

Responsible Conduct of Research (RCR) Training Plan

Developed by
Research Compliance

Research and Sponsored Programs
California State University, Fresno

Background and Rationale:

National Institutes of Health (NIH) define Responsible Conduct of Research (RCR) as "the practice of scientific investigation with integrity." It involves the awareness and application of established professional norms and ethical principles in the performance of all activities related to scientific research.

Training in responsible and ethical research practices is an essential part of preparing academic professionals to conduct research. The America COMPETES (Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science) Act of 2007 focuses public attention on the importance of the national research community's enduring commitment and broader efforts to provide RCR training as an integral part of the preparation and long term professional development of current and future generations of scientists and engineers. As a result, federal funding agencies are requiring educational institutions to develop training plans to ensure that all postdoctoral, undergraduate, and graduate students engaged in funded research activities receive RCR education and training.

RCR requirements as mandated by the National Science Foundation (NSF), the National Institutes of Health (NIH) and the USDA National Institute of Food and Agriculture (NIFA):

- NSF: Effective January 4, 2010, proposals submitted to NSF must include certification from the institutional official that "the institution has a plan to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduates, graduate students, and postdoctoral researchers supported by NSF to conduct research."

Federal Register Notice announcing NSF's final implementation published on August 20, 2009: <http://edocket.access.gpo.gov/2009/E9-19930.htm>

- NIH: Effective January 25, 2010 "...any NIH training, career development award (individual or institutional), research education grant, and dissertation research grant must receive instruction in responsible conduct of research." These are listed as: D43, D71, F05, F30, F31, F32, F33, F34, F37, F38, K01, K02, K05, K07, K08, K12, K18, K22, K23, K24, K25, K26, K30, K99/R00, KL1, KL2, R25, R36, T15, T32, T34, T35, T36, T37, T90/R90, TL1, TU2, and U2R proposals and renewals must address the training plan for instruction in RCR.

NIH RCR training requirement policy update published on November 24, 2009: <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-10-019.html>

- NIFA: In accordance with sections 2, 3, and 8 of 2 CFR Part 422, institutions that conduct USDA-funded extramural research must foster an atmosphere conducive to research integrity, bear primary responsibility for prevention and detection of research misconduct, and maintain and effectively communicate and

train their staff regarding policies and procedures. In the event an application to NIFA results in an award, the Authorized Representative (AR) assures, through acceptance of the award that the institution will comply with the above requirements.

NIFA RCR training requirement policy: <https://nifa.usda.gov/responsible-and-ethical-conduct-research>

California State University, Fresno (Fresno State) Policy for Training in Responsible Conduct of Research:

In an effort to ensure responsible conduct of research and provide valuable professional development to current and future generations of scientists and engineers, Fresno State requires Principal Investigators, Co-Principal Investigators, key personnel, post-doc scientists and student research assistants (graduate and undergraduate) to complete Responsible Conduct of Research training prior to being hired by a federally-funded (e.g., NSF, NIH, and NIFA) research project. Responsible Conduct of Research (RCR) training helps promote awareness of principles and practices that facilitate ethical and responsible research across all areas of research and scholarship.

The National Science Foundation (NSF), the National Institutes of Health (NIH), and the USDA National Institute of Food and Agriculture (NIFA) have requirements for training in the Responsible Conduct of Research. Any researcher involved in an NSF, NIH or NIFA funded project must complete the online CITI training course entitled, "Responsible Conduct of Research – Basic" module and additional face-to-face training as appropriate.

Purpose:

The purpose of this document is to describe an RCR training plan for all Fresno State students, faculty, and staff engaged in research. This document summarizes a plan for implementing NSF and NIH requirements for providing essential training to undergraduate, graduate, and postdoctoral researchers in the responsible and ethical conduct of research.

Training Objectives:

The ultimate objective of RCR training is to enhance scientific integrity by training the learner in the accepted standards and norms of science. The RCR training objectives are outlined as follows:

- a) Encourage best practices in the conduct of research and scientific investigations.
- b) Foster an ability to recognize an ethical choice and the ability to make a principled decision.

- c) Facilitate discourse with peers as well as faculty about ethical dimensions of research within their discipline.
- d) Increase awareness of ethical dimensions of research.
- e) Provide accessible educational opportunities and resources designed to help students and postdoctoral researchers meet the America COMPETES Act Responsible Conduct of Research training requirements.
- f) Develop and refine the skills needed to question, analyze, and resolve ethical dilemma.
- g) Learn relevant legal, institutional and professional standards.

RCR Encompasses the Following Nine Content Areas:

1. Authorship and Publication
2. Research Misconduct
3. Mentoring
4. Peer Review
5. Conflicts of Interest
6. Human Subjects Research
7. Collaborative Research
8. Lab Animal Welfare
9. Data Management

RCR Training Plan:

Fresno State utilizes Collaborative Institutional Training Initiative (CITI) Program to fulfill federal requirements for RCR training. CITI web-based training helps meet minimum standards for all individuals involved in NIH and NSF funded projects.

1. National Science Foundation (NSF) requires RCR training for all undergraduates, graduates, and post-doctoral fellows. NSF expects each institution to determine RCR curriculum, whether it is online or face-to-face training. Only CITI Program's RCR web-based training is required, however, additional in-person RCR training is highly encouraged.
2. National Institutes of Health (NIH) requires RCR training for all trainees, fellows, participants, and scholars. NIH requires a minimum of eight hours of face-to-face instruction. RCR requirements apply to all NIH research training and education grants, career development awards, and dissertation grants. Faculty supervisors are encouraged to use CITI Program's RCR training content as a conceptual foundation to enhance the quality of required in-person training. Faculty supervisors are responsible for ensuring all individuals supported by NIH training grants and career development awards fulfill minimum in-person training requirements.
3. National Institute of Food and Agriculture (NIFA) requires all persons participating in a USDA NIFA research project to undergo RCR training. NIFA

expects each institution to develop its own training system (online or face-to-face training). Only CITI Program's RCR web-based training is required, however, additional in-person RCR training is highly encouraged.

Training Verification and Management:

CITI RCR training completion reports/certificates are verified and maintained by Fresno State's Research Compliance Office. Certificates must stay current for as long as individuals continue to be actively engaged in funded research. CITI Program offers individuals an RCR refresher course once their certificates expire (certificates expire every four years).