Responsible Conduct of Research program for Postdoctoral Scholars (RCR-PS)
Course Syllabus
Office for Postdoctoral Scholars, UC San Francisco

Dates: Every Tuesday from January 12, 2021 – March 2, 2021 *(see below for details)*
Time: 1:30 PM – 2:30 PM PDT
Location: Zoom (each session will have a unique Zoom ID)

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The UCSF Responsible Conduct of Research Program for Postdoctoral Scholars (RCR-PS) is a thought-provoking, eight-session course designed to satisfy NIH and NSF requirements for training in the responsible conduct of research. The RCR-PS program utilizes a combination of formal presentations and case study discussions during each 60-minute session to address contemporary debates at the interface between biomedical science and society, with a unique emphasis on the postdoctoral training experience. With attention to the tools and resources requisite of successful, ethical research careers, postdocs will virtually meet with a community of UCSF faculty, staff, and postdocs to discuss issues such as:

- Societal implications of scientific misconduct
- Scientific entrepreneurship and the university-industry interface and conflicts of interest
- Collaborative science: data management, sharing, and ownership
- Responsible authorship, publication, and peer review
- Animal welfare in research
- Science in the genomic era: biomedical research and human subjects
- Mentor and mentee responsibilities and relationships
- Racism in science

Register for the RCR-PS 2021 course by January 8, 2021 3pm PDT!

Overall Course Learning Objectives

Adapted from Dubois and Dueker's 2009 article "Teaching and Assessing the Responsible Conduct of Research: A Delphi Consensus Panel Report"

- To increase familiarity with US policies and regulations regarding biomedical research, including federal definitions, their limitations, and their development
- To foster research integrity, professionalism, and the ability to identify ethic issues in biomedical research
- To re/introduce resources at UCSF and beyond for topics and issues related to the responsible conduct of research

Is RCR-PS for me?

We are often asked from postdocs if they are required to complete RCR-PS training. Generally, the answer is YES. **Any postdoc in a UCSF postdoctoral title code** (Postdoctoral Scholar Employee - 3252; Postdoctoral Scholar Fellow - 3253; Postdoctoral Scholar Paid Direct - 3254; Postdoctoral Scholar Part-time - 3255; Postdoctoral Scholar Interim - 3256) **who answers yes to any of the following questions should complete RCR-PS training!**

- *Are you in your first year of postdoctoral training at UCSF?*
- *Are you funded by a T32, F32, or any other federal grant?*
- *If your PI is funded by a federal grant, especially one from NIH or NSF?*
- *Did you take RCR training at your previous institution (as a grad student or postdoc), and are unsure if that training counts at UCSF?*
- *Are you interested in connecting with fellow UCSF postdocs?*

While there may be specific situations for which a postdoc may not be required to complete RCR-PS training, *we strongly suggest that all postdocs complete it during their postdoctoral training at UCSF* (just because your lab/research mates say they didn't take it doesn't mean it isn't still required)! Please feel free to reach out to us if you have questions about your specific situation.

Schedule of Classes

Date	Session Title	Class Facilitators
Session 1 Tuesday 1/12/2021 1:30PM-2:30PM	Scientific Entrepreneurship and the University-Industry Interface	Darya Bubman, PhD Joseph Bondy-Denomy, PhD
Session 2 Tuesday 1/19/2021 1:30PM-2:30PM	Societal Implications of Scientific Misconduct	Mark Ansel, PhD Anthony DeFranco, PhD
Session 3 Tuesday 1/26/2021 1:30PM-2:30PM	Animal Welfare in Research	Gina Alvino, PhD Melissa Reeves, PhD
Session 4 Tuesday 2/2/2021 1:30PM-2:30PM	Responsible Authorship, Publishing, and Peer Review	Anneliese Taylor, MLIS Michael McManus, PhD
Session 5 Tuesday 2/9/2021 1:30PM-2:30PM	Biomedical Research and Human Subjects	Brian Dolan, PhD
Session 6 Tuesday 2/16/2021 1:30PM-2:30PM	Collaborative science: data management, sharing, and ownership	Ariel Deardorff, MLIS
Session 7 Tuesday 2/23/2021 1:30PM-2:30PM	The Art of Mentorship	Ellen Goldstein, MA Michelle Arkin, PhD
Session 8 Tuesday 3/2/2021 1:30PM-2:30PM	Racism in Science	Aimee Medeiros, PhD

Class Requirements and Logistics

The RCR-PS 2021 is eight sessions, and **weekly attendance and participation are required.** To receive a Course Completion Letter, the participant must do the following for each of the eight class sessions:

1. Complete the attendance survey within the first 10 minutes of the sessions;
2. Attend and participate in the virtual class, and;
3. Submit an evaluation survey upon class completion.

To ensure that only registered UCSF postdoctoral scholars have access to this course and accurately track your attendance, we require the following actions for each Tuesday class session:

Before each class

1. Log onto the course CLE (*MyAccess credentials required*) and complete the Attendance Survey for the live session you will attend that day. **The attendance survey for each class will be available from 1:00pm PDT to 1:40pm PDT, and will automatically close at 1:41pm PDT.** *We will not send out Zoom links after 1:41pm PDT, so plan accordingly!*

2. Upon completion of the attendance survey, you will immediately receive a confirmation message to your UCSF email with the Zoom information to join the class session (a reminder that each class will have a unique Zoom ID).

After each class

1. Upon completion of each class, we will send you the Evaluation Survey to your UCSF email to complete for the specific class session; this is a unique survey link only for you and should not be shared with others. **You will have until the following Monday at 5pm PDT to complete the evaluation survey.** *Please note that you will not receive an evaluation survey link from us if you did not complete the attendance survey.*

2. *(Optional)* Post on the CLE in each week's ethics forum by the following Monday. The ethics forum is an opportunity for you to apply the themes of each session to real-life challenges, questions, concerns, and ruminations. For your contribution to the forum, please respond to the posted question(s) or questions posed during the discussion; pose your own questions; and/or dialogue with fellow participants regarding the session topic. These need not be polished; however, they should reflect how you experience and make sense of the weekly topic.

Should you miss any class, listed below are the options available to you*:*

Option #1: Absent for ONE session

If a participant must miss one session, they may still get credit for the full course by submitting a "think piece" as described below. For example, if a participant attends seven sessions and submits a think piece for the eighth, they can still receive a "course completion letter." *If the participant misses one session and does not submit a "think piece" or misses multiple sessions, option #2 will apply.*

Think Piece (only as make-up for one missed session)

In the event that you miss a session, you will have the opportunity to fulfill the course deliverables and advance your understanding of the material by producing a "think piece," thereby critically evaluating the topic as it relates to your own research experience. The think piece should include a discussion of the lecture materials, readings, case studies, weekly "Ethics Forum" posts, and/or a reflection on the relevance of the weekly theme for your own research.

Format Requirements:

- 1-2 pages; double spaced; one-inch margins; name; title of missed session
- Word document saved as "*LastName.FirstName.TP2021*"
- Original work; citations should be consistent but do not need to be in a specific format

Due: Wednesday, March 10th, 2021 at 11:59pm PDT to the program coordinator at postdocs@ucsf.edu.

Option #2: Absent for MORE THAN ONE session

If the participant can only attend a few of the sessions, we will issue a letter listing the individual sessions attended. For example, if a participant only attends three sessions, their letter will verify completion of those three, specific topics. The letter will not state that the participant "failed" or "did not complete" RCR training. It will simply confirm the specific training completed for a subset of the topics that NIH suggests is acceptable. If the NIH grant program officer asks for verification of a participant's RCR training activity, the participant will be able to present this letter for some of the suggested topics.

The Office for Postdoctoral Scholars cannot guarantee that partial participation in RCR-PS shall be deemed sufficient by your Program Officer or federal grant agency.

Detailed Program Schedule and Class-Specific Learning Objectives

Session 1: Scientific Entrepreneurship and the University-Industry Interface
Facilitators: Joseph Bondy-Denomy, PhD and Darya Bubman, PhD

This opening session addresses conflicts of interest (COI) at the university-industry interface. An interest may be defined as a commitment, goal, or value held by an individual or an institution. A conflict of interest exists when two or more contradictory interests relate to an activity by an individual or an institution. The conflict lies in the situation, not in any behavior or lack of behavior of the individual. A conflict of interest in research exists when "the individual has interests in the outcome of the research that may lead to a personal advantage and that might therefore, in actuality or appearance compromise the integrity of the research." NAS, Integrity in Scientific Research.

Session specific learning objective:

- Increase the ability to identify and manage conflict of interest in research and;
- Identify stakeholders, distinguish their interests, and create plans for problem-solving in the context of scientific entrepreneurship

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Session 2: Societal Implications of Scientific Misconduct
Facilitators: Mark Ansel, PhD and Anthony DeFranco, PhD

This session addresses societal implications of scientific misconduct. Training in this topic also addresses ethical issues involved in the development and dissemination of scientific research findings and how to report occurrences of scientific misconduct.

Session specific learning objectives:

- Review and understand the NIH's definition of Research Misconduct; to understand the responsibilities of scientists to report possible Research Misconduct if there is good reason to think it has occurred; and to be aware of institutional procedures for reporting suspected Research Misconduct at UCSF. To aid in these Objectives, lessons that can be derived from actual cases of Research Misconduct will be discussed
- Review and discuss evolving efforts within the scientific community and by key stakeholders (funding agencies, scientific journals, etc.) to address suboptimal research practices that may reduce the reliability of research results and impede scientific progress

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Session 3: Animal Welfare in Research
Facilitators: Gina Alvino, PhD and Melissa Reeves, PhD

This session addresses issues important in the use of animals in conducting research. Includes topics such as definition of research involving animals, ethical principles for conducting research on animals, federal regulations governing animal research, institutional animal care and use committees, and treatment of animals.

Session specific learning objectives:

- Understand the importance of proper animal welfare practices in research and to understand why positive animal welfare equates to quality science.
- Provide a framework for how to practically implement good animal welfare practices in a research lab.

- Familiarize the audience with regulations governing ethical use of animals in research (resulting from noteworthy legal cases) and to provide relevant resources on these guidelines

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Session 4: Responsible Authorship, Publishing, and Peer Review
Facilitators: Anneliese Taylor, MLIS and Michael McManus, PhD

This topic examines the responsibilities of authors in scientific publication. It includes procedures for assigning credit and authorship, the responsibilities of each author, as well as accepted practices for detailing methods, analyses and results and including appropriate citations. It also can focus on some of the pitfalls such as the pressure to publish.

Session specific learning objectives:

- Examine the responsibilities and ethical considerations of publishing for scientific and non-scientific audiences
- Discover how the peer review process works, including becoming a reviewer or editor

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Session 5: Biomedical Research and Human Subjects
Facilitator: Brian Dolan, PhD

This session addresses complex issues pertaining to biomedical research and human subjects' protections, including privacy, confidentiality, and protection of human tissue donors. The development of U.S federal policies and practices are discussed from a sociohistorical perspective and linked to contemporary issues, such as the inclusion of vulnerable populations and the ownership of research products. Related topics such as data management, consent and disclosure, and scientific methodology issues are also introduced.

Session specific learning objectives:

- Reflect on the variety of ethical considerations that arise when humans are involved in the material aspects of biomedical research, including the use of living human subjects and human biological materials
- Examine the social and historical complexities surrounding the development of policies and practices related to the theme of "human subjects in research"

Session 6: Collaborative science: data management, sharing and ownership
Facilitator: Ariel Deardorff, MLIS

The data management topic covers accepted practices and procedures for acquiring, storing, organizing, documenting, analyzing, sharing and maintaining data. The goal is to provide researchers with the tools and skills they need to integrate data management into their research workflow. Learn how to write a data management plan, comply with funding agency and journal requirements for data sharing, and organize your projects for reproducibility.

Session specific learning objectives:

- Write a data management plan for your research project that addresses data collection and classification; data organization and documentation; secure data storage; and data sharing, de-identification, and preservation
- Identify and utilize relevant UCSF resources and contacts to meet data collection, privacy, security, and sharing requirements for your research

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Session 7: The Art of Mentorship
Facilitators: Ellen Goldstein, MA and Michelle Arkin, PhD

This session highlights the unique opportunity for postdocs to both give and receive mentorship, emphasizing research team and lab dynamics that incorporate the presence of PIs, senior researchers, and graduate students. Skill-building activities around negotiation, mediation, and decision-making will be included, coupled with examples of the role of mentorship in scientific achievement and career direction.

Session specific learning objectives:

- Identify power structures and hierarchical relationships within science and related mentoring relationships
- Identify and practice skills that optimize the giving and receiving of mentorship within the UCSF scientific community

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Session 8: Racism in Science
Facilitator: Aimee Medeiros, PhD

This session provides the historical background of systemic racism in scientific research. It explores the relationship between notions of race and science, and a specific focus on how scientific research has been informed by and perpetuates anti-Black racism. Class participants will engage in a discussion on the impact of bias and a lack of diversity in science, and ways in which to they can address these deficiencies.

Session specific learning objectives:

- Identify specific historical examples of anti-black racism in scientific research
- Describe how implicit bias and lack of diversity undermine science
- Evaluate how anti-racist practices can be applied to the basic health sciences

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Statement on Accommodation

UCSF is committed to making its facilities, activities and events accessible. To request accommodations for this activity or event, please contact the program coordinator at postdocs@ucsf.edu at least 1 week before the next class or contact Disability Management. In compliance with Education Code Section 92640(a), participants may arrange to turn in course deliverables at a time that does not conflict with their religious observances.