

**Syllabus: BIOL 4535 "HUMAN GENETICS"**  
**3:05 – 4:25 ES&T L1125**

**Fall 2015**

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
<b>Tue</b>	<b>Oct 13</b>	<b>Fall Break</b>	
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	
<b>Thu</b>	<b>Nov 26</b>	<b>Thanksgiving</b>	
Tue	Dec 1	Ageing	Final Exam Take-home due
Thu	Dec 3	Grad Student Presentations	

Current Literature for **Human Genetics**, BIOL 4545 Fall 2015

Gurdasani et al Nature 517: 327-332 Jan 15, 2015

The African Genome Variation Project shapes medical genetics in Africa

[Richard Lu and Andrew Pak](#)

GTEx Consortium Science 348: 648-660 May 8, 2015

The Genotype-Tissue Expression (GTEx) pilot analysis: Multi tissue gene regulation in humans

[Audrey Calvird and Maryam Saheb](#)

Buffie et al Nature 517: 205-208 Jan 8, 2015

Precision microbiome reconstitution restores bile acid mediated resistance to *Clostridium difficile*

[Kristin Schaeffer and Yael Toporek](#)

Shungin et al Nature 518: 187-196 Feb 12, 2015

New genetic loci link adipose and insulin biology to body fat distribution

[Ioana Pencea and Maya Rajam](#)

DDD Consortium Nature 519: 223-228 Mar 12, 2015

Large-scale discovery of novel genetic causes of developmental disorders

[Brittany Gottfried and Aly Skulskaya](#)

Hibar et al Nature 520: 224-229 Apr 9, 2015

Common genetic variants influence human subcortical brain structures

[Micaela Alcalá and Alison Welty](#)