

abstract

COMPUTER SCIENCE/DISCRETE MATH I

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

Sex has been called "the queen of problems in evolutionary biology" since it is pervasive in nature yet its functional significance has not been known. It has often been assumed that the shuffling of genes due to sex is an adaptation that facilitates the increase in fitness under Darwinian natural selection. I will propose an alternative view: Sex and natural selection interact to generate modular genetic elements, also referred to as "the building blocks of life." While the theory of natural selection was proposed 150 years ago and the foundations of sex theory were established nearly 80 years ago, the understanding that genetic modularity is an essential ingredient of evolution is largely due to the genomic era. This work was done in collaboration with Christos Papadimitriou, Nick Pippenger, and Marc Feldman, and was inspired by conversations on genetic algorithms.