

**Effective date: July 31, 2023<sup>1</sup>**

## **COLUMBIA UNIVERSITY PLAN FOR FULFILLING NSF RESPONSIBLE AND ETHICAL CONDUCT OF RESEARCH (RECR) TRAINING REQUIREMENTS**

### **Introduction**

The University receives significant funding from the National Science Foundation (“NSF”) to conduct research projects. In accordance with the America COMPETES Act (42 USC 1862o–1) and the Creating Helpful Incentives to Produce Semiconductors and Science Act of 2022 (“CHIPS and Science Act”), NSF requires training in the Responsible and Ethical Conduct of Research for all:

- undergraduates,
- graduate students
- postdocs
- faculty and other senior personnel

who receive NSF funds in the form of support from salary and/or stipends to conduct research on NSF grants (collectively, “NSF-supported researchers and trainees”). For trainees, the Responsible and Ethical Conduct of Research (RECR) training requirement has been in effect since 2010. For faculty and other senior personnel, the RECR training requirement applies to all proposals submitted or due on or after July 31, 2023, to conduct research. Additional detail regarding the NSF RECR requirements is available in the [NSF Proposal and Award Policies and Procedures \(PAPP\) Guide](#) and on related NSF [webpages](#).

NSF’s regulations require that, at the time of proposal submission, “each institution that applies for financial assistance from the Foundation for science and engineering research or education describe in its grant proposal a plan to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduate students, graduate students, postdoctoral researchers, faculty, and other senior personnel supported by the proposed research project. Such training must include mentor training and mentorship. As noted in [Chapter II.C.1.d](#), an institutional certification to this effect is required for each proposal.” In addition, “[i]nstitutions are responsible for verifying that undergraduate students, graduate students, and postdoctoral researchers, faculty, and other senior personnel supported by NSF to conduct research have received training in the responsible and ethical conduct of research.”

Effective June 1, 2020, NSF broadened its definition of RECR<sup>2</sup> to include the responsibility to:

- a. conduct peer review with the highest ethical standards;
- b. diligently protect proprietary information and intellectual property from inappropriate disclosure; and

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<sup>1</sup> Originally issued Jan. 4, 2010; revised May 29, 2020.

<sup>2</sup> <https://new.nsf.gov/policies/pappg/23-1/ch-9-recipient-standards>

- c. treat students and colleagues fairly and with respect.

This document outlines the University's plan and guidelines for compliance with NSF's requirements.

## **Guidelines**

All NSF-supported faculty, senior personnel, postdocs, graduate and undergraduate students must complete RECR training. Any investigator who is named on an NSF proposal and is not a student or postdoc is considered "senior personnel."

Faculty and other investigators named in research proposals submitted or due on or after July 31, 2023 and awarded by NSF must complete RECR training before award setup. Training must be completed at least once while at Columbia University. Sponsored Projects Administration (SPA) will verify training completion before setting up NSF awards.

The Principal Investigator is responsible for ensuring that all postdocs, graduate students, and undergraduates who receive NSF funds in the form of support from salary and/or stipends to conduct research on NSF grants receive training in RECR. In general, training should be completed within three months of when the individual begins work on the project, or the individual must provide a plan through which training will be completed within a reasonable timeframe (e.g., registering for a course in the coming semester). Where individuals are working on NSF projects for a short time, such as the summer, training should be completed before the individual's work on the project ends.

The Office of Research Compliance and Training (RCT) will coordinate the collection and maintenance of compliance information. Working with Sponsored Projects Administration and Columbia University Information Technology, RCT will identify individuals who are required to receive training and will track training completions. Reports of trainee non-compliance will be generated and shared with PIs and DAs for follow-up.

## Fulfilling NSF's RECR training requirement

- A. Treatment of Students and Colleagues**– NSF highlights “treating students and colleagues fairly and with respect” as an RECR component. Columbia meets this requirement in part through New York Anti-Sexual Harassment (NYASH) training. The NYASH training is mandated by New York State and New York City. All personnel, including faculty, staff, researchers, librarians, and student workers (including postdoctoral research fellows and graduate research assistants), must complete this training.

<https://eoaa.columbia.edu/content/new-york-anti-sexual-harassment-training>.

The Columbia Office of Equal Opportunity and Affirmative Action manages compliance with the NYASH training requirement.

## **B. Other RECR Topics (including mentoring)**

1. **Collaborative Institutional Training Initiative (CITI) Training** – CITI is a consortium of research institutions that has created web-based training in RECR, among other areas. CITI is used by over 1,500 institutions worldwide for training in RECR, human subjects protection and other research-related compliance areas. Access and tracking is through Rascal and administered by the Office of Research Compliance and Training. Learners are required to complete up to 12 modules:

- Introduction to RCR
- Conflict of interest and Commitment
- Publication practices and responsible authorship
- Data Management
- Financial Responsibility
- Mentoring and Healthy Research Environments
- Peer review
- Patents, Licenses, and Science-based Startups: Tech Transfer
- Collaborative Research
- Research Involving Human Subjects
- Animal subjects (biomedical researchers only)
- Columbia-specific RECR module

- a) **Faculty and Other Senior Personnel:** In general, the faculty and other senior personnel must meet RECR training requirements through completion of 9 CITI RECR training modules. The CITI course must be accessed through the Rascal Training Center, course TC7000 (<https://www.rascal.columbia.edu/login/tc7000/>). All modules need not be completed in one sitting

- b) **Postdocs, Graduate Students, or Undergrads:** Most NSF funded trainees meet RECR training requirements through the completion of CITI training. The CITI course must be accessed through the Rascal Training Center, course TC0094 (<https://www.rascal.columbia.edu/login/tc0094/>). All modules need not be completed in one sitting.
2. **Synchronous Columbia Courses:** Some trainees may choose to take a synchronous Columbia University course to fulfill NSF's RECR requirement. Such courses may include:
- Morningside - *Research Ethics* (Permission of instructor required.)
    - Course Website:  
<https://sps.columbia.edu/academics/masters/bioethics/full-time-master-science/full-time-curriculum-courses>
  - CUIMC - *Responsible Conduct of Research and Related Policy Issues*, Arthur Palmer and Jaime Rubin (required for all CUMC graduate students except for the students in the Department of Neurology; open to postdocs on request and subject to availability)
    - Course website:  
<https://www.gsas.cuimc.columbia.edu/responsible-conduct-research-and-related-policy-issues>
3. **School/Departmental Offerings** – Some departments provide RCR training through department-specific offerings. For example, [Chemistry G8349 - Research Ethics & Philosophy](#), may be used to satisfy the NSF RCR requirement; it is open to graduate students in GSAS, SEAS and SIPA.

The Office of Research Compliance and Training is available to provide support. Such offerings should be reviewed by the Office of Research Compliance and Training to assure that they are generally comparable to other commonly accepted RCR trainings.

4. **Hot Topics in RECR** – The Office of Research Compliance and Training offers a [multi-part series of presentations](#) on select hot topics in RECR. These presentations feature experts in RECR-relevant subject areas such as: navigating relationships with industry, publishing ethics, science and security, issues of race in research ethics and compliance, research misconduct, mentoring and mentorship, and more. Anyone from the University is welcome to attend any or all of these presentations, which supplement other offerings described above.

## **Requirements for Individuals Who Previously Completed RCR Training**

- Individuals who have previously completed one of the Columbia RECR courses (Morningside or CUMC) will not be required to repeat it for purposes of fulfilling the NSF requirements.
- Individuals who have previously completed CITI RECR training at another institution will be credited for the modules they have taken. However, since CITI allows institutions to select from among different RECR offerings, individuals must complete any Columbia-required modules that have not been previously completed.
- Individuals who have previously completed RECR training at another institution (other than CITI RCR training) will be required to complete one of the RECR training options at Columbia.

## **Monitoring Process**

### **1. Faculty and Other Senior Personnel**

- a. RCT will send periodic notifications and reminders to the faculty and other senior personnel whose salaries are funded in whole or part by NSF regarding the NSF requirements.
- b. At award setup, SPA will notify anyone named in the proposal who has not completed this training of the training requirement. Award(s) will be held until training is complete.

### **2. Postdocs, Graduate Students, or Undergrads**

- a. Columbia University Information Technology provides RCT with regular reports identifying students and postdocs who receive either salary or stipend support for work on NSF research projects. GSAS will provide an annual list of NSF Graduate Research Fellows.
- b. RCT will send affected individuals and their PIs email notification of the individuals' obligation to complete training.
- c. Completion data for CITI and University courses will be collected regularly. Individuals who meet the training requirement through other methods will be required to submit evidence of compliance (e.g., course transcripts, certification from department).
- d. Reminders will be sent every two months to individuals and PIs for a total of 4 notifications. Individuals who are noncompliant after those 4 notifications will be escalated to the Vice President for Research Compliance, Training and Policy for further follow up.
- e. Failure to complete the training could result in the individual student's or postdoc's ineligibility to be funded by NSF projects.
- f. The monitoring process is described in greater detail in the attached Appendix A.

## **Questions**

Questions regarding the NSF RCR requirement may be directed to the Office of Research Compliance and Training, 212-854-4261, or [RCtraining@columbia.edu](mailto:RCtraining@columbia.edu). Information is also available at <https://research.columbia.edu/responsible-and-ethical-conduct-research>.

## **Appendix**

Appendix A: *Tracking Process* is available upon request: [RCtraining@columbia.edu](mailto:RCtraining@columbia.edu).