






Faculty Member Contact Information

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Contact Info	
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Department	Biological Sciences

1 Funded, 2 Unfunded URCA Assistants

X	This position is ONLY open to students who have declared a major in this discipline.	M
	This project deals with social justice issues.	
	This project deals with sustainability (green) issues.	
	This project deals with human health and wellness issues.	
	This project deals with community outreach.	
	This mentor's project is interdisciplinary in nature.	

Are you willing to work with students from outside of your discipline? If yes, which other disciplines?

- No

How many hours per week will your student(s) be required to work in this position?

(Minimum is 6 hours per week; typical is 9)

- 8 hours

Will it be possible for your student(s) to earn course credit?

- Yes-- BIOL 493-008 (0-3 credit hours)

Location of research/creative activities:

- SW 1325

Brief description of the nature of the research/creative activity?

Students will be researching the biological mechanisms and outcomes of microbial symbiosis between an amoeba host and bacterial symbionts. This involves infecting amoeba with bacterial symbionts and assessing host fitness, intracellular bacterial invasion and replication, and long term host-symbiont dynamics. Students may work with host or bacterial mutants to investigate the molecular underpinnings of the infection process and host response. Students may also work with bacterial viruses (bacteriophages) that target bacterial symbionts. This entails isolating, amplifying, and characterizing bacteriophages and exploring bacteriophage-bacterial symbiont population and evolutionary dynamics within an amoeba host system.

Brief description of student responsibilities?

Conducting wet-lab research. This may include aseptic culturing of microbes, microscopy, flow cytometry, PCR, and DNA gel electrophoresis. Students must keep an organized lab notebook, record, and analyze data. Students must also contribute to the general maintenance of the research lab (preparing media, handling and disposal of microbes, proper equipment maintenance). Students must also regularly communicate with me and attend lab meetings according to availability.

URCA Assistant positions are designed to provide students with *research or creative activities* experience. As such, there should be measurable, appropriate outcome goals. What exactly should your student(s) have learned by the end of this experience?

Students will learn diverse microbiological techniques (aseptic culturing, microbial enumeration, infection assays, microscopy, etc)

Students will learn the scientific process and how to craft and conduct scientific research.

Ideally, students will have the opportunity to communicate their research in the form of poster presentations, oral presentations, and eventual peer-reviewed publications.

Requirements of Students

If the position(s) require students to be available at certain times each week (as opposed to them being able to set their own hours) please indicate all required days and times:

- N/A

If the location of the research/creative activities involves off campus work, must students provide their own transportation?

- N/A

Must students have taken any prerequisite classes? Please list classes and preferred grades:

- N/A

Other requirements or notes to applicants:

- Due to the training required to become proficient in the lab, applicants with the intention and ability to continue in the lab for several semesters will be given priority consideration.