



# **Chico State Enterprises' (CSE) Institutional Plan to Meet the National Science Foundation and National Institutes of Health Educational Requirements for the Responsible Conduct of Research (RCR)**

## **Background**

The responsible and ethical conduct of research (RCR) is critical for excellence, as well as public trust, in research and scholarly activities in disciplines such as humanities, social and behavioral science, science and engineering. Consequently, education in RCR is considered essential in the preparation of future scientists and engineers. Section 7009 of the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science (COMPETES) Act (PL 110-69) requires that “each institution that applies for financial assistance from the [National Science] Foundation (NSF) for science and engineering research or education describe in its grant proposal a plan to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduate students, graduate students, and postdoctoral researchers participating in the proposed research project.” (NSF 10-1 January 2010; AAG Section IV B)

In responding to this requirement, the NSF published a revision to the NSF Proposal & Award Policies and Procedures Guide (PAPPG) requiring that beginning January 4, 2010, institutions must certify, at the time of proposal submission, the institution has a plan to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduate students, graduate students, and postdoctoral researchers who participate in NSF-funded projects.

The National Institutes of Health issued its own revised policy on November 24, 2009. NIH requires that all trainees, fellows, participants, and scholars receiving support through any NIH training, career development award (individual or institutional), research education grant, and dissertation research grant must receive instruction in responsible conduct of research. This policy will take effect with all new and renewal applications submitted on or after January 25, 2010,

## Purpose

The purpose of this document is to outline CSE's plan on behalf of the California State University, Chico (CSU, Chico) for implementing NSF and NIH requirements for providing training to undergraduate, graduate, and postdoctoral researchers in the responsible and ethical conduct of research.

## Responsible Conduct of Research (RCR)

RCR is a widely accepted set of ethical and professional standards for conducting research. Chico State Enterprises and CSU, Chico are committed to maintaining the integrity fundamental to research activities through the responsible and ethical conduct of its faculty, staff, and students.

CSU, Chico promotes excellence in research and supports scholars from all fields. CSU, Chico is committed to the highest quality education for students and scholars, and RCR instruction is essential to producing the best scientists and researchers for the future. To further this commitment, Chico State Enterprises shall implement an institutional plan for RCR training so that all students and postdoctoral researchers supported by (or volunteering on) NSF and/or NIH sponsored projects can benefit from RCR training.

## Institutional RCR Training Plan

Chico State Enterprises, on behalf of CSU, Chico, will meet the NSF requirements for RCR training by:

- Requiring the Principal Investigator (PI) to sign the NSF RCR Training Requirements document at the proposal stage and accept responsibility for ensuring that students and post-doctoral researchers receive the training.
- Requiring students and post-doctoral researchers identified by the PI as receiving support from or volunteering on an NSF award will complete the Collaborative Institutional Training Initiative (CITI) online training ([www.citiprogram.org](http://www.citiprogram.org)) for RCR based upon their field of research. This online training will be completed by all students and post-doctoral researchers assigned to the grant and will be tracked by the Office of Research and Sponsored Programs (RESP) in coordination with the PI.

Chico State Enterprises, on behalf of CSU, Chico, will meet the NIH requirements for RCR training by:

- Requiring the Principal Investigator (PI) to sign the NIH RCR Training Requirements document at the proposal stage and accept responsibility for ensuring that students and post-doctoral researchers receive the training.
- Requiring students and post-doctoral researchers identified by the PI as receiving support from or volunteering on an NIH award to attend one two-hour workshop on general topics in RCR and a second two-hour workshop on specific RCR topics based on their field of research. Attendance at the workshops will be tracked by RESP.
- Requiring PIs to certify that students and post-doctoral researchers have received an additional four hours of instruction prior to or during the first 90 days of beginning work on an NIH award. Completion of this requirement will be tracked by RESP in coordination with the PI.

RESP is the Authorized Organizational Representative (AOR) for certifying that the Institutional RCR Training Plan exists at the time of proposal submission.

This plan is a living document and as such the Institutional RCR Plan will be regularly assessed and monitored as educational outcomes are evaluated and best practices are increasingly developed to advance RCR education at Chico State Enterprises and CSU, Chico.

## **RCR Content Areas**

1. Publication Practices and Responsible Authorship
2. Conflicts of Interest
3. Data Acquisition, Management, Sharing and Ownership
4. Collaborative Research
5. Mentor and Trainee Responsibilities
6. Peer Review
7. Research Misconduct
8. Animal Welfare
9. Human Subjects Protection

## **RCR Resources Available**

An abundance of RCR resources exists and many professional societies have adopted policies or best practices that might be usefully considered.

To meet the need for RCR resources, NSF has funded two beta sites to begin to provide an interactive community online resource on ethics education in science and engineering.

[Online Ethics Center](#)

[Ethics in Science and Engineering National Clearing House](#)

Many opportunities also exist within colleges and departments for faculty to promote RCR education through activities that already routinely occur in a research or classroom setting:

- Ethics coursework
- Research methods courses
- Informal or formal meetings
- Departmental meetings
- Experiential research programs for graduate and undergraduate students
- Laboratory discussions with research participants
- Orientation sessions for postdoctoral fellows, students, and student assistants
- Departmental activities such as seminar series and discussion groups
- Institution-wide lecture or discussion series
- Professional development programming
- Activities sponsored by graduate student and postdoctoral organizations
- Feature articles on RCR issues in the campus newspaper or departmental newsletter
- Collaboration with graduate program coordinators to promote RCR training