

**Department of Mathematical Sciences
COLLEGE OF ARTS AND SCIENCE**

**SUMMER RESEARCH OPPORTUNITIES
FOR UNDERGRADUATE WOMEN**

APPLICATION DEADLINE: March 2, 2015

The Department of Mathematical Sciences is pleased to offer the following research project for the summer of 2015. 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: Mathematical Modeling And Simulation In Biology Using Matlab

Professor: Sookkyung Lim
Department of Mathematical Sciences
4426C French Hall West
Cincinnati, OH 45221-0025
Tel: (513) 556-4127
Fax: (513) 556-3417
Email: Sookkyung.lim@uc.edu

Project Description

This project is intended to introduce mathematical methods of modeling in biology using MATLAB software. Many biological phenomena can be modeled by differential equations that can be solved numerically. In this project the student will learn the fundamental concepts of mathematical modeling and how to solve the equations using MATLAB. The student will then apply the method to biological systems such as population dynamics, enzyme kinetics, and so on. No previous knowledge of biology or programming skill is necessary.