

Mathematics of Phylogenetic Trees Seminar
L. Pachter and B. Sturmfels
Wednesdays, 3:00-5:00pm
939 Evans

Date: September 24th, 2003

Time: 3:00pm

Title: Mathematical Approaches to Phylogenetics

Speaker: John Rhodes, Bates College

Abstract: The mutation of DNA during the evolution of species has left evidence of the evolutionary tree relating them, in the similarities and differences among their genomes. Inferring the tree from sequences of extant species provides a new tool to address a host of biological questions. However, the inference problem also leads to a variety of interesting mathematical approaches.

This introductory talk will survey the basic methods developed so far, such as Maximum Parsimony, Distance Methods, and Maximum Likelihood, and the models underlying them, and lead into areas of current development, such as quartet methods and invariants. Though I will emphasize mathematical issues, computational, statistical, and biological ones will also arise.