Oxygen – who needs it??

Tissue anoxia is perhaps the most common and serious pathological condition in humans, occurring during heart attack and stroke, among other diseases. The mechanisms by which anoxia causes tissue damage and death remain controversial. Amazingly, the fruitfully, *Drosophila melanogaster*, and most insects, can survive many hours of anoxia. In *Drosophila*, the tolerance to anoxia varies many-fold with age and genetic strain. This project is attempting to determine the genetic and physiological mechanisms that cause variation in anoxia tolerance with age and strain in *Drosophila*. Students will learn to rear and handle flies, to recognize various fly phenotypes, and the basics of fly genetics and the GAL4-UAS system. Additionally, students will learn how to manipulate oxygen levels, automated techniques for assessing fly survival and behavior, and possibly micro-biochemical assays. Students will work in collaboration with Ph.D. student Jacob Campell, and may earn course credit. Contact Jacob Campbell (jacob.campbell.1@asu.edu) for more information.