





Faculty Member Contact Information

Name	Dr. Mina Sumita
Contact Info	
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Department	Chemistry

1 Funded, 1-2 Unfunded URCA Assistant(s)

X	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.	
X	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?

- No—student's major should be chemistry, biochemistry, or biology.

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 hours

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

- Yes-- CHEM396, CHEM496 (up to 2 credit hours)

Location of research/creative activities:

- SW2005

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

Student will work on RNA modification or biosensor development project based on their interests in biochemistry, biophysical chemistry, or organic chemistry. They will study structural and functional effects of RNA modifications by using various biochemical and biophysical techniques, DNA/RNA aptamer identification by in vitro selection for biosensor development, or design and synthesis of unnatural modified nucleotides to study RNA biochemistry or biophysics.

Brief description of student responsibilities?

Students will conduct a literature search, set up and conduct experiments, data analysis, and interpretation. They are also responsible for keeping all procedures and data in their lab notebook scientifically.

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?

Students will learn basic biochemistry, biophysical chemistry, or organic chemistry techniques and experience in nucleic acid research. They will present results at institutional meetings, and/or perhaps a regional or national conference such as Rustbelt RNA meeting, RNA society meeting, or American Chemical Society meetings. These skills and experience will be useful for their future career in biochemical and/or biotechnology industries or graduate schools.

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:

- N/A

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:

- Required classes: CHEM121A/B General Chemistry, CHEM125A/B General Chemistry Lab, CHEM241A/B Organic Chemistry, and CHEM245 Organic Chemistry Lab
- Preferred classes: CHEM351 or CHEM451A first-semester Biochemistry and BIOL319 Cell and Molecular Biology

Other requirements or notes to applicants:

- The student's major should be chemistry, biochemistry, or biology.