

ANG 6591L, ADVANCED MOLECULAR ANTHROPOLOGY LABORATORY

Prof. Connie J. Mulligan

Class meets in 336 (oral presentations, Wednesday, 10am-noon) and 415 (laboratory research throughout the week) Cancer & Genetics Research Complex

Contact information:

UF Genetics Institute

409 Cancer & Genetics Research Complex

352-273-8092

cmulligan@ufl.edu (best contact)

Research time is scheduled by each student

Office hours: Wednesday, 4-5pm, B119 Turlington Hall

Course summary, format and grading:

The purpose of this class is to use molecular genetic data to address questions of anthropological interest through class discussions and original laboratory research. Approximately $\frac{1}{4}$ of class time will be spent preparing and giving oral presentations of lab results and /or journal articles (chosen by the student). The remaining $\frac{3}{4}$ of class time will be spent on original laboratory research focused on the student's dissertation research topic. All research will be conducted in Dr. Mulligan's laboratory (415 Cancer & Genetics Research Complex).

We will meet on Wednesday mornings for approximately two hours. All students will present one oral presentation of their own laboratory results. We will also discuss one ethical question (concerning anything to do with conducting original scientific research including lab conduct, publishing a paper, collaborations, etc) approximately every week and students are responsible for submitting at least two questions for discussion. We will also discuss other issues that are timely or relevant for graduate students, e.g. sexual harassment in academia, academic vs non-academic career, and specific articles are assigned to be read on those days (see schedule below).

Students will also create one class exercise, using data (real or simulated) and some sort of computer program for analysis (ranging from EXCEL to something much more sophisticated), intended to be used in a course you might teach as a professor. The exercise should address a specific question that can be investigated with the dataset you put together. You will write detailed instructions that will allow anyone to do the exercise. More information will be given at our first meeting. These exercises are due by Oct 31 and we will spend 2-3 classes trouble-shooting the exercises in terms of the ability of a student to understand and execute the exercise.

Grading: Your final grade will be determined by the following three categories:

- Oral presentation plus ethical questions/comments plus regular lab meeting participation (25%)
- Homework exercise (10%)
- Students will also design laboratory experiments that address a specific question within the broad area of their thesis research. Each student will have specific goals to be met based on their thesis research interests. Experimental design, performance of experiments, maintenance of a laboratory notebook, and meeting student-determined goals (65%).
- Grades will be based on the following point percentages: 93-100%=A, 90-93%=A-, 87-90%=B+, 83-87%=B, 80-83%=B-, 77-80%=C+, 73-77%=C, 70-73%=C-, 67-70%=D+, 63-67%=D, 60-63%=D-, < 60%=E. The university grading policy can be found at <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

Class attendance policy: Because the class meets formally only one time per week for the weekly seminar and because the class format is mainly discussion, it is very difficult to make up missed classes. Therefore, students are strongly encouraged to attend all classes.

Accommodations for students with disabilities: If you require accommodation due to a disability, please make an appointment during my office hours so that we may discuss your needs. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

Academic honesty: As a result of completing the registration form at the University of Florida, every student has signed the following statement: "I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University." An excellent website that discusses plagiarism (provides a definition and many useful examples) is <http://www.csuabak.edu/ssric/Modules/Other/plagiarism.htm>. All students should read this material at least once.

UF Counseling Services: On-campus services are available for students having personal problems or lacking clear career and academic goals. They include:

1. University Counseling Center, 301 Peabody Hall, 392-1575, personal and career counseling
2. Student Mental Health, Student Health Care Center, 392-1171, personal counseling
3. Sexual Assault Recovery Services (SARS), Student Health Care Center, 392-1161, sexual assault counseling
4. Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling

Schedule:

436 Genetics Institute, Wednesday, 10am-noon

If you can't present on your assigned day, it is your responsibility to arrange to change places with someone.

Aug 22 Lab clean-up

Aug 29 Chris Clukay-Bioinformatics workshop

Sept 5 Felicien Maisha

Semester goals – Develop your goals for the semester

Sexual harassment in academia

Reading:

- Sexual harassment is rife in the sciences, finds landmark US study, Nature, June 12, 2018, https://www.nature.com/articles/d41586-018-05404-6?WT.ec_id=NATURE-20180621&utm_source=nature_etoc&utm_medium=email&utm_campaign=

[20180621&spMailingID=56851658&spUserID=MjA1NzYzMjUzNAS2&spJobID=1422975329&spReportId=MTQyMjk3NTMyOQS2](https://www.sciencemagazine.com/20180621&spMailingID=56851658&spUserID=MjA1NzYzMjUzNAS2&spJobID=1422975329&spReportId=MTQyMjk3NTMyOQS2)

- Report details harassment by famed biologist, Science, July 27, 2018, <https://www.sciencemagazine.com/20180621&spMailingID=56851658&spUserID=MjA1NzYzMjUzNAS2&spJobID=1422975329&spReportId=MTQyMjk3NTMyOQS2>
- The sexual misconduct case that has rocked anthropology, Feb 9, 2016, <http://www.sciencemag.org/news/2016/02/sexual-misconduct-case-has-rocked-anthropology>
- Survey of academic field experiences (SAFE): Trainees report harassment and assault, Clancy et al., 2014, PLOS ONE, <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0102172>

Sept 12 Samantha McCrane

Research design and standards

Reading:

- Sloppy science more widespread, Science, July 27, 2018, <https://www.sciencemagazine.com/20180621&spMailingID=56851658&spUserID=MjA1NzYzMjUzNAS2&spJobID=1422975329&spReportId=MTQyMjk3NTMyOQS2> (just a paragraph on page 315)
- No more excuses for non-reproducible methods, Nature, Aug 22, 2018, https://www.nature.com/articles/d41586-018-06008-w?WT.ec_id=NATURE-20180823&utm_source=nature_etoc&utm_medium=email&utm_campaign=20180823&spMailingID=57231582&spUserID=MjA1NzYzMjUzNAS2&spJobID=1463122248&spReportId=MTQ2MzEyMjI0OAS2

Sept 19 Kia Fuller

Academic vs non-academic careers

Reading:

- The declining interest in an academic career, Roach and Sauermann, 2017, PLOS ONE, <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0184130>

Sept 26 Edward Quinn

Self-promotion

Reading:

- Let your stars shine, Science, July 2, 2018, <https://www.sciencemagazine.com/20180621&spMailingID=56851658&spUserID=MjA1NzYzMjUzNAS2&spJobID=1422975329&spReportId=MTQyMjk3NTMyOQS2>

Oct 3 Chris Clukay

Oct 10 Chu Hsiao

Oct 17 Lisa Nevell

Preprints or not?

Reading:

- When a preprint becomes the final paper, Nature, Jan20, 2017,
<https://www.nature.com/news/when-a-preprint-becomes-the-final-paper-1.21333>
- Methods, preprints and paper, Nature Biotechnology, Dec 2017,
<https://www.nature.com/articles/nbt.4044>
- Preprints could promote confusion and distortion, Nature, July 24, 2018,
https://www.nature.com/articles/d41586-018-05789-4?WT.ec_id=NATURE-20180726&utm_source=nature_etoc&utm_medium=email&utm_campaign=20180726&spMailingID=57065995&spUserID=MjA1NzYzMjUzNAS2&spJobID=1443198435&spReportId=MTQ0MzE5ODQzNQS2

Oct 24 Jess Ross, Anna Walters, Malika Macey

Oct 31 Trouble-shoot class exercises

Nov 7 TBD

Nov 14 TBD

Nov 21 Thanksgiving

Nov 28 Trouble-shoot class exercises

Dec 5 Trouble-shoot class exercises
Semester goals – how did you do?