

**Department of Biological Sciences
COLLEGE OF ARTS & SCIENCES**

**SUMMER RESEARCH OPPORTUNITIES
FOR UNDERGRADUATE WOMEN**

APPLICATION DEADLINE: March 1, 2010

The Department of Biological Sciences is pleased to offer the following research project for the summer of 2010. Interested students are urged to contact the faculty member(s) directing the project that most interests them. By contacting the faculty member, you can discover more about the project, learn what your responsibilities will be and, if possible, develop a timetable for the twelve-week research period.

PROJECT TITLE: Locomotion of tree-dwelling snakes

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Project Description

Work in my lab investigates the interrelationships between variation in anatomy, function (physiology), behavior and ecology. Most of my previous studies have used reptiles, and my current focus is on the locomotion of snakes that climb trees. I am using quantitative methods to analyze movements in three dimensions and muscle activity during different types of locomotion used by different species of snakes or when snakes of a single species encounter different surfaces. A variety of projects are possible depending on the interests of the WISE student. Some field work will be conducted with the brown tree snake of Guam to determine if barriers can be designed to minimize the spread and detrimental economic effects of this invasive species. Some experiments will involve only behavior observations, whereas others will have an emphasis on understanding the biomechanics (3-d movements, muscles activity and forces) of snake locomotion on a wide variety of surfaces.

I am most interested in a student who wishes to continue her work in the academic year following the WISE experience, and I will provide support for the student to present her work at the national meeting of the Society of Comparative and Integrative Biology in January 2011 (abstracts due September 2010).

Dr. Bruce C. Jayne Web site:

http://www.artsci.uc.edu/collegedpts/biology/fac_staff/profile_details.aspx?ePID=MjQ3NzA%3D