GENE 527: Cytogenetics and Molecular Genetics in the Era of Cancer Genomics: Diagnostic, Prognostic and Therapeutic Applications

The course will cover basic and advanced concepts in cancer genomics and will address practice guidelines created and adopted by authoritative resources such as ACMG, AMP, ASCO and NCCN. The major focus will be on the applications of cytogenetic and molecular genetics in the diagnosis, prognosis and therapeutics. The didactic and core lectures will be supplemented by clinical case discussion in germline genetics, hematopathology and solid tumors.

Learning Objectives

Somatic Cancers

- Describe the use of cytogenetics in somatic cancer
- Describe molecular profiling in somatic cancer
- Describe variants using appropriate nomenclature Interpret variants according to standardized criterion

Hereditary Cancers

- Describe the pathogenesis of the most common inherited cancer syndromes
- Describe the methods for detection and interpretation of results for the disorders
- Describe variants using appropriate nomenclature Interpret variants according to standardized criterion
- Discuss detection as secondary findings of NGS testing

Credits: 2
Class Type: Graduate Course
Prerequisites:
GENE 500
Completion of or concurrent enrollment in the above course(s) or permission from the instructor.
Program: Biology, Genetics, and Medicine
Availability Spring 2022
Session Session A