Department of Biology and Department of Mathematical Sciences
COLLEGE OF ARTS and SCIENCES

SUMMER RESEARCH OPPORTUNITIES
FOR UNDERGRADUATE WOMEN

APPLICATION DEADLINE: March 1, 2012

The Departments of Biology and Mathematical Sciences is pleased to offer the following research project for the summer of 2012. 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: Spatial effects and the genetics of small populations

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Project Description

The genetic diversity of populations is one of the most important characteristics affecting their survival and evolution. We will be using various techniques, especially computer modeling, to explore how genetic diversity changes in newly founded populations as they spread across island systems. Factors to be explored include: 1) size and genetic diversity of the source (mainland) population; 2) the geography of the islands (arrangement, size, shape, distance from mainland) and 3) effects of different life histories and dispersal strategies.

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 island-like in nature. Participants will increase their understanding of population genetics and processes, and will learn to utilize new computer programs to simulate natural processes and to analyze data.