GENETICS, BIOINFORMATICS, AND SYSTEMS BIOLOGY COLLOQUIUM

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EVOLUTIONARY DYNAMICS OF TUMOR PROGRESSION

Cancer is the result of a stochastic evolutionary process characterized by the accumulation of mutations that are responsible for tumor initiation, progression, immune escape, and drug resistance, as well as mutations with no effect on the phenotype. Mathematical modeling can be used to describe the dynamics of tumor cell populations and to obtain insights into the hidden evolutionary processes leading to cancer. I will present recent approaches that employ stochastic models of cancer evolution to quantify evolutionary dynamics of chronic lymphocytic leukemia and colorectal cancer in patients, and their implications for interpretation of cancer sequencing data.

Organization Committee: J. Gleeson, J. Sebat & BISB PhD Students
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