

Presentation title: From pop-gen to phylo-gen

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Abstract

Evolution works at many levels. In the phylogenetics of species we work at the level of substitutions and implicitly assume that the entire species changes genomes at once. Yet how do these changes come about, and can we safely ignore the mechanisms operating within species and populations? In this lecture I'll start by reviewing a decent chunk of population genetic theory. I'll look at both classical theory (and standard statistics) and coalescent based approaches. The focus will be mainly on neutral markers, but I'll touch on models and methods dealing with selection. I'll then discuss how these theories are now being incorporated into methods for multiple species.