This language can be included in whole or in part for grants requesting institutional information on how Columbia develops and/or promotes a culture in which the highest standards of scientific rigor and reproducibility are advanced.

Research Rigor and Reproducibility

In 2014, the University launched the Research and Data Integrity (ReaDI) Program to enhance research integrity, data management, and data quality across the institution. Housed within our Office of Research Compliance and Training, the ReaDI Program engages proactively with Columbia’s research community in three ways:

1. It maintains a wide-ranging, web-based repository of essential resources and tools to support robust science across the research lifecycle, from experimental design through data collection and management, to analysis and publication. As Monya Baker points out in her 2016 Nature article, finding these types of resources challenges many researchers, but the ReaDI Program offers a one-stop-shop for authentication methods, information on statistical consulting services, discipline-specific literature on reproducibility, pre-publication checklists, and many other items. New resources are routinely added and existing resources are updated. The ReaDI resources openly available for use by any institution.

2. It provides outreach and training on topics including data management, safeguarding research and data integrity, and rigor and reproducibility. The ReaDI Program proactively reaches Columbia’s graduate students at resource fairs, orientation presentations, and department-specific seminars. New faculty orientations also highlight the Program.

3. It offers individualized consultations on data management and good laboratory practices. These consultations are available to principal investigators at all levels, and are customized to meet the principal investigator’s needs and to maximize efficiency and research quality.

Columbia has demonstrated leadership in developing a culture that values research quality. In 2016, Columbia organized A University Symposium: Promoting Credibility, Reproducibility and Integrity in Research. Co-hosted by six New York City research institutions, this day-long symposium engaged the research community in a robust discussion of reproducibility and integrity with leading experts, high-profile journal editors, and funders. Over 300 attendees (32% Faculty/Researchers, 26% Research Administrators, 21% Students, 12% Postdocs, 9% other) representing 16 institutions participated in this event.

In 2017, Columbia’s senior leadership published an editorial in Science calling on institutions to do more to promote research quality, generating discussion within and outside the University.

In March 2019, Columbia held a second University Symposium which included sessions on implicit bias and rigor in science, rethinking the graduate training experience, and journal editors’ perspectives on rigor and transparency. Speakers included Dr. Brian Nosek (Center for Open
Science), Dr. Marcia McNutt (President of the National Academy of Sciences), Dr. Shai Silberberg (Director of Research Quality, NINDS), Dr. Maria Zuber (former Chair, National Science Board), Dr. Arturo Casadevall (Johns Hopkins University), and Dr. Howard Bauchner (Editor, JAMA). Again, over 300 participants (29% faculty/researchers, 36% students, 10% postdocs, 25% other) attended the event, representing over 20 institutions. Videos have been posted on Columbia’s internal online training platform. Trainings can be assigned by training directors, PIs, departments, etc.

Through these programs and more, Columbia demonstrates its commitment to promoting a culture that values rigorous, reproducible science in all disciplines and for researchers at every career stage.