

Undergraduate Research Assistantship Proposals

Faculty: **Angela Grippo**, Assistant Professor, Psychology
URA Title: Assistant, Social Stress, Depression, and Cardiovascular Function
Requested for: **Spring 2013**
Eligible Majors: **Psychology, Biology, Sociology**

Position Description: The undergraduate assistant will conduct hands-on, translational research in the Department of Psychology in the laboratory of Dr. Angela Grippo. This student will assist with continuing projects that we have been conducting for the past few years. In general, the research in our laboratory is focused on using animal models to investigate the interactions of stress, social experiences, emotion, cardiovascular function, and changes in the brain. This research involves conducting experiments with a unique animal model, the prairie vole. This is a rodent that displays very interesting social behaviors similar to humans, including living in family groups, forming long-term social bonds, and sometimes mating with the same partner for life. The undergraduate assistant will participate in the following tasks, under the supervision of Dr. Grippo and other senior laboratory members: (a) assisting with experiments involving behavioral tasks, responses to stress, cardiovascular function, hormonal function, and the brain in prairie voles; (b) analysis of cardiovascular data; and (c) analysis of social behaviors, depression-relevant behaviors, and anxiety-relevant behaviors. Importantly, the undergraduate assistant will have direct and regular contact with our current undergraduate research assistant (Fall, 2012); we have already arranged that this current assistant will continue his efforts in our laboratory in the Spring semester, 2013 (through course credit or another source of funding).

Explain how this position will enhance and enrich the student's undergraduate experience and how it relates to the required academic major(s) and/or future career of the student. The research in our laboratory is focused on understanding the interactions of stress, the social environment, and the cardiovascular system. Studying these interactions is critical for improving the emotional and cardiovascular health of humans. This research involves learning multiple concepts, skills and laboratory techniques, including: (a) the value of animal research; (b) the study of behavior and emotion, (c) an understanding of the cardiovascular system; and (d) the systematic approach to studying psychologically-relevant problems. In addition to these tangible skills and concepts, the undergraduate assistant will have the opportunity to work with a goal-focused team of students – including undergraduates, graduate students, and a postdoctoral fellow. This experience will therefore provide the undergraduate research assistant with a detailed and in-depth knowledge of important mental and physical health problems that affect millions of individuals worldwide, including depression, anxiety, and heart disease. Students who are majoring in psychology, sociology, and biology will benefit from this research experience by gaining valuable technical skills, critical thinking skills, and the ability to systematically address important scientific questions focused on stress, emotion, and cardiovascular function. These skills can be translated into the next stage of the student's career and prepare him/her for jobs or graduate programs related to mental health, social issues, medicine, biology, or neuroscience.

Explain how this position will be supervised and mentored by a faculty or professional level staff member. The undergraduate assistant will receive direct training from Dr. Grippo as well as additional laboratory members including advanced graduate research assistants in psychology and a postdoctoral fellow. In addition to these direct interactions, the undergraduate assistant will have the opportunity to work with our current undergraduate research assistant (funded through the OSEEL for the Fall, 2012 semester), allowing important interactions with an individual who is familiar with the OSEEL Undergraduate Research Assistantship program. Training will include the following: (a) safety and ethics of conducting research with animals; (b) reading and interpreting journal articles; (c) conducting experiments and collecting data; (d) analyzing and interpreting results; and (e) discussing the importance of the research (such as through scientific presentations, journal articles, or public outreach). The undergraduate assistant will work regularly with Dr. Grippo and the other advanced members of the laboratory, as well as attend regular meetings with the laboratory team. The student will be evaluated on a regular basis, through discussions with Dr. Grippo and providing written feedback, to ensure that he/she is understanding

important concepts and gaining critical thinking skills. As with all students in Dr. Grippo's laboratory, the undergraduate research assistant will be expected to get involved in discussions of research ideas and articles from the literature that are relevant to our studies. The student will be encouraged to participate in regular discussions that we have as a group about career-relevant issues - such as creating a curriculum vitae, giving presentations, pursuing graduate school, and interacting with the public. Under the supervision of Dr. Grippo, the student will also be encouraged to participate in public outreach efforts with the laboratory group (such as initiatives associated with the NIU STEM Outreach office), and help to provide information on our website (www.grippo.weebly.com) and Facebook page (<http://www.facebook.com/pages/Grippo-Laboratory-Northern-Illinois-University/198934549464>). These activities equip students with essential skills to critically evaluate the scientific knowledge we are learning in the laboratory and describe the research in a manner that is accessible to the public.

List the duties and responsibilities of this position.

This position will involve the following duties and responsibilities (further information about the focus of our research can be found on our website, www.grippo.weebly.com): (a) assisting with experiments that involve rodents; (b) working with computer programs to analyze behaviors in rodents (such as behaviors related to stress, depression, or anxiety); (c) working with computer programs to analyze cardiovascular function in rodents; (d) regular interactions and research-related discussions with other members of the laboratory, including attending periodic meetings and communicating via email.

List the position qualifications including any special requirements (be specific): Preference will be given to applicants that meet the following specifications: (a) willingness to assist with experiments involving animals (rodents); (b) availability to continue in the laboratory for at least 1 semester following the undergraduate assistant appointment (e.g., through volunteering or receiving course credit, depending on individual circumstances); (c) a minimum GPA of 3.5.

Please provide information on how the students should apply and to whom they should apply: To apply for this position, please send an email to Dr. Angela Grippo (angelagrippo@niu.edu). In the subject line of the email type your full name and "URA Application." In the email, state that you are applying for the URA position, and also attach a brief resume or curriculum vitae.