Responsible Conduct of Research at Bates
Institutional Plan with Guidelines and Resources for Principal Investigators

Responsible conduct of research is the practice of scientific investigation with integrity. It involves the awareness and application of established professional norms and ethical principles in the performance of all activities related to scientific research. ~ NIH, Office of Research Integrity

Bates College recognizes the curricular importance of faculty and student research, and supports such endeavors with a variety of internal and external grant programs. The college is also committed to the responsible and ethical conduct of research, and has appointed a Research Integrity Officer (RIO) to help ensure compliance with federal regulations. Questions about compliance, from data management to export control, can be directed to Joseph Tomaras (jtomaras@bates.edu), Director of Sponsored Programs and Research Compliance (SPARC), or to Kathy Low (klow@bates.edu), the current Research Integrity Officer.

Responsible Conduct of Research

Faculty, students and key personnel working on federally-sponsored projects should be familiar with current guidelines for responsible conduct of research (RCR). These guidelines may apply to specific types of compliance issues, for example, animal care and use, or to more general questions, like mentoring and authorship. Students are required to receive training either through Bates-sponsored programs in RCR offered each semester or in the summer, or through online training offered by CITI (https://www.citiprogram.org/) We strongly encourage students to do both types of training as they begin their research careers. The RIO is available to offer individualized training sessions to lab groups, thesis students, or research-based courses on request. Further, RCR training is included in summer programming for student researchers employed by the college in summer apprenticeships and student fellowships. Questions about RCR training can be directed to Kathy Low (klow@bates.edu).

Faculty members conducting research are responsible for tailoring RCR training plans to the specific requirements of their research projects and ensuring that students and key personnel meet all applicable requirements.

Responsible Conduct of Research Components

Research Misconduct.

The college has policies and procedures for addressing research misconduct. They are outlined in both the faculty handbook and in the student research handbook. Engaging in research misconduct can result in serious consequences for both faculty and students. Misconduct is defined as:

- Fabrication of data,
- Falsification of data, or
- Plagiarism
Studies involving vertebrate animals, human participants or biosafety hazards are subject to review and approval by committees.

- Faculty, staff or personnel working with human participants are required to complete either CITI training in human subjects or the NIH/PHRP human participant training program [http://phrp.nihtraining.com/users/login.php](http://phrp.nihtraining.com/users/login.php). Each takes between 1-2 hours. In addition, non-exempt research proposals involving human participants should be submitted to the Bates College Institutional Review Board for review. Questions about the IRB can be directed to the co-chairs, Professors Helen Boucher (hboucher@bates.edu) and Danny Danforth (ldanfort@bates.edu).

- Faculty, staff or personnel proposing research on vertebrate animals are required to submit their proposals to the Bates College Institutional Animal Care and Use Committee (IACUC; Chair, Professor Ryan Bavis, rbavis@bates.edu) for review. When appropriate, faculty, students and personnel may be required to complete the animal care and use module of CITI training.

- Faculty, staff and personnel proposing research involving Level II biosafety hazards or recombinant DNA should submit their research to the Institutional Biosafety Committee for review. Information about the IBC is at [https://www.bates.edu/dof/faculty-scholarship/faculty-grant-information-2/institutional-biosafety-committee/](https://www.bates.edu/dof/faculty-scholarship/faculty-grant-information-2/institutional-biosafety-committee/). The current chair is Professor Paula Schlax (pschlax@bates.edu).

**Conflict of Interest**

All personnel responsible for the design, performance, and reporting of research are required to report potential conflicts of interest, including financial, personal, or professional conflicts that might affect their research. Financial conflict of interest (FCOI) training and FCOI forms are required at the time of a federal grant submission. Forms and information are available at [http://www.bates.edu/grants/conflict-of-interest-policy/](http://www.bates.edu/grants/conflict-of-interest-policy/). Conflict of interest forms are updated with each new grant submission, and on an annual basis thereafter.

**Mentor/Mentee Responsibilities and Relationships**

Adequate and supportive mentoring is a critical aspect of building a scientific community. Appropriate relationships, adequate training and preparation for mentees, and reasonable work requirements are all aspects of the mentor/mentee relationship.

**Peer Review**

Peer review should be expert, timely and constructive. Agreeing to serve as a reviewer indicates that there are no conflicts of interest that might impact the review, and that the reviewer has adequate
expertise to serve in that capacity. Manuscripts, grant proposals, books and other materials are considered confidential while under review.

**Data Acquisition, Management, and Ownership**

Researchers are responsible for the integrity of their data, including acquiring, managing, and storing information. Lab notebooks, samples and observations are considered part of the research record. A long term data management plan is recommended for projects, and for many federal awards, data management plans are required. In collaborative projects, ownership of data should be determined well before the project begins.

**Authorship and Publication**

Although authorship conventions vary by discipline, in most cases, the “first” author of an article, chapter or book is the individual who has made the largest contribution to the writing, analyses and other work involved in the publication.

**Export Control Guidelines**

The federal government restricts access to certain kinds of data, technology or scientific information related to national security. Export control laws (ECLs) represent a comprehensive set of federal regulations that control and restrict the release of certain technologies, technical data, software code, equipment, chemical and biological materials, and other items to foreign nationals or foreign countries. Any transfer to a citizen or permanent resident of a foreign country, here or abroad, is considered by the United States government to be an export to that country. Export controls apply to certain kinds of research activities and are important to consider when hiring international students or taking college-owned equipment or data abroad. An export control travel disclosure form is available at: [http://www.bates.edu/dof/faculty-scholarship/faculty-grant-information-2/travel-disclosure-form/](http://www.bates.edu/dof/faculty-scholarship/faculty-grant-information-2/travel-disclosure-form/). Additional information about export control and a list of embargoed countries can be found at [https://www.treasury.gov/resource-center/sanctions/Programs/Pages/Programs.aspx](https://www.treasury.gov/resource-center/sanctions/Programs/Pages/Programs.aspx) Questions on export control regulations should be directed to Kathy Low or Joseph Tomaras.

**Ethical Issues**

There are increasingly complex ethical issues around scientific research, and the responsible researcher should consider ethical questions, environmental impact, social implications, and potential harm when planning a research project.

**RCR Recommendations for NIH and NSF are included below.**


**Definition**
Responsible conduct of research is defined as the practice of scientific investigation with integrity. It involves the awareness and application of established professional norms and ethical principles in the performance of all activities related to scientific research.

Basic Principles

The following principles are based on several key concepts about responsible conduct of research and best practices that have evolved over the past two decades' experiences:

1. Responsible conduct of research is an essential component of research training. Therefore, instruction in responsible conduct of research is an integral part of all research training programs, and its evaluation will impact funding decisions.
2. Active involvement in the issues of responsible conduct of research should occur throughout a scientist’s career. Instruction in responsible conduct of research should therefore be appropriate to the career stage of the individuals receiving training.
3. Individuals supported by individual funding opportunities such as fellowships and career development awards are encouraged to assume individual and personal responsibility for their instruction in responsible conduct of research.
4. Research faculty of the institution should participate in instruction in responsible conduct of research in ways that allow them to serve as effective role models for their trainees, fellows, and scholars.
5. Instruction should include face-to-face discussions by course participants and faculty; i.e., online instruction may be a component of instruction in responsible conduct of research but is not sufficient to meet the NIH requirement for such instruction, except in special or unusual circumstances.
6. Instruction in responsible conduct of research must be carefully evaluated in all NIH grant applications for which it is a required component.

NSF Requirements (Award and Administration Guide IV.B.2.)

a. An institution must have a plan in place to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduates, graduate students, and postdoctoral researchers who will be supported by NSF to conduct research. As noted in GPG Chapter II.C.1e, institutional certification to this effect is required for each proposal.

b. While training plans are not required to be included in proposals submitted to NSF, institutions are advised that they are subject to review, upon request.

c. An institution must designate one or more persons to oversee compliance with the RCR training requirement.

d. Institutions are responsible for verifying that undergraduate students, graduate students, and postdoctoral researchers supported by NSF to conduct research have received training in the responsible and ethical conduct of research.

Summary
This document comprises Bates College’s institutional RCR training plan, and provides information on the institutional resources necessary for PIs to formulate project-specific training plans tailored to the nature of their research. It is recommended that PIs maintain for future reference a written RCR training plan for their projects that covers each of the above components insofar as they are relevant to the project. Such plans shall be furnished upon request to the RIO, the Director of Sponsored Programs and Research Compliance, or the NSF. The individuals responsible for overseeing compliance with the RCR training requirement are the RIO and the Director of Sponsored Programs and Research Compliance (presently, Kathy Low and Joseph Tomaras). Verification of RCR training given to students and postdoctoral researchers shall be the responsibility of the Director of Sponsored Programs and Research Compliance, through cross-comparison of payroll records and annual progress reports with CITI Program logs and attendance records for in-person trainings maintained by the RIO.