Lab: Chimeric analysis. Blastula transplants: Michael Granato, Jim Fadool, and Andres Collazo. Gastrula transplants: Cecilia Moens  
19:30 – 21:30 Research Lectures and Discussion: Rolf Karlstrom and Stephan Neuhaus  
21:00 – 21:45 Lab: Overnight time lapse set up of chimeric embryos with Cecilia Moens & Andres Collazo/Jim Fadool

### **Wed 17 Aug**

08:30 – 9:30 Pit Talk: Cell labelling methods: Rolf Karlstrom and Stephan Neuhaus  
9:30 – 12:00 Lab: Dil/DiO labelling -- whole eye & small region fills: Rolf Karlstrom and Stephan Neuhaus  
13:00 – 16:00 Lab: Local Heatshock: Rolf Karlstrom and Stephan Neuhaus  
16:00 – 18:30 Imaging of chimeras and wrap-up of chimeric analysis: Cecilia Moens, Jim Fadool, Michael Granato, and Andres Collazo  
19:30 – 21:30 Research Lectures and Discussion: Dave Raible and Jon Clarke

### **Thu 18 Aug**

09:00 – 11:00 Wrap-up: Imaging eye fills and heatshocks: Rolf Karlstrom and Stephan Neuhaus  
11:00 – 12:00 Pit Talk: imaging subcellular structures: Dave Raible and Jon Clarke  
13:00 – 17:00 Demonstrations: imaging subcellular structures: Dave Raible and Jon Clarke; small group tours of the MRC: Caitlin Stewart-Swift & April Freeman  
17:00 – 18:00 Round Table Discussion: Transgenesis Dave Raible and Rolf Karlstrom  
19:30 – 21:30 Research Lectures and Discussion: Randy Peterson and Michael Granato

### **Fri 19 Aug**

09:00 – 11:00 Research Lecture and Discussion: John Dowling  
11:00 – 12:00 Pit Talk: Intro to Chemical Genetics: Randy Peterson  
13:00 – 16:30 Lab: Chemical Genetic Screens: Randy Peterson  
17:30 – 18:30 Happy hour reception sponsored by Aquatic Habitats  
18:30 – 20:00 Course Banquet  
20:00 – 21:00 Ruth Sager Memorial Lecture: Erik Jorgensen, HMMI & University of Utah.  
21:00 – 22:00 Lecture Reception

### **Sat 20 Aug**

09:00 – 10:00 Pit Talk: Motor and visual behaviors: Michael Granato, Jim Fadool and John Dowling

10:00 – 12:00 Wrap-up Chemical Genetics: Randy Peterson  
13:00 – 17:00 Lab: Motor and visual behaviors: Michael Granato, Jim Fadool, (Stefan Neuhaus) and John Dowling  
17:00 – 18:15 Round Table: Zebrafish husbandry, building a facility, breeding and raising fry  
19:30 – 23:00 Course Wrap-up, Diplomas, and student party

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