





**Faculty Member Contact Information**

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<b>Contact Info</b>	
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<b>Department</b>	Environmental Sciences

**1 Funded, 3 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.	
<b>X</b>	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?**

- No

**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)

- 6

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

- Yes; 3 credit hours of ENSC 498

**Location of research/creative activities:**

- Science West & Off campus

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

The student will work with the faculty member and park scientists at Mammoth Cave National Park on one of two projects 1) evaluating the distribution of microplastics in the cave or 2) identifying locations of shark fossils. Due to the high number of visitors, Mammoth Cave, Kentucky, has high levels of fabric pieces shed from clothing into the air, which then settles on cave surfaces. This research project seeks to identify the areas of the cave that are most vulnerable using high-resolution photography.

**Brief description of student responsibilities?**

Students will help photograph the cave walls using ultraviolet photography and help sample microplastics and other material from the cave for identification back in the lab. They will use image processing software and microscopy to determine what types of materials are most abundant in the cave. This research may lead to new solutions to reduce microplastics contamination in caves.

**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?**

- new knowledge of concepts of cave science
- how to safely conduct research in caves
- how to take and process high resolution scientific photos
- how to collaborate with government researchers
- how to prepare and present research at a conference

**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?**

- Students do not need to have their own transportation.

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

- ENSC 220

**Other requirements or notes to applicants:**

- Must be willing to conduct research in a cave environment (only artificial light, wear a helmet and headlamp, and 55 degrees F)