





Faculty Member Contact Information

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Contact Info	
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Department	Chemistry

1 Funded, 1 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.	
X	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, my project is truly interdisciplinary, please also mark me as interested in taking students from these areas: Chemistry, Biochemistry, Environmental, Pharmacy

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; 0-2 credit hours of CHEM296, 396, 496

Location of research/creative activities:

- SW2010, SW2075

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

The student will conduct experiments to: (1) express and purify recombinant human proteins for biochemical characterization; (2) prepare biopolymer chitin from crab shells for industrial dye removal; (3) isolate small enzyme inhibitors using chromatography; and (4) isolate natural chitinase or clone its gene from a specific bacterial strain. Additionally, the student will perform a literature review, standardize protocols, and conduct data analysis.

Brief description of student responsibilities?

The student(s) will specifically undertake one or two of the projects mentioned earlier. The techniques involved will include, but are not limited to, UV/Vis spectrometry, fluorometry, HPLC, fast protein liquid chromatography (FPLC), electrophoresis, PCR, microorganism growth, and calorimetry.

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?

Life science research yields numerous measurable outcomes. In the past, my undergraduate students have conducted research and presented their findings through posters and oral presentations at the SIUE Probst Lecture and senior assignments, as well as at professional society meetings like the American Chemical Society (ACS) and the American Society for Biochemistry and Molecular Biology (ASBMB). Additionally, they have contributed as co-authors in peer-reviewed journals.

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:

- Students are expected and encouraged to conduct his/her research every day (Mon. –Fri.) because biochemical research is time-consuming.

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:

- Prefer to student has taken or is taking Biochemistry I (CHEM451A).

Other requirements or notes to applicants:

- N/A