



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

September 8 – 16, 2011

Draft Schedule - *subject to change*

For more information please contact: laura.ingerson@jax.org

**Thursday, September 8th
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: Starting a Molecular Genetic Study

Greg Hawkins, Ph.D., Wake Forest University

**Friday, September 9th
Epidemiology, Linkage**

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
8:35-8:45	Course Evaluations Brian Doore, University of Maine
8:45-9:45	Importance of Phenotype in Genetic Studies Eugene Bleecker, MD, Wake Forest University
9:45-10:00	Break
10:00 -11:00	Life After Linkage: Family Studies Deborah Meyers, Ph.D., Wake Forest University
11:00-12:00	Introduction to Association Studies Jianfeng Xu MD, Dr.PH, Wake Forest University
12:00-1:00	Lunch
1:00-1:30	Association Studies (continues) Jianfeng Xu MD, Dr.PH, Wake Forest University
1:30 – 2:00	Study Design Eugene Bleecker, MD, Wake Forest University Deborah Meyers, Ph.D., Wake Forest University
2:00 – 2:45	Gene-environment Interactions Terri Beaty Ph.D., Johns Hopkins University
2:45 – 3:00	Break
3:00 – 4:00	Gene-environment Interactions (continues) Terri Beaty Ph.D., Johns Hopkins University
5:00–6:00	Wine and Beer Reception: Student and Faculty Introductions (Highseas Living Room)
6:00–7:00	Dinner
7:00–8:00	Genetic Epidemiology: Questions-Discussion Period Terri Beaty, Ph.D., Johns Hopkins University

Saturday, September 10th
GWAS

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

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
9:45-10:45	RNAseq and RNAseq analysis Matt Hibbs, Ph.D., The Jackson Laboratory
10:45-12:00	Introduction to Genome Wide Association Studies Deborah Meyers, Ph.D., Wake Forest University
12:00-1:00	Lunch
1:00-2:00	Genome Wide Association Studies: Results and Implications Jianfeng Xu MD, Dr.PH, Wake Forest University
2:00-2:15	Break
2:15- 3:45	Genome Wide Association Studies-III and Beyond Nancy Cox, PhD, University of Chicago
3:45-6:00	Free time
6:00-7:00	Dinner
7:00- 8:30	Beyond GWAS – group discussion Nancy Cox, Jianfeng Xu, Deb Meyers

Sunday, September 11th

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

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
10:00-11:15	Genetics of Asthma Eugene Bleecker, M.D., Wake Forest University
11:15-12:00	After the GWAS, Then What? Deborah Meyers Ph.D., Wake Forest University
12:00-1:00	Lunch
1:00-2:00	Pharmacogenetics Eugene Bleecker, M.D., Wake Forest University
2:00-3:00	CD14 as a Model for Gene-Environment Interaction Donata Vercelli, M.D., University of Arizona
3:00-3:15	Break
3:15-5:00	Medical Genetics via NCBI Donna Maglott, Ph.D., National Center for Biotechnology Information
5:00-6:00	Free Time
6:00-7:00	Dinner
7:00-9:00	Computer Workshop NCBI Donna Maglott, Ph.D., National Center for Biotechnology Information NCBI, Entrez, dbSNP

Monday, September 12th
QTL Studies, Computer Resources

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

- 7:30-8:30 a.m.** **Breakfast**
- 8:30-9:45** **Why Human Geneticists Need to Know About Mice**
Ron Korstanje, Ph.D., The Jackson Laboratory
- 9:45-10:45** **Complex Trait Analysis with Inbred Line Crosses**
Gary Churchill, Ph.D., The Jackson Laboratory
- 10:45-11:00** **Break**
- 11:00-12:00** **From QTL to Gene**
Ron Korstanje, Ph.D., The Jackson Laboratory
- 12:00-1:00 p.m.** **Lunch**
- 1:00-2:00** **Bioinformatic Toolbox for Narrowing QTLs**
Luanne Peters, Ph.D., New York Blood Center
- 2:00-3:00** **Practical Bioinformatics for Candidate Gene Analysis**
Judy Blake, Ph.D., The Jackson Laboratory
- 3:00-3:15** **Break**
- 3:15-4:00** **The role of rare and functional coding variants in disease risk -
DNA sequencing and association studies**
Rasika Mathias, ScD, Johns Hopkins University General Internal
Medicine / Allergy and Clinical Immunology
- Computer Workshops Choices:**
- 4:00-6:00** ***Mouse Genome Informatics***
Judy Blake, Ph.D., David Shaw, M.S., The Jackson Laboratory
- JQTL**
Keith Sheppard, M.S., The Jackson Laboratory
- Mouse Phenome Database**
Molly Bogue, Ph.D., The Jackson Laboratory
- 6:00-7:00** **Dinner**
- 7:00-8:00** **Workshop - The role of rare and functional coding variants in
disease risk - DNA sequencing and association studies**
Rasika Mathias, ScD, Johns Hopkins University General Internal
Medicine / Allergy and Clinical Immunology

Tuesday, September 13th
QTL, Microarrays, Functional Studies

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

7:30-8:30 a.m.	Breakfast
8:30-9:15	Functional Characterization of a Gene: IL13 Donata Vercelli, M.D., University of Arizona
9:15-10:30	Statistical Design and Analysis of Gene Expression Microarray Experiments Gary Churchill, Ph.D., The Jackson Laboratory
10:30-10:45	Break
10:45-12:00	Using Microarrays in Complex Trait Analysis Naftali Kaminski, M.D., University of Pittsburgh Medical Center
12:00-1:00 p.m.	Lunch Faculty Meeting
1:00-2:30	Pathways and Gene Set Enrichment Analysis Ben King, M.S., Mount Desert Island Biological Laboratory
2:30-2:45	Break
2:45-4:00	In Vitro Analysis of Gene Function Joachim Herz MD, University of Texas, Southwestern
4:00-6:00	Free Time
6:00-7:00	Dinner
7:00-9:00	Computer Workshops (sequential) 1. Microarrays – Practical Approaches Naftali Kaminski, M.D., University of Pittsburgh Medical Center 2. Pathways Analysis of Array Datasets Ben King, M.S, Mount Desert Island Biological Laboratory

Wednesday, September 14th
Complex traits, Functional Studies

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

7:30-8:30 a.m.	Breakfast
8:30-9:30	Animal Models – Transgenics and Knockouts Joachim Herz MD, University of Texas, Southwestern
9:30-9:45	Break
9:45-10:45	Zebrafish Model Barry Paw, M.D., Ph.D., Harvard Medical School/Brigham & Women's Hospital
10:45-12:00	Cardiovascular Patrick Ellinor, M.D., Ph.D., Massachusetts General Hospital
12:00-1:00	Lunch
1:00-2:30	Rat Howard Jacob, Ph.D, Medical College of Wisconsin
2:30-2:45	Break
2:45-4:00	Genetic Studies of Blood Phenotypes Luanne Peters, Ph.D, New York Blood Center
4:00 – 6:00	Free Time
6:00-7:00	Dinner
7:00-9:00	Ethics Deborah Meyers, Ph.D., Wake Forest University

Thursday, September 15th

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

- 7:30-8:30 a.m.** **Breakfast**
- 8:30-9:45** **Clinical Phenotyping of Mice to Detect Cardiovascular and Metabolic Disorders**
Karen Svenson, Ph.D., The Jackson Laboratory
- 9:45-10:00** **Break**
- 10:00-11:00** **Role of microRNAs in Complex Lung Diseases**
Naftali Kaminski, M.D., University of Pittsburgh Medical Center
- 11:00-12:00** **Sleep Disorders**
Allan Pack, M.B., Ch.B, Ph.D., Univ. of Pennsylvania
- 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-**
- **Free Time**
 - **Dinner on your own**
 - **Work on Student Proposals**

Friday, September 16th

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

- 7:30-8:30 a.m.** **Breakfast**
- 8:30-10:30** **Proteomic Approaches to Understanding Complex Phenotypes**
Andy Greene, Ph.D., Medical College of Wisconsin
- 10:30-10:45** **Break**
- 10:45-12:00** **Haplotype Association Mapping with EMMA Correction Server: A Practical Guide**
Jill Recla, The Jackson Laboratory
- 12:00-1:00** **Lunch**
- 1:00-2:30** **Web-based Systems Genetic Analysis**
Elissa Chesler, Ph.D., The Jackson Laboratory
- 2:30-6:00** **Free Time**
Work on Student Proposals
- 6:00-7:00** **Lobster Dinner**
- 7:00-** **Student Grant Proposal Presentations**
Deborah Meyers, Ph.D., Wake Forest University
Eugene Bleecker, MD, Wake Forest University

Saturday, September 17

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

8:00-9:00 a.m. Breakfast

Depart all Bedrooms by 9:00am for cleaning staff

Students can be on 1st floor till time to depart