

**MATHEMATICAL SCIENCES  
COLLEGE OF ARTS AND SCIENCES****SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE WOMEN****APPLICATION DEADLINE: 03/01/2018****PROJECT TITLE: Mathematical modeling and simulations in biology**

**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](mailto:sookkyung.lim@uc.edu)**

**Project Description**

This project is intended to introduce mathematical methods of modeling in biology. Many biological phenomena can be modeled by systems of 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 and how to interpret the simulation results for further investigation of the model. 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.