

### Faculty Member Contact Information

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### **1 Funded, 1 Unfunded URCA Assistant**

	This position is <b>ONLY</b> open to students who have declared a major in this discipline.	<b>M</b>
	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.	<b>I</b>

**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?**

CHEM296, 396, 496 0-2

**Location of research/creative activities:**

SW2010

**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?**

There are plenty of measurable outcomes for life science research. In the past, my undergraduate students perform research and give poster or oral presentations in the SIUE Probst lecture and senior assignments, as well as professional society meetings including American Chemical Society (ACS) and American Society for Biochemistry and Molecular Biology (ASBMB). They are also co-authors in peer-review 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:**

Preference given to Chemistry, Biochemistry, or Biology majors