

**Gerontology 614L (Spring 2020)
Laboratory Rotations in the Biology of Aging**

Research Director: Sean Curran
Phone number: (213) 740-5354
Email: spcurran@usc.edu
Office Hours: anytime by appointment

Laboratory Rotations

Graduate students in the Ph.D. program biology track take part in an organized laboratory rotation program prior to selecting their thesis advisor. This rotation program is a mandatory, core course that allows students to participate fully in lab activities, including handling an individual project, contributing to group meetings and events, and presenting the results of their work at the end of the rotation period. The insight obtained into the inner-workings and personalities of several of their potential research group choices helps students make informed decisions when choosing an advisor with whom to work during their tenure in the department.

Students spend their first year performing experimental research in the laboratories of faculty members in at least two, semester-long (Fall and Spring) lab rotations. During the rotations, students interact with individual faculty members and explore possible subjects for future dissertation research. Some students choose to carry out more than one rotation per semester (by undertaking two, one-half semester rotations) and some choose to carry out an additional rotation during the summer preceding their first year, or, if they have not decided upon a home lab following the spring term, may need to opt for an additional rotation in May and June of the first year. Each student arranges for a permanent faculty dissertation advisor and begins dissertation research by the end of the first year.

Laboratory rotations are a major commitment for each student during the first year. They provide practical research experience and exposure to different research approaches and techniques. Incoming students are required to rotate through two research laboratories in the first year. These rotations provide broad exposure to the area of research, methods, techniques, rules and regulations of each lab, as well as the general lab organization and personnel. Each rotation will be approximately eight weeks long, and will occupy minimum of 10-15 hours/week.

Laboratory Rotations: Expectations and Responsibilities

The purpose of laboratory rotations is two-fold. First, it exposes the student to a broad range of research topics and research environments available at the USC Davis School of Gerontology and the Buck Institute for Aging Research. The faculty represent a diverse group, with aging-related research interests including biochemistry, cell biology, molecular biology, molecular genetics, biophysics, physiology, pathology, and medicine. Most students upon entering graduate school will not have been exposed to all these potential research topics and, thus may not really know what is interesting to them and what is not, or which projects are reasonable for thesis research and which are not. Most students go through 2-3 rotations in their first year.

As part of the evaluation for GERO 614L students are required to submit a ~1pg summary of their rotation project, the methodologies utilized, and major accomplishments at the conclusion of each rotation (see below). Students that are exempt from rotations, must submit one summary, each semester, of their first year in the program to document their progress on their research projects.

All students are expected to make and submit an individual development plan (IDP). These can be modeled from <https://myidp.sciencecareers.org/>

Each faculty member runs his/her laboratory in a distinctive way. Labs. may be large with a large number of postdoctoral research associates, technicians and/or undergraduate students, or they may be smaller with primarily graduate students responsible for much of the research in the lab. The major professor may be intimately involved in all aspects of research, and may actually work in the laboratory, or he/she may be distant from the lab, primarily functioning to define the broader research goals of the lab and fund raising. Students may be more comfortable with one style as opposed to another. The rotation allows students to "try-out" a laboratory and, similarly, allows a lab to "try-out" a student. A student's decision in selection of a laboratory for their thesis research may also depend strongly on how well they mesh with the people in the lab.

At the end of a student rotation, professors are required to complete a form evaluating the student's performance. A copy of the evaluation form can be found at the end of this description. The evaluation form is signed by the professor and the student, and becomes part of the student's record that is considered during the first year evaluation.

The most successful lab rotations occur when students maintain good communication with the professor. It is the students' responsibility to learn what they are expected to accomplish during their rotations and to learn about the standards by which their performance will be judged. This should be discussed directly with each professor, even a student may be working under the direct supervision of a postdoc or senior graduate student. In such a situation, it is in a student's best interest to clarify the chains of command, communication, and responsibility. This initial understanding should be revised as the rotation progresses, since research projects usually take unforeseen turns. Students should also try to learn as much as possible about the different research projects underway in each lab. In which they rotate from the other members of the group. This requires that students communicate widely with the various members of each group and attend any group meetings held by the laboratory.

Academic Integrity

Academic integrity is highly regarded and enforced in this class. With regard to the course papers, academic integrity violations include plagiarism, and turning in papers that were either purchased papers, written by someone else, or written for another class. Additional information on USC policies on academic integrity is available from several sources, including Scampus and the Office of Student Conduct (for example see Trojan Integrity: A Guide for Avoiding Plagiarism <http://www.usc.edu/student-affairs/SJACS/docs/tig.pdf>). Violations of academic integrity will result in a course grade of F and will be reported to the Office of Student Conduct.

Students w/ Disability

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs each semester. A letter of verification for approved accommodations must be obtained from Disability Services, and delivered to the instructors as soon as possible. Disability Services is located at STU 301, phone 213-740-0776.

Date _____

**USC-Buck PhD Program in the Biology of Aging
Faculty Evaluation of Student Laboratory Research Experience**

Student _____ Campus USC Buck Mentor _____

Semester _____ Year _____

Dates of rotation experience: _____

A student worked in your laboratory in partial fulfillment of the requirements of the PhD program. We need your evaluation of this student's performance.

If you wish, please review this evaluation with the student, prior to submitting it to the Ph.D. Program Office. The Ph.D. Program Director will also discuss this evaluation with the student.

Please evaluate the student's performance in the listed categories. Use grades of 1 (poor) to 5 (excellent) and include any explanatory or additional comments as useful. Please submit any confidential comments separately.

	Comments	Grade
Laboratory skills		
Knowledge of rationale for experiments		
Ability to apply Knowledge		
Ability to reason		
Ability to function independently		
Responsibility/Maturity		
Motivation		
Creativity		
Relationships with Laboratory personnel		
Potential for career in biomedical research		
Overall evaluation		

Brief description of project:

Additional Comments about the research experience (positive or negative):

Would you be willing to offer this student a funded RA position for them to pursue their dissertation research in your laboratory?

Yes with strong enthusiasm **Yes with limited enthusiasm** **No**

Date _____

**USC-Buck PhD Program in the Biology of Aging
Student Summary of Research Experience in 1st year**

Student _____ Campus USC Buck Mentor _____

Semester _____ Year _____

Dates of research experience: _____

1. **Provide a summary of the research project topic. Include a brief, but referenced background paragraph of the project that explains the importance of the topic.**
2. **Describe the methodologies employed during your research experience.**
3. **Describe the successful aspects of your research experience (these can be both scientific and experiential).**
4. **Describe the scientific/methodological challenges of your research experience and the next steps you would employ to address those issues.**

GERO 614L - Lab Experience

At the end of each rotation you will be asked to fill out an anonymous survey monkey evaluation of your rotation experience.

Answers to the following questions (in the survey) will only be used by the Ph.D. executive committee to enhance the program. As the survey is anonymous, student identities will not be shared with the executive committee or the rotation lab.

1. Was the length of the rotation appropriate (too long, too short, just right)?:
2. How often did you meet with the faculty mentor?
3. Was this enough time?
 - a. If no, what topics would you cover with more time?
4. Did you receive guidance from others in the research group?
 - a. If yes, who provided guidance? Check all that apply: graduate students, post-docs, technicians.
5. Did you learn a new technique during your rotation?
 - a. If yes, describe.
6. Prior to your rotation did you have experience with the experimental/model system utilized?
7. Would you consider this lab for your Ph.D. studies (Yes, No, Maybe)?:
8. What factors drive this decision?
9. Any other information you would like to share: