Faculty Member Contact Information

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<thead>
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<th>Name</th>
<th>Dr. Chin-Chuan Wei</th>
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<tr>
<td>Department</td>
<td>1 Funded URCA Assistant</td>
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This position is **ONLY** open to students who have declared a major in this discipline.

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?

- Yes, but similar fields.

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)

- 12 hours

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

- Yes, CHEM 396, CHEM 496 (2 credit hours for each)
Location of research/creative activities:

- SW2010

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

The student will perform experiments aimed at isolating biopolymers, specifically chitin and chitosan, from waste materials such as crab or lobster shells. These isolated biopolymers will then be utilized to assess their effectiveness in removing industrial dye wastes, with a focus on understanding the adsorption mechanism. Additionally, the student will use these biopolymers to synthesize n-acetylglucosamine trimer, a crucial component with numerous medical applications.

Furthermore, the student will be responsible for conducting a comprehensive literature search, standardizing experimental protocols, and conducting thorough data analysis.

Brief description of student responsibilities?

The student will receive training in fundamental laboratory techniques for the isolation of biopolymers. They will then employ a UV/Vis spectrometer to assess dye binding. This binding analysis will involve varying pH and temperature as factors to evaluate their impact on effectiveness. Multiple binding models will be explored to gain a comprehensive understanding of the binding mechanism.

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 biochemical 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:

- Student is 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