Faculty Member Contact Information

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<thead>
<tr>
<th>Name</th>
<th>Dr. Elizabeth Esselman</th>
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<tr>
<td>Contact Info</td>
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<td>Campus Box</td>
<td>1651</td>
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<tr>
<td>Department</td>
<td>Biological Sciences</td>
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1 Funded, 1 Unfunded URCA Assistant

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<tr>
<th>This position is <strong>ONLY</strong> open to students who have declared a major in this discipline.</th>
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<tr>
<td>This project deals with social justice issues.</td>
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<td>X This project deals with sustainability (green) issues.</td>
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<td>This project deals with human health and wellness issues.</td>
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<td>This project deals with community outreach.</td>
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<td>This mentor’s project is interdisciplinary in nature.</td>
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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)
- 9 hours

Will it be possible for your student(s) to earn course credit?
- Yes—BIO 493 (1 credit hour)
Location of research/creative activities:

- SW Room 1230 (Esselman Lab)

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

We work on endangered/rare prairie orchid species. All orchids require fungi for seed germination. We isolate fungi from orchid roots and examine it with molecular methods to identify genetic similarities of fungi both within and between species. We also use the fungi in germination experiments to see if we can grow seedlings and out plants out into the field.

Brief description of student responsibilities?

Students will:

- Pour agar plates, subculture fungi to keep them alive, Isolate DNA, Run PCR reactions and agarose gels to determine if PCR reactions have worked. Students may also be involved in field collection of roots and seeds

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?

- Autoclave training
- Aseptic technique
- Improving Pipetting skills
- Sub-culturing techniques
- DNA extraction and running PCR reactions and running electrophoretic gels
- How to get living fungi out of orchid roots

Many URCA students design their own experiments. These experiments can be used in 492M, our departments requirement for senior assignment, that can be used for graduation

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?

- Most of this work will be in my lab or on campus. Students do not need to have their own transportation.

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

- B or better in Bio 150

Other requirements or notes to applicants:

- N/A