Best Research Practices

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Navigating the Road to Responsible Conduct of Research
Core Scientific Values

- Upholding the highest standards for research conduct (above and beyond compliance and federal regulations)
  - Objectivity
  - Honesty
  - Openness
  - Fairness
  - Accountability
  - Stewardship
Core Scientific Values

- Upholding the highest standards for research conduct

- Objectivity – Certain motivations should not influence a research’s actions.
- Honesty
- Openness
- Fairness
- Accountability
- Stewardship
Core Scientific Values

- Upholding the highest standards for research conduct
  - Objectivity
  - Honesty – Science builds on science.
  - Openness
  - Fairness
  - Accountability
  - Stewardship
Core Scientific Values

- Upholding the highest standards for research conduct
  - Objectivity
  - Honesty
  - **Openness** – Being transparent and presenting all the information.
  - Fairness
  - Accountability
  - Stewardship
Core Scientific Values

- Upholding the highest standards for research conduct
  - Objectivity
  - Honesty
  - Openness
  - Fairness – Judging other’s work
  - Accountability
  - Stewardship
Core Scientific Values

- Upholding the highest standards for research conduct
  - Objectivity
  - Honesty
  - Openness
  - Fairness
  - Accountability – Be responsible and stand behind your work and conduct.
  - Stewardship
Core Scientific Values

- Upholding the highest standards for research conduct
- Objectivity
- Honesty
- Openness
- Fairness
- Accountability
- Stewardship – Service to the scientific community.
What is a Research Integrity Officer?

- Institutional Specialist
  - Fosters a culture of research integrity (RCR)
  - Research misconduct investigations
  - Field any questions
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- Education
- Policy
- Institutional Awareness
- Oversight
What is a Research Integrity Officer?

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  - Field any questions

- Field allegations
- Notify the accused
- Advice
- Oversee the process
- Maintain confidentiality
- Work with federal agencies
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- Field any questions
Research Misconduct

Knowingly and Intentionally:

- Making up data or results and recording or reporting them. (Fabrication)

- Manipulating research materials, equipment, or processes, or changing or omitting the data or results such that the research is not accurately represented in the research record. (Falsification)

- Appropriating another person’s ideas, processes, results or words without giving appropriate credit. (Plagiarism)

*Does not include honest error or differences of opinion.*
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Research Subject Protections

Animals in Research and Training

- **Institutional Animal Care and Use Committee (IACUC)** review and approval of all protocols and modifications to protocols **before** beginning work with animals.

- **Program of Veterinary care** - provided by Department of Animal Resources veterinarians.

- **Training** of personnel - provided by Department of Animal Resources veterinarians.

Donald Casebolt, Executive Director of the Department of Animal Resources
Research Subject Protections

Human Research Subject Protections

- **Institutional Review Board (IRB)** review and approval of all protocols and modifications to protocols **before** beginning work with human subjects.

- **Office of Human Research Protections** oversees policy and training.

Julie Slayton, Director of the office for the Protection of Research Subjects
Conflict of Interest

- Financial gain
- Work commitments
- Intellectual and personal matters

Both USC and the federal government has specific policies for reporting.

You must truthfully report annually.

Dan Shapiro, Assistant Vice President, Research Compliance and Conflict of Interest
Develop a Data Management Plan

- Collection
  - Appropriate methods
  - Attention to detail
  - Authorization
- Appropriate methods for recording
- Storage and Protection
- Sharing

Ownership:
The University
Funders
Publishing, Authorship, and Collaboration

Have an agreement with all potential authors in advance of the research

- USC Guidelines for Assigning Authorship and for Attributing Contributors to Research Products and Creative Works
- ICJME
- COPE
- Individual journals/publishers
Authorship, Publishing and Collaboration

- Open and effective communication
- Management Plan
  - Roles and relationships
  - Financial
  - Training and supervision
  - Data publishing
  - Authorship
  - IP ownership
- COI
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Peer Review

- Be Unbiased and Objective
- Avoid Plagiarism of Ideas
- Confidentiality
- Diligent
- Obligation
“Do As I Do”

- Be available and approachable
- Review raw data
- Communicate expectations
- Training and guidance
- Call me when ever you suspect misconduct.
Required RCR Training

**ONLINE (CITI)**

- All students (including undergraduates, graduate students and postdoctoral scholars) supported by the National Science Foundation

*Note: On-line RCR training does not cover particular requirements of USC’s policies (ie. CIO and RM), so please refer to these if you have any questions.*

**IN PERSON**

- For students supported on certain NIH programs. Please consult your school for information on available RCR courses.
Resources and Contact Information

Research Integrity –
https://research.usc.edu/policies/rcr/earch.usc.edu

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Office of Ethics and Compliance - https://ooc.usc.edu
Office for the Protection of Human Subjects - https://oprs.usc.edu
Dept. of Animal Resources - https://research.usc.edu/animal-resources/
Env. Health and Safety - https://research.usc.edu/animal-resources/
USC Authorship Guidelines -
https://research.usc.edu/files/2011/07/URC_on_Authorship_and_Attribution_10.20111.pdf