



Big Ten Academic Alliance Responsible Conduct of Research (BTAA-RCR) Collaborative

An Introduction to Responsible Conduct of Research

Responsible Conduct of Research (RCR) is integral both for our scholarly excellence and the continued public trust. Our commitment to the conduct of pioneering, innovative research must be coupled with the highest standards of integrity. Research funders expect that institutions will be good stewards of funds provided. The public expects integrity in all research. Researchers expect integrity and mutual trust from one another. This trust and integrity are what enables institutions to strive for excellence in the conduct of all research.

Researchers must conduct their work in an honest, professional and responsible manner to ensure that the research they carry out is rigorous. Integrity requires rigorous adherence to the professional standards of a researcher’s particular field, honesty in the reporting of research methods and results, and appropriate

acknowledgment of collaborators and funding sources.

RCR is the ethical framework for planning, conducting, and communicating research results. The entirety of the research process is, in fact, impacted by RCR.

RCR Education

Fundamental core areas for RCR were originally determined

by the National Institutes of Health (NIH) and are the hallmark of today’s research integrity education programs. Federal agency RCR education requirements differ; for example, the National Science Foundation (NSF) and the U.S. Department of Agriculture (USDA) require RCR education but with differing educational modes and curricular requirements. For trainees on grants, NIH requires eight hours of face-to-face instruction covering the core RCR areas listed on the next page.

Fostering Research Integrity

The integrity of knowledge that emerges from research is based on individual and collective adherence to core values of objectivity, honesty, openness, fairness, accountability, and stewardship.

Integrity in science means that the organizations in which research is conducted encourage those involved to exemplify these values in every step of the research process. Understanding the dynamics that support – or distort – practices that uphold the integrity of research by all participants ensures that the research enterprise advances knowledge... Fostering Integrity in Research identifies best practices in research and recommends practical options for discouraging and addressing research misconduct and detrimental research practices.”

National Academies of Sciences, Engineering, and Medicine. 2017.

Fostering Integrity in Research. Washington, DC: The National Academies

RCR Topics

Core RCR areas include:

- Conflict of interest – personal, professional, and financial
- Protection of human subjects, live vertebrate animal subjects in research
- Safe laboratory practices
- Mentor/mentee responsibilities and relationships
- Collaborative research including collaborations with industry
- Peer review
- Data acquisition and laboratory tools; management, sharing and ownership
- Research misconduct and policies for handling misconduct
- Responsible authorship and publication
- The scientist as a responsible member of society, contemporary ethical issues in biomedical research, and the environmental and societal impacts of scientific research

Big Ten Academic Alliance - Principles for RCR

A "[Declaration of Principles for the Responsible Conduct of Research](#)" articulating best practices has been drafted by representatives from the BTAA-RCR Collaborative.

Emerging concerns for RCR include:

- Rigor and reproducibility of research studies
- Foreign engagement/Inappropriate foreign influence
- Civility issues in research environments, including but not limited to, harassment, bullying, and inappropriate behavior

Additional Resources

- NIH "Update on the Requirement for Instruction in the Responsible Conduct of Research," <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-10-019.html>
- NSF "America COMPETES Act RECR Training Requirements," <https://www.nsf.gov/bfa/dias/policy/rcr.jsp>
- USDA "Responsible and Ethical Conduct of Research," <https://nifa.usda.gov/responsible-and-ethical-conduct-research>
- Dooling, R.J., and Thompson, M.A., What Is Responsible Conduct of Research?, *Acoustical Society of America*, 2020, 16:4, <https://doi.org/10.1121/AT.2020.16.4.89>.

Contributing Authors

Sean Courtney - Purdue University

Glenn Krell - Rutgers, The State University of New Jersey

Christopher Lehmann - University of Illinois at Urbana-Champaign

Heather Mc Fadden - University of Wisconsin–Madison

Ver. September 24, 2021