

Responsible Conduct of Research



2022 workshop

An overview



Outline

- What are RCR and RCR training?
- A brief history of RCR training requirements •
What is the purpose of RCR training? • What
topics are included in RCR training? • Current
approaches to RCR training • How effective
are these methods? • Planning a training

program



What are RCR and RCR Training?

Responsible Conduct of Research (RCR) is defined as “the practice of scientific investigation with integrity”.

RCR Training is a systematic process that

“helps prepare investigators to conduct their research activities ethically by teaching on topics such as authorship collaborations, conflicts of interest, human and animal subjects, mentoring, and research misconduct.”

NIH policy

<https://grants.nih.gov/grants/guide/notice-files/not-od-10-019.html>

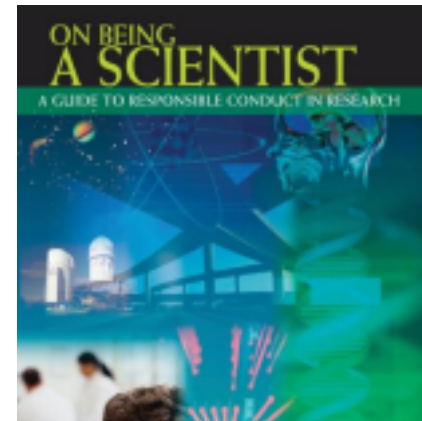
<https://officeofresearch.ucsc.edu/compliance/services/rcr-01-nsf.htm>

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History of RCR Training and Requirements

- **1989 National Institutes of Health** establishes a requirement for RCR training (updated and modified 1992, 2000, and 2009).



- 1995 **National Academy of Sciences** publishes **On Being a Scientist** as a resource for RCR training.



History of RCR Training and Requirements

- 2007 America COMPETES Act directs the **National Science Foundation** to certify that all applying institutions have a plan to provide appropriate training and oversight in the responsible and ethical conduct of research. (Reauthorized 2010.)

- **2013 US Department of Agriculture** adds RCR training requirement for all research and research related awards funded by the National Institute of Food and Agriculture.



What is the purpose of RCR training?

Please use the link

pollev.com/janakiiyer761 or the QR code to



answer the question



What is the purpose of RCR training?

- Busy work??
- Prevent research misconduct

- Proper design and analysis of experiments •
- Handle ethical challenges in research more effectively
- Be better collaborators
- Resolve authorship issues, etc.



What comes under RCR?

What word comes to mind when we think of topics that come under RCR?

Please use the link pollev.com/janakiiyer761 or the QR code to answer the question



Some ideas on what comes under RCR

- Provide a supportive and inclusive environment
- Proper design of experiments: Use of replicates and controls for experiments and instruments used in experiments, ensuring reproducibility
- Proper risk assessment while performing research: Determining proper PPE, use and disposal of reagents,

use of instruments

- Appropriate approvals needed while performing research with synthetic nucleic acids, vertebrate animals, or humans



Some ideas on what comes under RCR

- Proper analysis of data obtained including identifying outliers and choosing correct statistical tests
- Accurate and timely documentation of experiments
- Identifying and preventing bias in experimentation
- Preventing

lab misconduct

- Admission of conflict of interest when needed
- How to perform effective peer review
- Criteria for authorship

Current approaches to RCR training





Face-to-face or

Online, exterior program

Workshops or seminars

Different Resources

- [RCR workshop webpage](#)
- [Office of Research Integrity webpage](#)
- [National Science Foundation webpage](#) • And many more!!

Tips for setting up an RCR program

- Define the purpose of your program

- Define measurable outcomes
- Consult with different Colleges and Departments while designing the program
- Include personnel from different backgrounds

Overview for today

- Dr. Tim Hubin: “Development of CHEM2012 Scientific Ethics at SWOSU”
- Dr. Kayla Davis: “Social Issues in Biology: A framework for discussing responsible conduct and

ethical issues with science trainees”

- Directed discussions over lunch
- Planning time: Institutional teams plan for RCR training at their home institutions

 **Let's Get Started!!**