Genomics

A course from

Biochem & Molecular Genetics, Human Genetics, and Computational Bioscience

BMGN 7620, HMGP 7620 and CPBS 7620

This course will introduce graduate students (and interested postdocs and faculty) to the field of genomics. An optional computer workshop will provide students with the minimal skills necessary to access databases, download and manipulate large datasets, and to visualize and interpret results.

Course Director: David Pollock
Course Co-Directors Jim Sikela and Mark Johnston
Computational Section Director: Jason de Koning
Computational Section Co-Directors: Michael Dickens and Ken Yokoyama

Topics to include:

Genome Mapping, Sequencing, Assembly and Annotation; Human Genome Evolution and Personal Genomics Comparative Vertebrate Genomics; Transposable Elements; Genome Architecture, Segmental Duplications, and Rearrangement; Transcriptomics and RNA genomics; Functional Genomics; Proteomics; Genome Evolution and Phylogenomics;Population Genetics & Genomics; Human Genome Polymorphism and Association Studies; Pharmacogenomics; Metagenomics; Epigenomics; and Social Impacts of Genomics

Workshop will include:

Unix and Perl Programming Basics; Database Extraction; Managing High-Throughput Data; Genome Browsers; Data Analysis with R (intro and advanced); Transcript and Proteomics Analysis; Visualization with R and Bioconductor ; Phylogenomic Inference and Analysis; Population Genetics and Variation; Functional Inference from Coding Data

Location and time

Lectures: Tuesdays and Thursdays 10:45-11:45, RC-1 North Tower, Room 6107
Computational Workshop: Wednesday 3-5, Ed II North, Room 2201AB
Class Begins Tuesday January 25

See www.EvolutionaryGenomics.com/GenomicsCourse.html
Enroll by sending a message to Deanne.Sylvester@ucdenver.edu
(all interested in the lectures are welcome; enrollment in the workshop is limited)
Please contact David.Pollock@ucdenver.edu for more information