

**Elena Donato**

**Senior**

Faculty Mentor: Robert Smith, Ph.D.

Summary:

My project involves extracting and quantifying eumelanin from male and female gray catbird (*Dumetella carolinensis*) feathers to determine whether there are significant differences in concentration between the sexes. Eumelanin is a pigmentation molecule that is responsible for most of the gray coloring in the gray catbird feathers, and the synthesis of eumelanin is affected primarily by environmental factors and hormonal factors. The enzyme tyrosinase, which is largely responsible for the deposition of eumelanin, is also thought to be controlled mainly by sex hormones. This opens up questions as to whether or not there are differences in the functionality of this enzyme between the male and female gray catbird.