IBI SEMINAR

“Population Genetics of Wild Tomatoes: Population Divergence, Seed Banks, and Molecular Signatures of Adaptation”

Thursday – April 25, 2013 – 11:30 a.m.
EPFL – room SV 1717a

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host: Prof. J. Jensen

Abstract

Wild tomato species, native to western South America and the Galapagos Islands, are an evolutionary plant model system. Although the extant wild tomato species are morphologically distinct, studies of molecular variation suggest that these species are relatively young. This allowed us to use a population genetic approach to examine the role of demography, population structure and seed banks in the origin and divergence of the tomato species. Furthermore, wild tomatoes exhibit considerable morphological and functional variation, much of which is thought to be adaptive. For instance, they dwell in a variety of habitats, spanning a wide range of temperatures and water availability and are therefore exposed to different abiotic stress regimes. We have used a series of “candidate genes” influencing two stress responses, cold adaptation and drought tolerance, to elucidate the molecular signatures of positive selection.

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