



Genetics and Genomics in Clinical Research

An Immersion Course for Investigators at UAB

September 18th-22nd, 2017 from 8:30-12:30pm

\$50- Faculty, \$25-Post Doc and Fellows, \$10 –Students/Staff
Continental Breakfast served daily

Location: Finley Conference Center
720 20th St. S, Birmingham, AL 35233

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This course will review the principles, major technologies, and experimental approaches in genetics and genomics through both lectures and hands-on activities.

Learning Objectives:

1. Design an approach to identify a gene responsible for a phenotype in a family that segregates in a Mendelian manner.
2. Develop a study comparing patterns of gene expression or methylation levels in normal vs. pathological tissue.
3. Formulate a protocol involving human research subjects for a genetic or genomic study to be submitted for IRB review.
4. Choose between alternative genotyping or next generation sequencing platforms appropriate for specific applications.
5. Utilize major bioinformatics databases to analyze genomic data.



Schedule:

	Monday, Sept 18	Tuesday, Sept 19	Wednesday, Sept 20	Thursday, Sept 21	Friday, Sept 22
8:30-9:00	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
9:00-10:00	Review of Genetic Principles Dr. Bruce Korf	Genotyping Technologies Next-Generation sequencing Dr. Mike Crowley	Use of Genomic Databases Dr. David Crossman	Analytics of next-generation sequencing data Dr. Greg Cooper	Genetics and Genomics Resources Dr. Bruce Korf
10:15-11:15	Human Population Genetics Dr. Greg Barsh	Copy number variants (CNVs) and chromosomal microarray technologies Dr. Fady Mikhail	Approaches to Bioinformatics Data Analysis Dr. David Crossman	Genomic counseling Ms. Whitley Kelley	Informed Consent and Ethical Issues Dr. Ashley Cannon
11:30-12:30	Principles of Association Analysis Dr. Greg Barsh	Use of Public Databases and Genome Browser to Interpret CNV Data Dr. Fady Mikhail	Transcriptome and Pathway Analysis Dr. David Crossman	Cancer Genomics Dr. Sara Cooper	Genetics in Medicine Dr. Bruce Korf

UAB is an Equal Opportunity/Affirmative Action Employer committed to fostering a diverse, equitable and family---friendly environment in which all faculty and staff can excel and achieve work/life balance irrespective of ethnicity, gender, faith, gender identity and expression as well as sexual orientation. UAB also encourages applications from individuals with disabilities and veterans.

For further information please contact Shaila Handattu at hande@uab.edu