

**Department of Biological Sciences  
COLLEGE OF ARTS AND 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: Genetic Diversity of Establishing Island Plant Populations**

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**Project Description**

The genetic diversity of populations is one of the critical characteristics affecting their survival and evolution. We will be using the computer program, NEWGARDEN, to explore how genetic diversity develops in newly founded populations as they spread across island systems. Factors to be explored include: 1) size and genetic diversity of the source population; 2) size and shape of islands; 3) distance of islands from source; 4) connectivity, or lack thereof, of islands; 5) effects of different dispersal distance schedules of offspring versus pollen; rate of colonization; 6) degree of selfing; 7) differing age-specific reproduction and mortality schedules; and other issues. The information we gain will not only be of import for island systems, but also has increasing relevancy as large portions of the world become more fragmented, and in species conservation/restoration projects, which are often islandic in nature. Participants will increase their understanding of population genetics and processes, especially with regard to plants, and will learn to utilize new computer programs and analyze data.