DEPARTMENT OF BIOLOGICAL SCIENCES

SEMINAR

MARCH 25

10:00AM

159 IRVINE HALL

Refreshments will be provided

OHIO UNIVERSITY

Uncovering species' evolutionary dynamics through the lenses of environmental population genomics

Diego Alvarado Serrano, Ph.D.

Abstract: How biological diversity is established and maintained, and why some regions are more diverse than others, remain among the major biological inquiries. The exponential increase of genomic data over the last few decades makes it now possible to address these questions by uncovering the interaction between species' ecologies and environmental setting. However, lack of appropriate analytical tools and statistical rigorousness have hindered progress in this area. Here, I describe three complementary projects that aim to improve the integration of population genetics with explicit environmental analyses in order to address a range of evolutionary questions while capturing the complexity of biological systems. Specifically, I demonstrate how the pervasive genomic signatures of environmental variation can be used to investigate the demographic history of species and the interplay between selection, genetic drift, and gene flow.