

Faculty Member Contact Information

Name	Brett Fredericksen
Contact Info	
SIUE Email	bfreder@siue.edu
Campus Box	SW 1285
Department	Biology

1 Funded, 3 Unfunded URCA Assistant

	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.	I

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

Yes

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)

9

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

Yes BIO 492M Varies based on student's needs

Location of research/creative activities:

On campus in lab or at field sites on campus or in Edwardsville

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

My lab focuses on projects related to plant ecology and plant physiology. I answer questions related to plant stress and biodiversity in forest and urban ecosystems. We have two overarching projects that we are recruiting students for at this time.

The first project focuses on the invasive shrub Amur honeysuckle and its impacts on forest biodiversity. Honeysuckle is a nasty plant that can produce chemicals that restrict the ability of surrounding native plants to grow resulting in honeysuckle taking over wide areas of forest. Our projects focuses on finding native species best suited to resist honeysuckle and compare honeysuckle's negative effects to other native shrubs.

The second project focuses on a tree called pin oak and it's relationship with a gall forming wasp. These wasps cause large growths on the trees that reduce the trees health and aesthetic value. Pin oaks are commonly planted in urban environmental and our collaborative team or researchers would like to figure out what predisposes a pin oak suffer from these outbreaks of gall forming wasps. Our study will focus on spatial mapping of infested trees around the Edwardsville area and learning about the biology of the wasp itself.

Brief description of student responsibilities?

In my lab, students will work across several research settings, including work in the lab, greenhouse, and field. In the lab students will quantify plant traits like biomass, leaf size and shape, and physiological parameters like photosynthetic rates. In the greenhouse, students will be responsible for plant care and growth within an experimental design and conducting regular measurements related to plant health. In the field, students will identify plants and quantify environmental variables such as canopy cover and biodiversity metrics.

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?

Yes

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:

Applicants should have blocks of time of at least 2-3 hours in their schedule to conduct measurements if working in the field.

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

Students do not have time specific availability but will require the ability to be outdoors in the woods for long periods of time. Access to a car is also a benefit but not required.

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

Experience taking plant taxonomy and/or ecology are preferred but not required.

Other requirements or notes to applicants:

Applicants should have a keen interest in plants and the environment and strong ability to work independently once trained.