

‘Streamscape’ genomics and stress response in wild fish populations

MENTOR: [Dr. Sarah W. Fitzpatrick](#) (KBS/MSU)

I am seeking a qualified and highly motivated undergraduate to participate in a Research Experience for Undergraduate (REU) opportunity, funded by the National Science Foundation, to study the effects of gene flow and the environment on stress response in stream fish. This is an 11-week research-intensive fellowship based at Michigan State University’s W.K. Kellogg Biological Station in Michigan from May 21 – August 5, 2017.

The student will conduct an independent research project that centers on interactions between gene flow, environmental variation, and stress response in small headwater populations of rainbow darters (*Etheostoma cragini*). The student will gain hands-on experience with molecular (e.g., DNA extraction, RADseq genomic library preparation) and field/experimental methods (e.g., mark-recapture, mesocosm experiments, tissue sampling for genetics). In addition, the student will be involved in data entry, statistical/bioinformatic analyses, interpretation, and writing. The ideal candidate should enjoy working long hours outdoors, have an interest in learning molecular lab techniques, and be excited to learn about evolutionary ecology and conservation, especially in freshwater fishes.