

HUMAN GENOMICS

This course will explore the organization of the human genome and the role of genome variation in health and disease. A broad range of topics will be covered including, for example, human genetic history, immunogenomics, pharmacogenomics, neurogenomics, genomics technologies and genetic engineering. We will also cover the business of genomics, including direct-to-consumer genetic testing, intellectual property issues and the biotechnology industry.

TOPICS

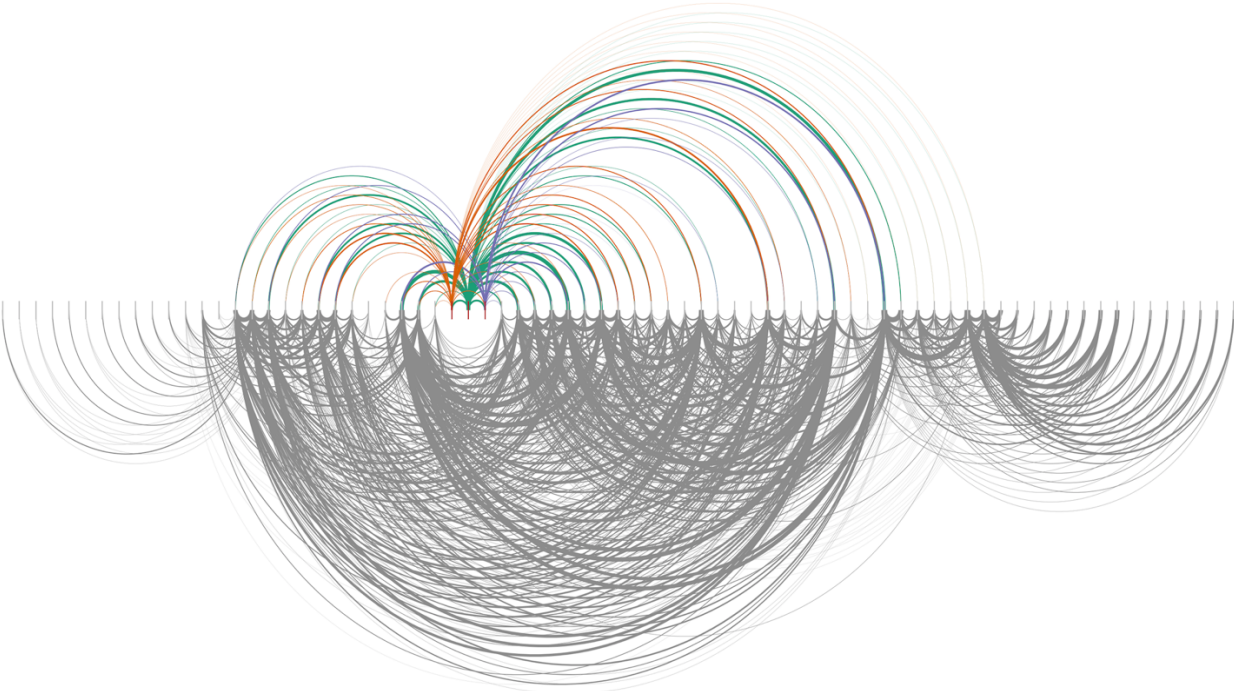
- Human genetic history and evolution
- Germline variation
- Genetic disease
- Genes and regulation
- Genome-wide association studies
- Transcriptomics
- Pharmacogenomics
- Somatic mutations and cancer
- Immunogenomics
- Application of gene therapy and cell-based therapies to cancer
- Intellectual property and patenting in human genetics
- Neurogenomics

INSTRUCTORS

Robert Holt ~ Swiftie
with an adaptive
immunity to all the
haters

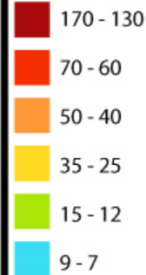


Sophie Sneddon ~
Bioinformatician,
video game
enthusiast, cat
person



Numbers represent thousand years before present.

The blue line represents area covered in ice or tundra during the last great ice age.



The letters are the mitochondrial DNA haplogroups (pure motherly lineages); Haplogroups can be used to define genetic populations and are often geographically oriented. For example, the following are common divisions for mtDNA haplogroups:

African	: L, L1, L2, L3
Near Eastern	: J, N
Southern European	: J, K
General European	: H, V
Northern European	: T, U, X
Asian	: A, B, C, D, E, F, G (note: M is composed of C, D, E, and G)
Native American	: A, B, C, D, and sometimes X

