Faculty Member Contact Information

Name	Nathaniel Adegboyega
Contact Info	
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Department	Environmental Sciences

1 Funded, 2 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.	
X	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.	I

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?

Location of research/creative activities:

Department of Environmental Sciences, Science West, Lab SW 2105

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

My research is focused on chemistry and environmental nanotechnology. We study the formation and characterization of natural organic matter-induced nanomaterials and their application in contaminant removal. We are currently focusing on silver and gold nanoparticles. Students will have the opportunity to substitute other model organic compounds for NOM and evaluate their metal-reducing potential.

Brief description of student responsibilities?

The successful student will clean glassware and prepare acid bath solutions, buffers, standards, and other working solutions. Other responsibilities will include nanomaterial synthesis, characterization, and monitoring stability studies, using a suite of analytical techniques to determine the extent of the nanoparticle formation. The student will also use the synthesized nanoarticle in contmaint removal studies.

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?

By the end of the experience, the student should be able to distinguish between engineered nanoparticles (commercially available) and naturally occurring nanoparticles. The student should also be able to synthesize and characterize nanoparticles at varying experimentally relevant conditions (e.g., temperature and pH) and determine their stability. Ultimately, the student will learn about the applications of nanoparticles in wastewater treatment and gain hands-on training with selected analytical instruments.

<u>Requirements of Students</u>

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:

n/a

Other requirements or notes to applicants:

n/a