Syllabus: BIOL 4535 “HUMAN GENETICS” Fall 2015

3:05 – 4:25 ES&T L1125

Tue Aug 18  Introductory Lecture
Thu Aug 20  Perspectives on Human Genetics  GG in Colombia
Tue Aug 25  Genetic Models of Disease
Thu Aug 27  Human Evolutionary Genetics
Tue Sep 1  Clinical Genetics – Dr Alice Tanner (EGL)  GG in Taiwan
Thu Sep 3  Presentation 1: African Genome Variation  GG in Taiwan
Tue Sep 8  Normal Human Variation
Thu Sep 10  Genome-Wide Association Studies
Tue Sep 15  Whole Genome Sequencing  GG in Danville, PA
Thu Sep 17  Gene Expression Profiling
Tue Sep 22  Presentation 2: GTEX: Genetics of gene expression in tissues
Thu Sep 24  Epigenetic Profiling
Tue Sep 29  Integrative Genomics and the Microbiome
Thu Oct 1  Presentation 3: Precision reconstitution of the microbiome
Tue Oct 6  Predictive Health Genomics
Thu Oct 8  3:00 – 4:30 Mid-Term Exam

Tue Oct 13  Fall Break
Thu Oct 15  Inflammatory Disease
Tue Oct 20  Auto-immune Disease
Thu Oct 22  Metabolic Syndrome
Tue Oct 27  Type 2 Diabetes
Thu Oct 29  Presentation 4: Genetics of waist to hip ratio
Tue Nov 3  Cardiovascular Disease
Thu Nov 5  Presentation 5: Genetics of Developmental Disorders  GG in Iceland
Tue Nov 10  Breast and Prostate Cancer
Thu Nov 12  Lymphoma, Lung, and Skin Cancer
Tue Nov 17  Psychiatric Genetics
Thu Nov 19  Cognitive decline
Tue Nov 24  Presentation 6: Genetics of brain structure

Thu Nov 26  Thanksgiving

Tue Dec 1  Ageing  Final Exam Take-home due
Thu Dec 3  Grad Student Presentations
The African Genome Variation Project shapes medical genetics in Africa
Richard Lu and Andrew Pak

The Genotype-Tissue Expression (GTEx) pilot analysis: Multi tissue gene regulation in humans
Audrey Calvird and Maryam Saheb

Precision microbiome reconstitution restores bile acid mediated resistance to Clostridium difficile
Kristin Schaeffer and Yael Toporek

New genetic loci link adipose and insulin biology to body fat distribution
Ioana Pencea and Maya Rajam

Large-scale discovery of novel genetic causes of developmental disorders
Brittany Gottfried and Aly Skulskaya

Common genetic variants influence human subcortical brain structures
Micaela Alcala and Alison Welty