



Genomic and Proteomic Approaches to Complex Heart, Lung, Blood, & Sleep Disorders

August 6 - August 14, 2009

The Bar Harbor Regency Hotel Stone House, Bar Harbor, Maine

Event Schedule

For more information please contact: Laura.Lelansky@jax.org

Thursday, August 6th

Introduction

All lectures, workshops, and meals are in the Stone House

Location: The Bar Harbor Regency Stone House

4:00-7:00 PM

Registration and Dinner Buffet

7:00-9:00

Introduction to Molecular Genetics

Greg Hawkins, Ph.D., Wake Forest University

Friday, August 7th
Epidemiology, Linkage Analysis
All lectures, workshops, and meals are in the Stone House

Location: The Bar Harbor Regency Stone House

7:30-8:30 a.m.	Breakfast
8:30-8:35	Welcome and Announcements Luanne Peters, Ph.D., The Jackson Laboratory
8:35-8:45	Course Evaluations Suzanne Hart, University of Maine
8:45-9:45	Why Human Geneticists Need to Know About Mice Bev Paigen, Ph.D., The Jackson Laboratory
9:45-10:00	Break
10:00-11:00	Importance of Phenotype in Genetic Studies Eugene Bleecker, MD, Wake Forest University
11:00-12:00	Linkage Analysis and Gene Identification in Family Studies Deborah Meyers, Ph.D., Wake Forest University
12:00-1:00	Lunch
1:00-2:30	Introduction to Association Studies Jianfeng Xu MD, Dr.PH, Wake Forest University
2:30-2:45	Break
2:45-4:15	Gene-environment Interactions Terri Beaty Ph.D., Johns Hopkins University
4:15-4:45	Study Design Eugene Bleecker, M.D., Wake Forest University Deborah Meyers Ph.D., Wake Forest University
5:00-6:00	Wine and Beer Reception: Student and Faculty Introductions Eugene Bleecker, M.D., Wake Forest University
6:00-7:00	Dinner
7:00-8:00	Genetic Epidemiology: Questions-Discussion Period Terri Beaty, Ph.D., Johns Hopkins University

**Saturday, August 8th
Association Studies**

All lectures, workshops, and meals are in the Stone House

Location: The Bar Harbor Regency Stone House

7:30-8:30 a.m.	Breakfast
8:30-9:30	Current Advances in Genome Sequencing Greg Hawkins, Ph.D., Wake Forest University
9:30-9:45	Break
9:45-11:00	Genome Wide Association Studies Jianfeng Xu MD, Dr.PH, Wake Forest University
11:00-12:00	Genome Wide Association and Family Studies Deborah Meyers Ph.D., Wake Forest University
12:00-1:00	Lunch
1:00-2:30	Technologies for Genome Wide Association Studies Debbie Nickerson, Ph.D., University of Washington
2:30-2:45	Break
2:45-4:30	Association Case Study: C-reactive protein Debbie Nickerson, Ph.D., University of Washington
4:30-6:00	Free time
6:00-7:00	Dinner
7:00-9:00	Computer Tutorial: choosing TagSNPs, Haploview, Genome Variation Server - Debbie Nickerson

Sunday, August 9th
Complex Traits, Computer Resources
All lectures, workshops, and meals are in the Stone House

Location: The Bar Harbor Regency Stone House

7:30-8:30 a.m.	Breakfast
8:30-9:30	Epigenetics Greg Hawkins, Ph.D., Wake Forest University
9:30-10:00	Break, Group Photo
10:00-11:00	How to do a QTL Study Ron Korstanje, Ph.D., The Jackson Laboratory
11:00-12:00	CD14 as a Model for Gene-Environment Interaction Donata Vercelli, M.D., University of Arizona
12:00-1:00	Lunch
1:00-2:15	From QTL to Gene Ron Korstanje, Ph.D., The Jackson Laboratory
2:15-2:30	Break
2:30-4:30	Introduction to NCBI/Entrez/dbSNP Donna Maglott, Ph.D., National Center for Biotechnology Information
4:30-6:00	Free Time
6:00-7:00	Dinner
7:00-9:00	Computer Workshop Donna Maglott, Ph.D., National Center for Biotechnology Information NCBI, Entrez, dbSNP

Monday, August 10th
Functional Studies, Computer Resources
All lectures, workshops, and meals are in the Stone House

Location: The Bar Harbor Regency Stone House

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| 7:30-8:30 a.m. | Breakfast |
| 8:30-9:30 | In Vitro Analysis of Gene Function
Joachim Herz MD, University of Texas, Southwestern |
| 9:30-9:45 | Break |
| 9:45-11:00 | Genetics of Asthma
Eugene Bleecker, M.D., Wake Forest University |
| 11:00-12:00 | Pharmacogenetics
Eugene Bleecker, M.D., Wake Forest University |
| 12:00-1:00 p.m. | Lunch |
| 1:00-2:30 | Practical Bioinformatics for Candidate Gene Analysis
Carol Bult, Ph.D., The Jackson Laboratory |
| 2:30-2:45 | Break |
| 2:45-4:15 | Pathways and Gene Set Enrichment Analysis
Ben King, M.S., The Jackson Laboratory |
| 4:15-6:00 | Computer Workshops
Choices:

Carol Bult, Ph.D., and Jill Recla, B.S. - The Jackson Laboratory
<i>Haplotype Association mapping</i>

David Shaw, M.S., The Jackson Laboratory, MGI Tutorial

Donna Maglott, Ph.D., National Center for Biotechnology Information
<i>Additional time for NCBI, Entrez, dbSNP, if desired</i> |
| 6:00 | Free Time/ Dinner on Your Own |

Tuesday, August 11th
Animal Models, Microarrays, Computer Resources
All lectures, workshops, and meals are in the Stone House

Location: The Bar Harbor Regency Stone House

- 7:30-8:30 a.m.** **Breakfast**
- 8:30-9:30** **Constructing Animal Models – Transgenics and Knockouts**
Joachim Herz MD, University of Texas, Southwestern
- 9:30-10:30** **Chemical Mutagenesis – Making New Mutants**
Karen Svenson, Ph.D., The Jackson Laboratory
- 10:30-10:45** **Break**
- 10:45-12:00** **Statistical Design and Analysis of Gene Expression Microarray Experiments**
Gary Churchill, Ph.D., The Jackson Laboratory
- 12:00-1:00 p.m.** **Lunch**
Faculty Meeting
- 1:00-2:00** **Functional Characterization of a Gene: IL13**
Donata Vercelli, M.D., University of Arizona
- 2:00-3:00** **Using Microarrays in Complex Trait Analysis**
Naftali Kaminski, M.D., University of Pittsburgh Medical Center
- 3:00-6:00** **Free Time**
(Ask Laura about things to do in the area-
http://barharborinfo.com/things_to_do/)
- 6:00-7:00** **Dinner**
- 7:00-9:00** **Computer Workshops**
Choices:
- Microarrays – Practical Approaches**
Naftali Kaminski, M.D., University of Pittsburgh Medical Center
- Pathways Analysis**
Ben King, M.S, The Jackson Laboratory

Wednesday, August 12th
Microarrays, Proteomics, Computer Resources
All lectures, workshops, and meals are in the Stone House

Location: The Bar Harbor Regency Stone House

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| 7:30-8:30 a.m. | Breakfast |
| 8:30-9:30 | Mouse Phenome Database
Molly Bogue, Ph.D., The Jackson Laboratory |
| 9:30-9:45 | Break |
| 9:45-11:15 | Complex Trait Analysis with Inbred Line Crosses
Gary Churchill, Ph.D., The Jackson Laboratory |
| 11:15-12:00 | Bioinformatic Toolbox for Narrowing QTLs
Luanne Peters, Ph.D., The Jackson Laboratory |
| 12:00-1:00 | Lunch |
| 1:00-2:00 | The Genomics of Gene Regulation
Ross Hardison, Ph.D, Pennsylvania State University |
| 2:00-3:30 | Proteomics-Review of Methodologies and Technologies
Andy Greene, Medical College of Wisconsin |
| 3:30-3:45 | Break |
| 3:45-6:00 | Computer Workshops
Choices:
Using the JQTL Program Workshop (animal QTL mapping)
Randy von Smith, Ph.D., Jackson Laboratory
(workshop will last about 2 hours)

Using MPD
Molly Bogue, Ph.D., The Jackson Laboratory

Using Galaxy
Ross Hardison, Ph.D, Pennsylvania State University |
| 6:00-7:00 | Dinner |
| 7:00-9:00 | Ethics
Deborah Meyers, Wake Forest University |

Thursday, August 13th
Functional Studies

All lectures, workshops, and meals are in the Stone House

Location: The Bar Harbor Regency Stone House

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|------------------------|--|
| 7:30-8:30 a.m. | Breakfast |
| 9:00-10:15 | Role of microRNAs in Complex Lung Diseases
Naftali Kaminski, M.D., University of Pittsburgh Medical Center |
| 10:15-10:30 | Break |
| 10:30-12:00 | Sleep Disorders
Allan Pack, M.B., Ch.B, Ph.D., Univ. of Pennsylvania |
| 12:00-1:00 p.m. | Lunch |
| 1-00-3:00 | Proteomic Approaches to Understanding Complex Phenotypes
Andy Greene, Medical College of Wisconsin |
| 3:00-6:00 | Free time |
| 6:00-7:00 | Lobster Dinner |
| 7:00-9:00 | Student Grant Proposal Presentations |

Friday, August 14th

All lectures, workshops, and meals are in the Stone House

Location: The Bar Harbor Regency Stone House

8:00-9:15 a.m.

Breakfast

9:15-10:30

A Structural Modeling Approach to Genetic Systems

Renhua Li, The Jackson Laboratory

10:30-10:45

Break

10:45-12:00

Haplotype Association Mapping

Sharon Tsaih, Ph.D., The Jackson Laboratory

12:00-1:00

Lunch

End of Course