



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

September 4 –12, 2008

Event Schedule

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

Thursday, September 4th

Introduction

All lectures and workshops are on the 3rd floor at Highseas unless otherwise noted

4:00-7:00p.m.

Registration and Dinner Buffet

7:00-9:00

Introduction to Molecular Genetics

Greg Hawkins, Ph.D., Wake Forest University

Friday, September 5th
Epidemiology, Linkage Analysis

All lectures and workshops are on the 3rd floor at Highseas unless otherwise noted

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	Current Advances in Genome Sequencing Greg Hawkins, Ph.D., Wake Forest University
9:45-10:00	Break
10:00-11:15	Assessing Whether the Disease is Genetic Terri Beaty, Ph.D., Johns Hopkins University
11:15-12:00	Importance of Phenotype in Genetic Studies Eugene Bleecker, M.D., Wake Forest University
12:00-1:00	Lunch
1:00-2:30	Gene-environment Interactions Terri Beaty Ph.D., Johns Hopkins University
2:30-2:45	Break
2:45-4:00	Genetic Epidemiology: Questions-Discussion Period Terri Beaty, Ph.D., Johns Hopkins University
4:00-5:00	Linkage Analysis and Gene Identification in Family Studies Deborah Meyers, Ph.D., Wake Forest University
5:00-6:00	Free Time
6:00-7:00	Dinner
7:00-9:00	Introductions - Students and Faculty (Held in Highseas Living Room) Eugene Bleecker, M.D., Wake Forest University

Saturday, September 6th
Association Studies, Proteomics

All lectures and workshops are on the 3rd floor at Highseas unless otherwise noted

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| 7:30-8:30 a.m. | Breakfast |
| 8:30-10:00 | Introduction to Association Studies
Jianfeng Xu MD, DrPH, Wake Forest University |
| 10:00-10:15 | Break |
| 10:15-11:15 | Genome Wide Association Studies
Jianfeng Xu MD, DrPH, Wake Forest University |
| 11:15-12:00 | Genome Wide Association and Family Studies
Deborah Meyers Ph.D., Wake Forest University |
| 12:00-1:00 p.m. | Lunch |
| 1:00-2:30 | Proteomics-Review of Methodologies and Technologies
Andy Greene, Medical College of Wisconsin |
| 2:30-2:45 | Break |
| 2:45-3:45 | Technologies for Genome Wide Association Studies
Debbie Nickerson, Ph.D., University of Washington |
| 3:45-5:30 | Association Case Study: C-reactive protein
Debbie Nickerson, Ph.D., University of Washington |
| 6:00-7:00 | Dinner |
| 7:00-8:15 | Computer Tutorial: choosing TagSNPs, Haploview, Genome Variation Server - Debbie Nickerson |
| 8:15-9:00 | Study Design Workshop
Eugene Bleecker, M.D., Wake Forest University
Deborah Meyers Ph.D., Wake Forest University |

Sunday, September 7th
Complex Traits, Computer Resources

All lectures and workshops are on the 3rd floor at Highseas unless otherwise noted

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| 7:30-8:30 a.m. | Breakfast (<i>Vanderbilt Suite</i>) |
| 8:30-9:30 | How to do a QTL Study
Ron Korstanje, Ph.D., The Jackson Laboratory Ron K? |
| 9:30-10:00 | Break, Group Photo |
| 10:00-12:00 | Proteomic Approaches to Understanding Complex Phenotypes
Andy Greene, Medical College of Wisconsin |
| 12:00-1:00 | Lunch |
| 1:00-1:45 | From QTL to Gene
Ron Korstanje, Ph.D., The Jackson Laboratory |
| 1:45-3:00 | Candidate Gene Analysis
Benjamin King, Ph.D., The Jackson Laboratory |
| 3:00-3:15 | Break |
| 3:15-4:15 | Introduction to NCBI/Entrez/dbSNP
Donna Maglott, Ph.D., National Center for Biotechnology Information |
| 4:15-5:15 | Bioinformatics Resources for Complex Trait Analysis
Carol Bult, Ph.D., The Jackson Laboratory |
| 5:15-6:00 | After the GWA Study: Then What?
Deborah Meyers Ph.D., Wake Forest University |
| 6:00-7:00 | Dinner |
| 7:00-9:00 | Computer Workshop
Donna Maglott,
NCBI, Entrez, dbSNP |

Monday, September 8th
Functional Studies, Computer Resources

All lectures and workshops are on the 3rd floor at Highseas unless otherwise noted

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| 7:30-8:30 a.m. | Breakfast 8:30-9:45 |
| 8:30-9:45 | Genetics of Asthma
Eugene Bleecker, M.D., Wake Forest University |
| 9:45-10:00 | Break |
| 10:00-11:00 | CD14 as a Model for Gene-Environment Interaction
Donata Vercelli, M.D., University of Arizona |
| 11:00-12:00 | Pharmacogenetics
Eugene Bleecker, M.D., Wake Forest University |
| 12:00-1:00 p.m. | Lunch |
| 1:00-2:30 | In Vitro Analysis of Gene Function
Joachim Herz MD, University of Texas, Southwestern |
| 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
Carol Bult, Ph.D., David Shaw, M.S., The Jackson Laboratory
Case studies on in silico candidate gene analysis,
Ben King, M.S, Pathways Analysis |
| 6:00- | Free Time/ Dinner on Your Own
Transportation available |

Tuesday, September 9th
Microarrays, Functional Studies

All lectures and workshops are on the 3rd floor at Highseas unless otherwise noted

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| 7:30-8:30 a.m. | Breakfast |
| 8:30-9:30 | Genomics of Gene Regulation
Ross Hardison, Ph.D, Penn State University |
| 9:30-9:45 | Break |
| 9:45-11:00 | Constructing Animal Models – Transgenics and Knockouts
Joachim Herz MD, University of Texas, Southwestern |
| 11:00-12:00 | Functional Characterization of a Gene: IL13
Donata Vercelli, M.D., University of Arizona |
| 12:00-1:00 p.m. | Lunch
Faculty Meeting/Luncheon (Highseas library) |
| 1:00-2:00 | Using Microarrays in Complex Trait Analysis
Naftali Kaminski, M.D., University of Pittsburgh Medical Center |
| 2:00-3:30 | Statistical Design and Analysis of Gene Expression Microarray Experiments
Gary Churchill, Ph.D., The Jackson Laboratory |
| 3:30-3:45 | Break |
| 3:45-6:00 | Computer Workshop: Microarrays – Practical Approaches
Naftali Kaminski, M.D., University of Pittsburgh Medical Center |
| 6:00-7:00 | Dinner |
| 7:00-9:00 | Ethics (Held in Highseas Living Room)
Deborah Meyers, Wake Forest University |

Wednesday, September 10th
Complex traits, Functional Studies

All lectures and workshops are on the 3rd floor at Highseas unless otherwise noted

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| 7:30-8:30 a.m. | Breakfast |
| 8:30-9:30 | Bioinformatic Toolbox for Narrowing QTLs
Luanne Peters, Ph.D., The Jackson Laboratory |
| 9:30-9:45 | Break |
| 9:45-11:00 | Haplotype Association Mapping
Sharon Tsaih, Ph.D., The Jackson Laboratory |
| 11:00-12:00 | Galaxy: A Bioinformatic Resource for Genomic Analysis
Ross Hardison, Ph.D, Penn State University |
| 12:00-1:00 p.m. | Lunch |
| 1:00-2:15 | Zebrafish Mutant, <i>frascati</i>: a Paradigm for Studying Red Cell Development and Mitochondrial Iron Metabolism.
Barry Paw, M.D., Ph.D., BWH, Harvard Medical School |
| 2:15-2:45 | Break |
| 2:45-4:00 | Complex Trait Analysis with Inbred Line Crosses
Gary Churchill, Ph.D., The Jackson Laboratory |
| 4:00-6:00 | Choices:
Using the JQTL Program Workshop (animal QTL mapping)
Randy von Smith, Ph.D., Jackson Laboratory
(workshop will last about 2 hours)
Galaxy Exercises -Ross Hardison |
| 6:00-7:00 | Dinner |
| 7:00-9:00 | Free Time
Transportation available |

Thursday, September 11th

All lectures and workshops are on the 3rd floor at Highseas unless otherwise noted

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|------------------------|---|
| 7:30-8:30 a.m. | Breakfast |
| 9:00-10:15 | Mitoferrin and its Role in Mammalian Mitochondrial Heme Metabolism.
Barry Paw, M.D., Ph.D., BWH, Harvard Medical School |
| 10:15-10:30 | Break |
| 10:30-11:45 | Sleep Disorders
Allan Pack, M.B., Ch.B, Ph.D., Univ. of Pennsylvania |
| 12:00-1:00 p.m. | Lunch |
| 1:00-3:00 | Mouse Phenome Database
Molly Bogue, Ph.D., The Jackson Laboratory |
| 3:00-6:00 | Free Time – Hike or Bike: Witch Hole Pond Carriage Road
(Transportation and maps provided, bikes are reserved at the Acadia Bike Shop nearby for those that registered ahead of time) |
| 6:00-7:00 | Lobster Dinner |
| 7:00-9:00 | Student Grant Proposal Presentations |

Friday, September 12th

All lectures and workshops are on the 3rd floor at Highseas unless otherwise noted

8:00-9:15 a.m. **Breakfast** (*Vanderbilt Suite*)

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 **Chemical Mutagenesis – Making New Mutants**
Karen Svenson, The Jackson Laboratory

12:00-1:00 **Lunch**

End of Course