

## GENOMEWIDE DISSECTION AND PREDICTIVE MODELING OF COMPLEX TRAITS

Complex traits are the result of the interaction of multiple genetic factors. Genomewide association studies give us the opportunity to query virtually all of the variations in an individual, but our analytical methods focus on analyzing one SNP at a time. This talk will show how to identify the complex multigenic profiles underpinning two common diseases - stroke and asthma - and to develop prognostic models able predict the risk of an individual based on his genetic variations. In particular, this talk will describe the use of Bayesian networks for the purpose of developing these models and introduce a novel set of techniques and search algorithms specifically tailored the analysis of genomewide association studies and the construction of predictive models from genetic data.