

POSITION # F09-025

Faculty Member Contact Information

Name: **Huichun (Judy) Zhang**
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Description of the URCA Assistant Position(s)

Number of students requested: **2**
Number of students who will be funded: **2**
Will the student(s) earn course credit? Yes **X** No If yes, in which course? **Chem 296 and 496**
Location of research/creative activities: **My lab (SL 2217)**

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

One study on the effect of nanosized metal oxide on the oxidation of phenols and anilines by goethite
One study on the reduction of veterinary pharmaceuticals in natural environments

Brief description of student responsibilities:

Students will understand the rationale to conduct these studies, study the reaction kinetics of the target contaminants, conduct theoretical computation of the molecular descriptors, and design posters for the ACS national meetings and the Probst lecture.

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?

How to search SciFinder for relevant research articles, how to use analytical instruments (e.g., UV-visible spectrometer, high performance liquid chromatography, pH meter), how to design research protocols, how to conduct theoretical computations, how to conduct data analysis, how to submit to a conference, and how to write up a research poster.

Additional 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 can set 8 of their 9 hours, but I will require a weekly lab meeting on Fridays from 2-3 pm

If the location of the research/creative activities is off campus, must students provide their own transportation? Yes ___ No ___ N/A

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

I'd prefer students to have taken organic chemistry (Chem241a,b and 245) and have earned at least a B in both

Other requirements:

A demonstrated awareness of safety in the laboratory is an important qualification since this individual will often perform prearranged procedures under his/her own supervision. Expertise with the fundamental chemical techniques taught in the sophomore organic chemistry laboratory (series dilution, extraction and separation) is desired. Familiarity with the advanced analytical methods regularly used in these labs is also desired. These techniques include the use and maintenance of a UV/visible spectrometer, operation of a high pressure liquid-chromatography, and use of a microcentrifuge and a pH meter.

Notes to applicants (i.e., any other information you'd like applicants to know about you or the position before applying):

I work best with students who are motivated and fairly independent. I will certainly be here to supervise you through the process, but I prefer students who come to me with questions AFTER they have already tried to figure things out on their own first!