

Department of Biological Sciences
MCMICKEN COLLEGE OF ARTS AND SCIENCES

SUMMER RESEARCH OPPORTUNITIES
FOR UNDERGRADUATE WOMEN

APPLICATION DEADLINE: March 1, 2007

The Department of Biological Sciences is pleased to offer the following research project for the summer of 2007. Interested students are urged to contact the faculty member(s) directing the project that most interests them. By contacting the faculty member, you can discover more about the project, learn what your responsibilities will be and if possible, develop a timetable for the twelve-week research period.

Genetic basis of order-guided behavior

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Project Description

The Rollmann lab investigates the genetic basis of odor-guided behavior and chemical communication to understand how behavior is shaped by networks of genes and how molecular variation in those genes contributes to variation in behavior. The ability of an organism to identify and discriminate among odorants in the environment can be critical for finding food, avoiding toxins and predators, and for social interactions. Previous studies have shown that odorants are detected by a diverse family of odorant receptors. To understand the molecular basis of variation in odor-guided behavior at the level of the primary odorant receptors, we investigate how molecular variation in these receptors contributes to variation in olfactory perception using the fruit fly, *Drosophila melanogaster*. The student would participate in this project and learn to identify molecular variants in odorant receptors using molecular techniques. In addition, the student would be involved in the design of behavioral experiments and measurement of behavioral responses of fruit flies to different odorants.