Current Topics and Best Practices in Research Ethics

UCSF Winter/Spring 2024 RCR for Basic Sciences Postdocs

Basic Course Information

Session	**Lecture Date/Time/Location**	***Discussion Section Date/Time/Location**
1	Fri, Feb 9, 2024 1:00 pm - 2:15 pm HSW 300 Parnassus	Mon, Feb 12, 2024 1:00pm-2:30pm Zoom
2	Fri, Feb 16, 2024 1:00 pm - 2:15 pm Byers Aud, Genentech Hall, GH 106, Mission Bay	Tues, Feb 20, 2024 1:00pm-2:30pm Zoom
3	Fri, Feb 23, 2024 1:00 pm - 2:15 pm Byers Aud, Genentech Hall, GH 106, Mission Bay	Mon, Feb 26, 2024 1:00pm-2:30pm Zoom
4	Fri, Mar 1, 2024 1:00 pm - 2:15 pm Byers Aud, Genentech Hall, GH 106, Mission Bay	Mon, Mar 4, 2024 1:00pm-2:30pm Zoom
5	Fri, Mar 8, 2024 1:00 pm - 2:15 pm Cole Hall, Parnassus	Mon, Mar 11, 2024 1:00pm-2:30pm Zoom
6	Fri, Mar 15, 2024 1:00 pm - 2:15 pm Cole Hall, Parnassus	Mon, Mar 18, 2024 1:00pm-2:30pm Zoom
7	Fri, Mar 22, 2024 1:00 pm - 2:30 pm Byers Aud, Genentech Hall, GH 106, Mission Bay	Included in lecture

8	Fri, Apr 5, 2024 1:00 pm - 2:30 pm Zoom	Included in lecture

***Faculty Facilitated Zoom Discussion Sections**

Each postdoc/student will be assigned a faculty facilitator for the session. Postdocs/students will be notified of which faculty facilitator group to join and receive the Zoom link for their discussion sections at least a week prior to when the section is held. Video cameras should be kept on throughout the session during discussion groups out of respect for our faculty speakers.

Instructional Team

Lecture Lead

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Required Materials

The course will be using **PollEverywhere** to make class time more engaging. This will give postdocs the chance to participate and increase engagement in the class.

Participating in the PollEverywhere part of class will be counted towards your final grade. Attendance and engagement will be monitored. Attendance is required and participation in in-class activities is expected to be 75% or higher.

You are required to participate with a smartphone, tablet or laptop. We will display QR codes and urls for each PollEverywhere poll.

You are required to complete advance readings before each 75 minute lecture.

You are required to participate in all the Zoom discussion sessions. If you miss a Zoom session, speak to the facilitator about make-up requirements.

Course Description

The purpose of this course is to ensure that postdoctoral research trainees are well versed with respect to training in responsible conduct in research (RCR). Attendees also gain an understanding of federal, state, and UCSF policies and resources available to further support their research endeavors.

Methods of Instruction:

- Course meetings include lectures, case studies, and group discussions.
- Discussion section meetings include case studies and interactive group discussions in smaller groups.

Learning Outcomes

In this course, you will:

- Learn and share best practices for promoting rigor and reproducibility in research, authorship and publication, and mentorship through workshop

style activities with your peers.
- Discover and practice strategies for promoting diverse research communities free of harassment and non-inclusive behaviors.
- Discuss and analyze current ethical research topics surrounding human subjects.
- Review best practices for data management and understand new federal data sharing requirements.
- Learn to identify potential conflicts of interest and how to report and manage them.
- Become familiar with important concepts and reporting requirements for research security including export controls, dual use research, foreign influence, and data security.
- Employ strategies to avoid authorship disputes and questionable publication practices.
- Understand the importance of peer review and generate responsible peer reviews.

Evaluation of student performance

- Attendance is required for 100% of live sessions in order to receive credit for the course.
- **PollEverywhere** will be used for monitoring attendance and classroom assessments. PLEASE BE SURE TO BRING YOUR DEVICE
- Attendance will be taken during each lecture and discussion section.
- If you have not attended 100% of the live sessions or been excused due to an emergency, per NIH requirements, your final course grade will be FAIL and you will need to repeat the course when it is offered again.

Absence Policy

- The Dean has agreed to allow attendees to miss one session for any purpose – personal travel or PTO or research-related for a research presentation, and still receive a course pass, but you will be required to make up the lecture by watching the recording and submitting a one-page summary write up of the session and include relevant discussion questions on the topic. If you miss a discussion section, you

will have to watch the discussion recording and write a summary of the case studies.

- If you miss a session for an emergency purpose (i.e. individual or family health or illness), you will still be required to make up the lecture as described above but no longer need to submit documentation of the research travel activity or proof of illness to the instructor.
- If you must miss more than one lecture, you will need to repeat the course at a later date.

If you are ill and therefore need to quarantine, please stay at home. Let the course instructor or OPS know via email as soon as possible. We will work with you on the course completion with proof of illness.

Lecture Topics Schedule

Session 1: Rigor and Reproducibility in Research, (75 min)
Tori Sharma

*Pre-lecture viewing: The Reproducibility Crisis in Historical Perspective | Nicole C. Nelson || Radcliffe Institute

- Factors affecting reproducibility
- The best practices in rigor and reproducibility
- Anonymous survey on misconduct and reproducibility
- Statistical analysis of biological data
    - UCSF Library Statistics and Big Data Analytics Workshops and Courses
    - UCSF Data Science Education and Training Portal

Session 2: Responsible and Ethical Research, (75 min)
Tori Sharma

*Pre-lecture viewing: Introduction to Research Security

- What to do about research misconduct
- Addressing questionable research practices
- Contemporary ethical issues in biomedical research
- Social and environmental impacts of research
- Scientists as responsible members of society

- Effective collaboration in research
- New guidance on foreign influence and research security

Session 3: Responsible Data Management, (75 min)
Tori Sharma and Ariel Dierdorff

- Best practices in data management - qualitative and quantitative
- New federal sharing requirements
- Developing a data management plan (DMP)
- Data transparency information from Nature and Cell Press journals (refer to comprehensive checklists)
- Data sharing during PI transitions

Session 4: Human Subjects Research and Laboratory Animals, (75 min)
Tori Sharma

*Pre-lecture reading: A mental health tech company ran an AI experiment on real users. Nothing's stopping apps from conducting more.

- Human subjects research-- COVID-19 Vaccines and CRISPR therapies
- Informed consent monitoring
- Protection of laboratory animals and the role of postdocs in animal welfare
- Approved lab researchers and IACUC protocols
- Policies and best practices on laboratory safety, biosafety, and animal research subjects

Session 5: Authorship, Publication, and Peer Review, (75 min)
Tori Sharma and Anneliese Taylor

*Pre-lecture reading: From tort law to cheating, what is ChatGPT's future in higher education?

- Best practices in authorship and publication- workshop
- Ethics and ownership of discoveries
- New guidance on text recycling
- Practicing responsible peer review and becoming a reviewer
- Open AI, generative AI and plagiarism

Session 6: Developing Inclusive Research Communities, (75 min)

Denise Caramagno and Kendra Hypolite from UCSF CARE

- Racism and discrimination in Science
- Prevention of sexual harassment and violence
- Appropriate support and management of postdocs with disabilities
- Bullying, civility, harassment, and inappropriate behavior in research environments

Session 7: Ethical Behavior in Mentoring Research Trainees, (90 min)
Naledi Saul

- Appropriate mentoring and lab relationships between PIs and postdocs
- Strategies for having difficult conversations
- Resolving conflicts and communicating with impact
- Mentor/mentee responsibilities and relationships
- Mentoring frameworks and self advocacy

Session 8: UCSF Postdoc Trainee Ethics and Compliance Conflicts of Interest, (90 min)
Ivana Neff and Thomas Lang

- Understand UCSF COI requirements for postdocs UPAY585
  - Personal
  - Professional
  - Financial
- Postdoc outside professional activity at UCSF
- Building a career-long positive attitude toward research ethics
- Reporting UCSF Conflicts of Interest

Discussion Topics Schedule

Session 1: Rigor and Reproducibility in Science
Session 2: Research Misconduct and Social Responsibility
Session 3: Data Management and Sharing
Session 4: The Protection of Human Subjects and Welfare of Laboratory Animals
Session 5: Responsible Authorship, Publication, and Peer Review
Session 6: Collaborative Research and Professionalism

Session 7: Ethical Behavior in Mentoring Research Trainees
Session 8: UCSF Postdoc Trainee Ethics and Compliance Conflicts of Interest

Additional Online Resources

On Being a Scientist: A Guide to Responsible Conduct in Research: Third Edition
Office for Human Research Protections (OHRP)
Online Ethics Center for Engineering and Research

Important UCSF Data Resources

UCSF Library Statistics and Big Data Analytics Workshops and Courses

Accommodations for Students with Disabilities

Please contact the course instructor as soon as possible if you need accommodations, and we will work out the necessary arrangements.

Policy on Violence and Harassment

Our goal is that this classroom is a participatory community where everyone can fulfill their potential for learning; there is no place for sexual harassment or violence. If your behavior harms another person in this class, you may be removed from the class temporarily or permanently, or from the University. If you or someone you know experiences sexual violence or harassment, there are options, rights, and resources, including assistance with academics, reporting, and medical care.

NIH Requirements for RCR: Updated Guidance.

The goals of RCR education and training are to:

- Develop, foster, and maintain a culture of integrity in science.
- Discourage and prevent unethical conduct.
- Empower researchers to hold themselves and others accountable to high ethical standards.

- Increase knowledge of, and sensitivity to, ethical issues surrounding the conduct of research by researchers with diverse backgrounds.
- Improve the ability to make responsible choices when faced with ethical dilemmas involving research.
- Provide an appreciation for the range of accepted scientific practices for conducting research.
- Inform scientists and research trainees about the regulations, policies, statutes, and guidelines that govern the conduct of U.S. Public Health Service-funded research and promote compliance with the same; and,
- Promote a career-long positive attitude toward research ethics and the responsible conduct of research.

Parnassus Map