# Responsible Conduct of Research Training Plan

The University of Northern Colorado (UNC) subscribes to exemplary standards of intellectual honesty in the design, conduct, and reporting of research. The university is committed to ensuring that UNC researchers understand and adhere to the principles of ethics and responsible conduct of research (RCR).

RCR is defined as the practice of investigation with integrity. It involves the awareness and application of ethical principles in the performance of all activities related to research and scholarship. Predominant principles of RCR are:

- Public Trust – the right of the public to confidence in the reliability of research results
- Responsible Stewardship – the effective and efficient use of public resources
- Respect for Living Beings – human and animal research subjects as well as colleagues and students

While all members of the university community share in the responsibility for promoting the responsible conduct of research; and UNC intends that faculty, staff and students involved in university-sanctioned research receive appropriate training in RCR, this training plan has been established to ensure that UNC fulfills specific RCR training mandates governing federally-funded research.

Because RCR will vary among disciplines and career levels, UNC's plan for RCR training provides flexibility for faculty members in the design of training activities. It allows for the training to focus on activities that are most appropriate for the role of a trainee. The generally accepted topics of RCR include:

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| Animal Welfare | Conflict of Interest | Collaborative Research |
| Data Management | Human Subjects in Research | Mentor/Trainee Relationships |
| Peer Review | Research Misconduct | Responsible Authorship |

## RCR Training

RCR training activities may include completion of online training programs, small group or individual training with a faculty member, group discussions of case studies or other texts, ongoing mentoring of students, participation in seminars, and completion of research ethics courses

Regardless of other RCR training, prior to beginning work on a project involving human or animal subjects, faculty, students, and staff must complete the Human Research or Lab Animal Welfare CITI course, and receive IRB [http://www.unco.edu/osp/ethics/irb/index.html] or IACUC [http://www.unco.edu/research/iacuc/index.html] approval.

## RCR Training Requirements on Federally Funded Research Projects

### National Science Foundation:

All **undergraduate students, graduate students, and postdoctoral researchers** (including those of any sub-awardee) who receive support to conduct research through an NSF grant must complete CITI RCR training prior to beginning their work on the project. *Additional face-to-face instruction and mentoring throughout the project are strongly encouraged*. See the RCR Training Resources section later in this document.

The NSF requirements for RCR training may be found in the Grant Proposal Guide [http://www.nsf.gov/pubs/policydocs/pappguide/nsf14001/gpg_2.jsp#IIC1e] and in the Award and Administration Guide [http://www.nsf.gov/pubs/policydocs/pappguide/nsf14001/aag_4.jsp#IVB]

### National Institutes of Health:

*The NIH RCR training requirement applies only to the following training and career development, research education, or dissertation research award types*: 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, U2R, and any other NIH-funded programs supporting research training, career development or research education that specify instruction in RCR in relevant funding opportunity announcements. [For a description of the NIH award types, go to: http://grants.nih.gov/grants/funding/funding_program.htm

All **trainees, fellows, participants and scholars** (including those of any sub-awardee) receiving support through one of the programs listed above must receive instruction in RCR. A CITI RCR course may be a component of the training; however, the online training alone does not satisfy the NIH requirement. Training must also include substantive contact hours between the trainees/fellows/scholars and the participating faculty members – generally a minimum of eight contact hours – and should include additional mentoring on RCR topics throughout the project. Instruction must be undertaken at least once during each career stage, and at a frequency of not less than once every four years.  Instruction during predoctoral training should occur as early as possible in graduate school.

Each principal investigator is responsible for developing and implementing an appropriate training/ mentoring plan and for providing OSP with adequate documentation to demonstrate that the training occurred. See the RCR Training Resources section later in this document for materials that may assist in the development of appropriate and adequate plans. The plan for RCR training must be described in the NIH proposal, and will be considered in its review. A proposal lacking an RCR training plan will be considered incomplete by NIH.

The NIH requirements for RCR training may be found in Notice Number NOT-OD-10-019: http://grants.nih.gov/grants/guide/notice-files/NOT-OD-10-019.html

## Department of Agriculture Requirements

All **faculty, undergraduate students, graduate students, postdoctoral researchers, and staff** (including those of any sub-awardee) participating in a research project funded by USDA National Institute of Food and Agriculture (NIFA) must complete the CITI RCR training prior to beginning their work on the project. *Additional face-to-face training/mentoring throughout the project is strongly encouraged.*

The USDA NIFA requirements for RCR training may be found in Agency-Specific Terms and Conditions, Article 7: http://www.nsf.gov/pubs/policydocs/rtc/agencyspecifics/nifa_213.pdf

## Responsibilities Related to RCR Training

Assistant Vice President for Research and Executive Director of Sponsored Programs

- Provide institutional leadership in developing opportunities for UNC faculty, students and staff to receive adequate and appropriate RCR training.
- Oversee compliance with RCR training requirements on federally funded grants, ensuring that the university's RCR Training Plan meets the standards required by funding agencies, notifying the UNC community of RCR training requirements, and providing funding agencies with RCR Training Plans upon request.

Principal Investigators

- Maintain a thorough understanding of the RCR topic areas applicable to their disciplines;
- Comply with the requirements of the university's RCR Training Plan
- At the start of an award, and at any time new researchers join the project, inform OSP of all individuals who, according to the federal requirements, must receive RCR training.
- Assist project personnel in determining their RCR training needs and monitor their completion of required activities;
- At the end of each fiscal year in which an award is active, report to OSP on RCR training activity completed during that year. Reports are to include descriptions of the training activities that occurred and documentation of any RCR training that was completed by project personnel during the year.

Office of Sponsored Programs

- Inform the UNC community of RCR training requirements
- Maintain documentation of RCR training with official award files
- Maintain master list of researchers and their RCR training status
- Notify PIs when RCR training activity reports are due.
- Maintain the CITI subscription of RCR training courses

## RCR Training Resources

Collaborative Institutional Training Initiative (CITI) RCR Training Courses

The web-based CITI Responsible Conduct of Research courses are available to all UNC faculty, students, and staff members. Individuals should select the RCR learner group most appropriate to their discipline, and must successfully complete all modules in that course to meet the RCR training requirements. Estimated time to complete a course is 1.5 to 3 hours. Instructions for registering and using the CITI system: http://www.unco.edu/osp/ethics/citi.html

Additional Resources

These resources may assist faculty, students, and staff members in the development of individual or group RCR training activities.

- Researchers and trainees may choose to enroll in formal RCR courses or seminars at other institutions to help fulfill the NIH training requirement. Contact OSP for information regarding CSU's approved graduate course.

- *On Being a Scientist: A Guide to Responsible Conduct in Research*
  From the National Academy of Sciences and designed to supplement informal lessons in ethics provided by research supervisors and mentors. The book "describes the ethical foundations of scientific practices and some of the personal and professional issues that researchers encounter in their work."

  The Office of Sponsored Programs will provide copies upon request.
  http://books.nap.edu/catalog.php?record_id=12192

- National Postdoctoral Association Responsible Conduct of Research Toolkit
  http://www.nationalpostdoc.org/rcr-toolkit

- Research Ethics Net
  http://research-ethics.net/

- Open Seminar in Research Ethics
  http://www.openseminar.org/ethics/

- AAAS Integrity in Scientific Research Video Series
  http://www.aaas.org/page/integrity-scientific-research-video-series

- Resources from the Department of Health and Human Services, Office of Research Integrity:
  - Introduction to the Responsible Conduct of Research
    http://ori.hhs.gov/ori-introduction-responsible-conduct-research
  - RCR Casebook: Stories about Researchers worth Discussing
    http://ori.hhs.gov/rcr-casebook-stories-about-researchers-worth-discussing
  - General Resources
    http://ori.hhs.gov/general-resources-0
  - Human Subject Research Resources
    http://ori.hhs.gov/human-subject-research-0
  - Publications/Authorship Resources
    http://ori.hhs.gov/publicationsauthorship
  - Research Misconduct Resources
    http://ori.hhs.gov/research-misconduct-0

- o Animal Welfare Resources
  http://ori.hhs.gov/animal-resources
- o Mentorship Resources
  http://ori.hhs.gov/mentorship-0
- o Data Management Resources
  http://ori.hhs.gov/data-management-0
- o Collaborative Science Resources
  http://ori.hhs.gov/data-management-0
- o Conflicts of Interest and Commitment Resources
  http://ori.hhs.gov/data-management-0
- o Peer Review Resources
  http://ori.hhs.gov/peer-review-0
- o Peer Review Quick Guide
  http://ori.hhs.gov/education/products/niu_peerreview/index.htm

- Web-based Program of Instruction in the Ethical and Responsible Conduct of Research and Scholarly Activity (University of New Hampshire)
  https://rit.sr.unh.edu/training/rcr.shtml

- RCR Teaching Tools (Penn State)
  http://www.research.psu.edu/training/sari/teaching-support

This Plan may be amended as additional practices are developed to advance education and training in the Responsible Conduct of Research at UNC. Revisions may also be necessary to address additional or modified funding agencies requirements.