THE UNIVERSITY OF CHICAGO

Department of Statistics
PHD THESIS PRESENTATION

DESISLAVA PETKOVA

Department of Statistics
The University of Chicago

Inferring Effective Migration from Geographically Indexed Genetic Data

FRiDAY, July 19, 2013, at 2:00 PM

117 Eckhart Hall, 5734 S. University Avenue

ABSTRACT

Genetic data often exhibit patterns that are broadly consistent with "isolation by distance" a phenomenon where genetic similarity tends to decay with geographic distance. In a heterogeneous habitat, decay may occur more quickly in some regions than others: for example, barriers to gene flow such as mountains or deserts could accelerate the genetic differentiation between neighboring groups. In this thesis we present a method to quantify and visualize variation in effective migration across the habitat, and, under further assumptions, to infer the presence or absence of barriers to migration, from geographically indexed large-scale genetic data.