

This elective will expose students to the use of personal genetic and genomic information in clinical medicine. It will cover principles of advanced medical genetics and genomics, complex disorders, as well as ethical, legal, and social issues associated with decision-making, consent, and individualized genomic testing. The principles of genomic medicine will also be practically applied through DNA analyses, interpretation and application in a clinical setting. Data generated focusing on pharmacogenomics will be the basis for exploration of identified mutations impacting treatment modalities, as well as challenge students to investigate how individualized genomic medicine is profoundly changing clinical practice.

Date	Topic	Speaker(s)
May 23 (T)	Introduction to Personalized and Genomic Medicine; Multifactorial Disorders	Mimi Blitzer, Linda Jeng; Yue Guan
May 24 (W)	Cytogenetics; microarrays	Ying Zou
May 25 (Th)	Genetics & Legal Issues	Lawrence Sung (JH)
May 26 (F)	Pharmacogenomics: Ready for prime time; Primer on DMET interpretation	Amber Beitelshes
May 30 (T)	DNA Sequencing and the Diagnostic Odyssey: The role of high-penetrance rare variants	David Adams (NIH)
May 31 (W)	Next Gen Sequencing and Variant Analysis	Michele Giglio
June 1 (Th)	Insurance and Genomic Testing	Alena Egense
June 2 (F)	The Personalized and Genomic Medicine Landscape: Opportunities and Challenges	Teri Manolio (NHGRI)
June 5 (M)	Genetic Counseling and Resources	Austin DeMoss
June 6 (T)	Day trip to Lancaster, PA (1/2 group will go to PA, and 1/2 will stay at TGL for exome analysis)	Elizabeth Streeten; Linda Jeng
June 7 (W)	Day trip to Lancaster, PA (1/2 group will go to PA, and 1/2 will stay at TGL for exome analysis)	Linda Jeng; Toni Pollin
June 8 (Th)	Communicating Test Results	Rachel Nusbaum
June 9 (F)	Variant interpretation	Linda Jeng
June 12 (M)	Ethics	Joe McInerney (ASHG)
June 13 (T)	Epigenetics	Jill Fahrner
June 14 (W)	Genomics and Pathology	Olga Ioffe
June 15 (Th)	The State of ctDNA: Promises and Challenges	Mickey Williams, Chris Karlovich (NIH/NCI)
June 16 (F)	Patient perspective; Putting together the pieces	Linda Jeng (8:00) Jennifer Rice (9:00)
June 19 (M)	Student Presentations – Genomic Medicine	Faculty: Toni Pollin and Mimi Blitzer as leads
June 20 (T)	Student Presentations – Genomic Medicine	Faculty: Toni Pollin as lead