

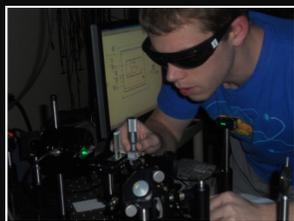
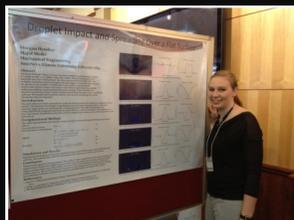


URCA

Undergraduate Research and Creative Activities

Volume 4, Issue 2

Spring 2013



What Is URCA?

URCA is a program designed to get undergraduate students more involved in research and creative activities. There are two ways in which students can participate in URCA: as Associates and as Assistants.

Associates: These are year-long positions in which a student designs his or her own research or creative activity project and then works with a mentor to see it through. Associates are required to attend monthly meetings and to present their scholarly work at the Spring Symposium. Associates earn a stipend and can also receive money for project-related equipment and travel. Only 10 students are accepted into this program each year.

Assistants: These are semester-long positions in which students assist faculty with their research or creative activities. Up to 80 students each semester may receive a stipend for being Assistants; however, each semester several students also participate as unpaid Assistants. It is also possible for Assistants to earn course credit for their participation.

Southern Illinois University Edwardsville's URCA Program to host Regional Undergraduate Research Symposium

The St. Louis Area Undergraduate Research Symposium, STLAURS, is an annual event held each spring that allows undergraduates from seven outstanding St. Louis area universities the opportunity to present their research in a professional setting. This unique event is a collaboration involving Southern Illinois University Carbondale, Southern Illinois University Edwardsville, St. Louis University, University of Missouri at St. Louis, Webster University, St. Louis College of Pharmacy, and Washington University in St. Louis. This year, SIUE has the privilege of hosting the event.

STLAURS provides an excellent opportunity for students to learn about the research of their peers, speak to university faculty, and receive both wisdom and inspiration from the invited speakers. This year, the Keynote Speaker is Dr. John Mateja from Murray State University. Dr. Mateja is an experimental nuclear physicist with research interests in the area of light heavy-ion reactions. Dr. Mateja was appointed Dean of the College of Science at Murray State University in 1998. During his tenure as Dean, the College successfully competed for a Howard Hughes Medical Institute award, NSF Collaborative Research at Undergraduate Institutions award, NSF Course, Curriculum and Laboratory Improvement grants, and NSF Experimental Program to Stimulate Competitive Research award. He was the founding Director of MSU's Undergraduate Research and Scholarly Activity Office and today serves as the Director of MSU's McNair Scholars Program.

Any undergraduate student who has recently conducted research is eligible to apply. There are four cash prizes for those the judges deem to have been the best presenters at the event. First place is \$300, second place is \$200, third place is \$125, and honorable mention receives \$75. For more information, or to submit an application, visit www.stlaurs.weebly.com.

URCA extends a sincere THANK YOU to the Graduate School's Conference and Workshops Awards program and the Provost's Office of Academic Innovation and Effectiveness for providing funding for this event. We encourage faculty to both attend and encourage their students to apply!

STLAURS
St. Louis Area Undergraduate
Research Symposium



Dr. John Mateja

For More Information:

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Erica Bohmer



Dr. Darron Luesse



Dr. Gregory Fields



Martha Piñones



Dr. Joel Nadler



Dr. Denise DeGarmo

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Featured Associate: Erica Bohmer, *Biological Sciences: Medical Sciences*

Mentor: Dr. Darron Luesse

Erica Bohmer is investigating the effects of a particular protein (AGP 24) on gravitropism (a turning or growth movement by a plant or fungus in response to gravity) in *Arabidopsis Thaliana*. Erica and Dr. Luesse formed the hypothesis that the overexpression (and thereby the accumulation) of this protein is responsible for the GPS5 mutant's exaggerated gravitropic response. To support this hypothesis, Erica has been comparing AGP 24 mRNA levels in the mutants to that of wild type (normal) plants. An increase in mRNA levels translates to an increase in protein levels, since mRNA serves as a code for the synthesis of new proteins. Additionally, Erica has planted a strain of *Arabidopsis thaliana* that are mutated in AGP 24 along with wild type plants so that she can compare their gravity responses.

Erica's mentor, Dr. Darron Luesse, had this to say about her: "Her positive attitude, work ethic, and ability to work independently have already yielded success. She has...refined a new technique in the lab for isolation of mRNA. I had no previous experience with this approach, leaving Erica to work out the protocol independently. Thanks to her efforts, the new technique is working well and is ready to be utilized by other URCA students in the lab."

Featured Assistant Mentor: Dr. Gregory Fields, *Philosophy*

Dr. Fields was lauded by his URCA Assistant, Katie Crouch. Katie had this to say about her mentor: "I would like to relay...how important Dr. Fields has been to me, my studies, and my personal growth...Not only has he been understanding and supportive, but [he] has taken time to encourage me... I am thrilled, proud, and humbled to be a part of the work he has done and will do...[Dr. Fields'] work on Native Americans will serve as a distinct reminder of our histories and backgrounds and will supply the tools for open-mindedness and clarity on the personal and public notion of racial, religious, cultural and national identities. His perspective has enlightened my own and for that I am deeply thankful."

URCA Assistant, Martha Piñones, awarded a Council for Undergraduate Research Social Sciences Travel Award

Mentor: Dr. Joel Nadler

Martha Piñones and her research partner, Holly Lee, are presenting their psychology senior assignment poster at the Midwest Psychological Association's Annual Conference in Chicago, IL May 2 through May 4 — for which Martha has received funding from the CUR Social Sciences Travel Fund. Entitled *Memory and Gender: Can Bilateral eye-movement effect recall?*, the poster details how the psychology students studied how eye movement during memorization or learning might affect men and women's memory differently. Their study found a strong statistically significant interaction in which women outperformed men in the bilateral eye movement condition and men outperformed women in the static eye movement condition.

The group's mentor, Dr. Joel Nadler, had this to say about Martha: "Martha's group impressed me immediately as they began their senior research project. They were not content to conduct a study that was "good enough" for their senior assignment; they wanted to do something more meaningful...I am honored to have served as their instructor and sponsor of their study and I am pleased that Martha has received an external travel grant from CUR to present her group's study at MPA."

URCA Assistants and human security in occupied Palestinian territories

Mentor: Dr. Denise DeGarmo

URCA Assistants Matthew Boyer, David Eldridge, Erin Gross and Bryan Skoczewski, under the guidance of their mentor, Dr. Denise DeGarmo, are researching the effects of military occupation on civilians in occupied Palestinian territories. This semester, the research team will focus on human security in these territories: food, personal, community, economic, and political security. They were recently featured in "This Week in CAS." Visit www.thisweekincas.com for the full story!