

Summer Undergraduate Research Program
Faculty Project Proposal Submission

Faculty Name:

Matt Schreiber, M.D., Ph.D. (laboratory of Steve McIntire, M.D., Ph.D.)

Department/Organization Affiliation:

Ernest Gallo Center (part of UCSF), Emeryville.

Project Name(s):

Behavioral Genetics Across the Lifespan in *C. elegans*

General Topic (Keywords):

genetics, behavior, neuroscience, aging

Project Description(s):

In our lab, we study the genetics of behavior using the nematode model organism, *C. elegans*. The ultimate goal of this particular project is to identify genes that play a role in enabling the nematodes to enjoy longer, healthier lives. To do this, this project combines the powerful technique of RNA interference to silence specific genes (and for which two *C. elegans* researchers won the Nobel prize in 2006) with the study of behavior. We are especially interested in neurobiology, but the project extends to understanding the health and function of the organism as a whole. You will use genetics, molecular biology, behavioral analysis, and fluorescence microscopy to study the effects of specific genes on the behavioral aging process. This is an exciting opportunity to learn fundamental skills in the art and practice of biological research, from basic techniques to experimental design, in the setting of a highly promising, vigorously active project.

Desired Skills or Experience:

A strong interest in biological and biomedical research. Any lab experience, including lab classes, is a plus, but not required. An interest in combining computer science or engineering with biology is especially welcome. A student interested in future PhD or MD/PhD studies would greatly benefit from this experience.

Time Commitment:

A minimum of 4 days a week (approximately 16-24 hours/week) this summer. Possibility of continuing into the academic year with adjustment of hours to meet student's academic needs.

Preferred Starting Date:

June 1, 2008