Responsible Conduct of Research Training at CSU 2014

Dr. Kathy Partin and Dr. Carolyn Broccardo
Research Integrity & Compliance Review Office
Office of the Vice President for Research
Institutional Ethics

“We at CSU are committed to maximizing the ethical dimensions of what research and scholarship we conduct, as well as the scientific dimensions.”

- Dr. Bernard Rollin, University Bioethicist
RCR Training at CSU

• 16 Approved RCR courses including:
  - GRAD 544: Ethical Conduct of Research
  - PHIL 666: Science and Ethics
  - BMS 610: Managing a Career in Science
  - MIP 654: Research Policies and Regulations
  - CHEM 580: Responsible Conduct in Chemistry Research

• Graduate Seminars

• Specialized Training Venues (RICRO)

• Faculty Training Workshops (train-the-trainer)
Core Competencies of RCR Training

1. Ethics and social responsibility in research
2. Conflict of interest
3. Research Misconduct
4. Data acquisition, management, sharing, and ownership
5. Responsible authorship, publication and peer review
6. The use of animal/human subjects and safe laboratory practices
7. Mentor/mentee responsibilities
8. Collaborative research
9. Financial management and responsibilities
1. What is Ethics?

- Standards of conduct that distinguish between right and wrong
- An academic discipline that studies standards of conduct
- An approach to decision-making
- A state of character
- Research ethics is a branch of applied ethics
- Some research ethics standards appear to be universal, while others appear to be relative to the particular scenario
1. Social Responsibility

- Scientists should make efforts to ensure their scholarship is not misused and does not become a tool for abuse
- Responsibility to use tax-payer money responsibly
- Responsibility to report results completely and accurately
- Responsibility to adhere to policies that prohibit discrimination and harassment in research settings
- Environmental responsibility
2. Conflict of Interest

COI is “A significant financial interest that could directly and significantly affect the design, conduct, or reporting of NIH funded research.”

• Financial COI (FCOI)
  - NIH Pilot Compliance Program (10/2007)
  - NIH NOT-OD-08-063: FAQs
  - NOT-OD-09-001: “NIH reporting of FCOI through eRA Commons” (10/2008)
  - NOT-OD-13-004: Update to 42 CFR Subpart F (10/2012)

• Professional COI: Career advancement

• Disclosure and Management of COI is required at CSU

http://provost.colostate.edu/faculty-administrative-professionals/
3. Research Misconduct

1. **Fabrication**, falsification, or plagiarism in proposing, conducting, reviewing or reporting research; that
2. Seriously deviates from professional norms in that discipline, AND
3. Has been committed intentionally, knowingly or recklessly; AND, that
4. Has been proven by a preponderance of the evidence (more likely than not)

Misconduct does not include honest error or honest differences in interpretations or judgments of data.
3. Research Misconduct Process

**Informal**
- Complainant(s) produce Allegation(s) against a Respondent(s)
- That allegation is reported to the Dean, who performs a Pre-Inquiry review for jurisdiction and credibility
- The RIO, in consultation with the Dean, initiates an Inquiry

**Formal**
- A convened Inquiry faculty committee recommends to the VPR that they think an Investigation is warranted
- If the VPR concurs, the RIO convenes an Investigation faculty committee, whose final report goes to the VPR

**Formal**
- Appeals of the findings of the final report go to the Provost
- A finding of misconduct is reported to ORI; the RIO then works with the Dean regarding any sanctions (may involve AP manual)
3. Who is covered by the CSU policy?

All members of the CSU academic community, including academic faculty, students, administrative-professionals, state classified personnel, and postdoctoral trainees; can report or be named a respondent.

Situations involving graduate and undergraduate students as respondents would be covered by this policy only to the extent that federal funds are involved and the sponsor of those funds requires procedures which the VPR does not deem to be met by existing campus procedures for dealing with student misconduct (e.g., Academic Misconduct proceedings).
4. Data Acquisition & Ownership

• **Topics**
  - Data Collection and Recordkeeping
  - Analysis and Selection of Data
  - Data Sharing (Within CSU and external to CSU)
  - Data Ownership (the institution)
  - Data Retention: What, how, and for how long?

• **Principles**
  - Data provide the factual basis for scientific work
  - Integrity of the data is a shared responsibility
  - Quality of data collection depends on thoughtful planning
  - Selection and analysis of data should be specified
  - Data should be shared
5. Responsible Authorship, Publication, and Peer Review

• Topics: Advisors need to be explicit about:
  - Credit
  - Responsibility
  - Discipline-specific criteria

• ICMJE Guidelines (2014) for authorship
  - Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
  - Drafting the work or revising it critically for important intellectual content; AND
  - Final approval of the version to be published; AND
  - Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.
5. Responsible Authorship, Publication, and Peer Review

• Peer Review guidelines are set by professional organizations and editorial boards; their violation can be Mis

• Principles
  • Provide a timely response
  • Ensure competence
  • Avoid bias
  • Maintain confidentiality
  • Avoid unfair advantage
  • Offer constructive criticism
6. Research with Human & Animal Subjects & Laboratory Safety

- IRB (Institutional Review Board) approves research on human subjects
- Training is mandatory prior to IRB approval of a research protocol
- Department Heads can refer new faculty to RICRO if they think it is likely that they will use human subjects (survey research)
- Consider inviting RICRO to new graduate student orientations in your department
6. Research with Human & Animal Subjects & Laboratory Safety

- The University Veterinarian, LAR and RICRO provide training on various aspects of the Animal Care Program
  - Orientation to the ACP (UV)
  - How to write a protocol (RICRO)
  - Procedure-specific animal training (LAR)

- IACUC approves animal research protocols

- Department Heads can refer new faculty to RICRO, UV or LAR for training prior to initiating work with animals

- The purchase of non-LAR animals is regulated
6. Research with Human & Animal Subjects & Laboratory Safety

At CSU, oversight of laboratory safety is categorized into:

**Biologic safety**
- Infectious agents
- Recombinant DNA (rDNA)
- Select agents and toxins
- Human tissues and fluids

**Environmental safety**
- Hazardous waste
- Radiation and laser safety
- Ergonomics
- Water quality

The Occupational Health and Safety Program (OHSP) bridges these two categories of lab risks. All persons working in CSU labs must have their occupational risks assessed by the OHSP Coordinator.

Click [here](#) for information on who to contact at CSU if you have questions or concerns about Laboratory Safety.
7. Mentoring

• **Effective mentoring is essential**
  - Although mentoring alone may be insufficient, mentoring is essential to promote a positive attitude and understanding of the responsible conduct of research.

• **Mentoring is a shared professional responsibility of all scientists**
  - The enterprise of science depends on effective communication about the practice of science, standards of conduct, and ethical and social responsibility. Taking an active role in helping to train the next generation of scientists should not be optional.
8. Collaborative Science

• Guidelines are set by professional organizations and editorial boards; their violation can be MiS

• Topics
  • Benefits & risks of collaborations
  • Memorandum of Understanding (MOU)
  • Communication of expectations
  • Cultural communication barriers
  • Individual communication barriers
9. Financial Management & Responsibilities

- PI Responsibility to manage grant money appropriately
- PI Effort Reporting
- Direct vs. Indirect Costs
- Rules governing purchases: “cost accounting standards”
  - OMB Circular A-21
  - OMB Circular A-110
  - OMB Circular A-133
- Each granting agency publishes spending standards
  - http://grants.nih.gov/grants/policy/policy.htm#gps
- Codification of federal regulations
  - The Federal Acquisition Regulations (FAR) was established to codify uniform policies for acquisition of supplies and services by agencies of the federal government.
    - https://acquisition.gov/far/
Other Areas of RCR Training

- Professional Skills & Job Negotiations
- Dual Use Research of Concern (DURC)
- Whistleblowing
- Conflict Resolution
- Intellectual Property
Plagiarism Case Study

- Two elements
  - Attribution
    › Attribute specific idea or words to another
  - Documentation
    › Site the source of the idea or words
Plagiarism Quiz

- Read the **Actual Text** from the author in the forward of the book:


“What is indicated here is an opposition that is fundamental in biography texts: that there is an inside and an outside to a person, that these are separate, but that one may be understood to have a crucial influence on the other. The opening to *Biography* concentrates almost obsessively on Beyoncé's clothes because it is her clothes that allow us insight into her character.”

Exercise modified by Kathy Partin & Ellen Fisher
One can see the opening to *Biography* concentrates almost obsessively on Beyoncé's clothes because it is her clothes that allow us insight into her character.

References

Is this plagiarism?
A) Yes
B) No

Word for word plagiarism, no attribution and insufficient documentation.
Plagiarism Example 2

One can see the opening to *Biography* concentrates almost obsessively on Beyoncé's clothes because it is her clothes that allow us insight into her character (1).

References

Is this plagiarism?
A) Yes
B) No

Word for word plagiarism, documented but not attributed.
Biography texts give us insight into characters through their appearance. The opening paragraph of Biography, for example, concentrates on the clothes worn by Beyoncé (1).

References

Is this plagiarism?
A) Yes
B) No

Piecemeal or near-verbatim plagiarism; documented but not attributed.
Biographies depend on an opposition between the interior and exterior person, as we can see by glancing at the first paragraph of Biography.

Is this plagiarism?
A) Yes
B) No

Paraphrase plagiarism; neither attributed nor documented.
Adams argues that a biography depends on an opposition between the interior and exterior person, and she demonstrates that point in *Biography* (1).

References

**Is this plagiarism?**
A) Yes  
B) No  
No plagiarism; fully attributed and documented.
The opening paragraph of Biography, for example, focuses “obsessively on Beyoncé's clothes because it is her clothes that allow us insight into her character” (1).

References

Is this plagiarism?
A) Yes
B) No
No plagiarism; fully attributed and documented.
We all tend to believe that we know what plagiarism is, but sometimes we struggle to put that knowledge into practice.
Plagiarism: Shades of Grey?

- “Common knowledge” does not need to be attributed or documented
- Definition of plagiarism is not static
  - Definition changes across time and space
  - At least 11 different definitions used on CSU campus
- Find help:
  - CSU Writing Center
    › http://writing.colostate.edu
  - Peers/Faculty
    › Prof. Sarah Sloane in English Department
Resources

• http://web.research.colostate.edu/rcr/
• http://ori.dhhs.gov/publications/ori_intro_text.shtml
• http://ori.dhhs.gov/education/products/rcr_general.shtml
• http://www.nap.edu/openbook.php?isbn=0309047315
• http://www.icmje.org/
• http://research-ethics.net
• http://www.aaas.org/spp/video/
Contacts

- Dr. Alan Rudolph, VP for Research
  - Alan.Rudolph@ColoState.edu
- Dr. Kathy Partin, RIO, Assistant VPR
  - Kathy.Partin@ColoState.edu
- Dr. Hank Gardner, Associate VPR
  - Hank.Gardner@ColoState.edu
- Dr. Bernard Rollin, University Bioethicist
  - Bernard.Rollin@ColoState.edu
- Dr. James Owiny, University Veterinarian
  - James.Owiny@ColoState.edu
- Dr. Lon Kendall, Attending Veterinarian
  - Lon.Kendall@ColoState.edu
- Dr. Robert Ellis, University Biosafety Officer
  - Robert.Ellis@ColoState.edu

- Compliance Review Committee Chairs
  - Dr. Terry Engle, Animal Sciences (IACUC)
    - Terry.Engle@ColoState.EDU
  - Dr. Matthew Hickey, Health & Exercise Sciences (IRB)
    - Matthew.Hickey@ColoState.EDU
  - Dr. Chaoping Chen, Biochemistry and Molecular Biology (IBC)
    - Chaoping.Chen@ColoState.EDU