Graduate Student Positions in Genomics and Physiology of Thermotolerance Adaptation at Kansas State University and The University of Florida

Local adaptation to climate is common among plants and ectotherms as evidenced by consistent latitudinal and fine-scale geographic clines in thermotolerance. As climates change in both yearly averages and in the frequency of extreme events it is increasingly important to understand the potential for thermotolerance evolution. This project will address the following questions: What are the naturally segregating genomic regions that affect standing variation in cold tolerance? What are the biochemical and physiological mechanisms that underlie the evolution of cold tolerance? How does standing genetic variation modify these mechanisms to produce variation in whole-organism phenotypes? Graduate student positions are available to join a collaborative research project that integrates the genetic and physiological mechanisms underlying cold adaptation in the model fruit fly, Drosophila melanogaster.

These positions are part of a multi-investigator project lead by Ted Morgan at Kansas State University (www.ksu.edu/morganlab) and Dan Hahn at The University of Florida (entnemdept.ufl.edu/hahn/lab/danhnhan.htm), and will be performed in collaboration with Art Edison at The University of Florida (http://edison.mbi.ufl.edu/) and David Allison at the University of Alabama – Birmingham (http://www.soph.uab.edu/ssg/people/davidallison). The positions will be highly collaborative and integrative in nature, but either be housed in the Division of Biology at Kansas State University or in the Department of Entomology and Nematology at The University of Florida.

Preference will be given to candidates with interests in evolutionary biology and/or physiology. Activities in the Morgan lab will include high-throughput quantitative genetic and genomic studies of natural variation in cold tolerance, while activities in the Hahn lab will investigate the downstream consequences of this genetic variation on whole-organism physiology and performance. Both positions will also require the analysis of data, the preparation of manuscripts, the mentoring of undergraduate research assistants, public outreach, and the participation in workshops on career development. The specific details of each position will vary slightly depending on the lab. Finally, there will also be considerable opportunity for individuals to develop new research directions including GxE and comparative studies of thermotolerance outside Drosophila melanogaster.

Applicants who are focused on evolution and quantitative genomics should contact Ted Morgan (tjmorgan@ksu.edu), while applicants focused on physiology and organismal performance, functional “omics”, and metabolic network reconstruction should contact Dan Hahn (dahahn@ufl.edu). To apply, applicants should contact Morgan or Hahn at the email addresses above. Review of applications will continue until the position is filled. The start date is negotiable.