



*Review of NSF's Requirement for
the RCR policy and review of
institution responses*

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Aaron Manka, Ph.D.

Deputy Director, Research Integrity & Administrative Investigations
(Kroll—Director; Allbritten; Davis; Hillgren; Layne, Moore; Runko; Sacknovitz)



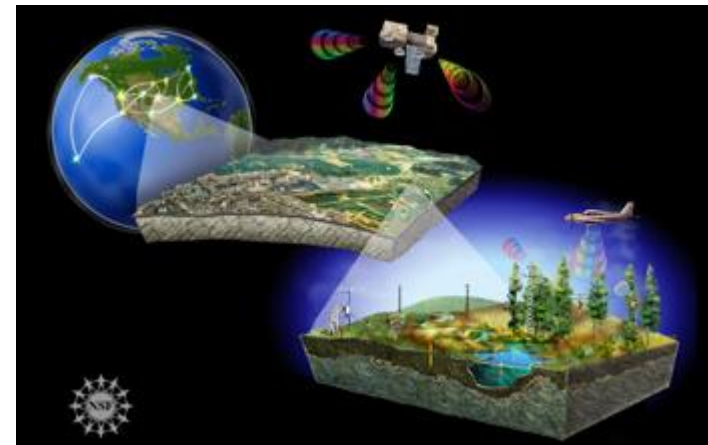
National Science Foundation

Funds for basic research in science, engineering, and education, primarily through grants (not contracts)

~ 20% of basic research in U.S. universities and colleges

No labs or research facilities

- An **OIG** is an independent oversight office that
 - Promotes economy, efficiency, and effectiveness
 - Prevents and detects fraud, waste, and abuse in agency programs and operations
 - Has full access to records





America COMPETES 2007

RESPONSIBLE CONDUCT OF RESEARCH

- NSF's Director shall require each institution to provide **appropriate training** in RCR to **UGP** researchers **participating** in the proposed research project.

House Report 110-289

- The conferees recognize that what constitutes appropriate training may not be the same for U as for G or P.
- “The conferees do expect NSF to promptly develop and provide written guidelines and/or templates for universities to follow so that compliance can be verified by all parties.”



NSF's RCR requirements

NSF Proposal and Award Policies and Procedures Guide; Part II, Award and Administration Guide; Chapter IV Grantee Standards. B. Responsible Conduct of Research (RCR)

Institutional Responsibilities (as of 4 Jan 2010)

An institution must:

1. Have a plan to provide **appropriate** RCR training to UGP researchers who will be **supported** by NSF to conduct **research**.
 - In lieu of **guidance/templates**, NSF recommends **risk assessment**
 - Institutional certification is required for each proposal
2. Designate someone to oversee compliance
3. Verify that UGP researchers supported by NSF to conduct research have received RCR training — tracking



Issues/Methodology

- NSF did not define “appropriate training”—how is that interpreted?
- NSF vs. NIH approach to guidance about course structure and content—do universities want guidance from NSF about structure and content?

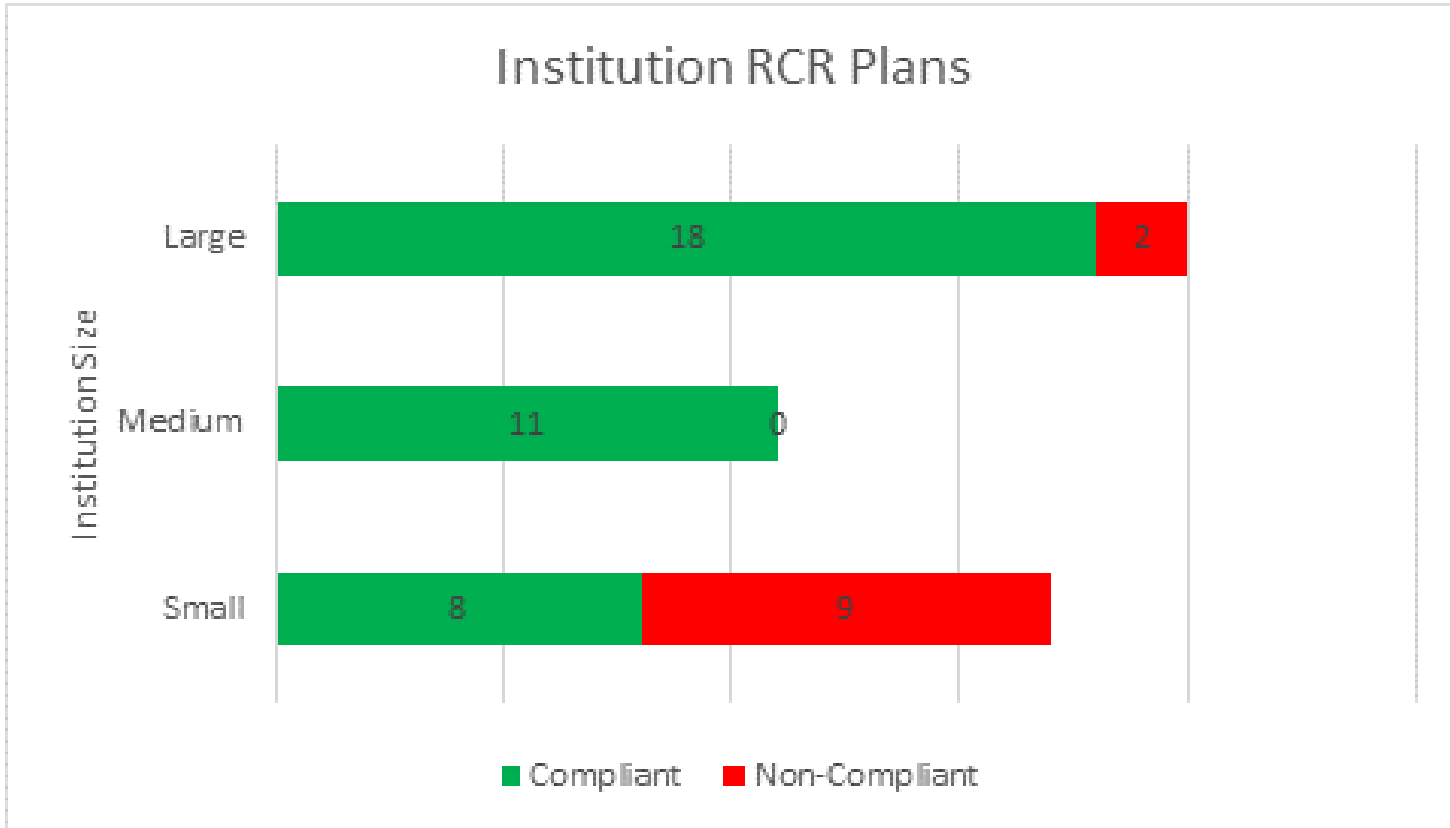
Asked 50+ institutions for RCR plan and to interview Sr. Administrator, RCR Coordinator, and UGP Trainees

Assess responses





Institutions with RCR Plans when first contacted by OIG



53 initial institutions; ultimately 48 institutions, 11 w/o plans



Who complied?

- Our initial sample included 5 Community Colleges (no RCR plans). However, CCs received only “**educational**” grants, so we did not include them: $53 - 5 = 48$.

• Thus, **37 out of 48 \approx 77% compliance.**

- Most (8 out of 11) NC institutions eventually developed plans; ultimately, **45** institutions had ‘formal’ RCR plans.
- **45/48 \approx 94% ‘second-chance’ compliance**
- Appointed someone to oversee RCR compliance — all but 1 (44/45 or 98% compliance)
- Tracking — ultimately 37/45 or 82%



Characterization of RCR Training

	Required training population is limited to NSF-supported participants	Required trainee population is not limited to NSF-supported participants
Trainee population is able to fulfill the RCR requirement by only taking online training or through document review	64% – Compliance	9% – Hybrid Compliance
Trainee population receives RCR content through required interactive training (<i>i.e.</i> , a course, workshop, or seminar)	9% – Hybrid Educational	19% – Educational

- 73% required only those supported by NSF grant to be trained
- 73% allow online-only training to constitute appropriate training.
- Fun expt: from trainee response, 65% prefer interactive training—5% choose that



Format and Content

- Using Philips, *et al.* idea on differentiated training:
- 52% differentiate based on educational level (typically more online modules for GP)
- 72% differentiate based on discipline (typically different online modules; RCR element in curriculum)
- NSF has not defined what “appropriate training” is, so we had no basis for determining whether the training provided was sufficient to meet the RCR training requirement. **No risk analysis.**
- Generic standard lab safety, or animal/human subjects, or data/IT security training
- RCR training incorporated into curriculum, but can't identify specific RCR topics
- PI determines RCR training w/o guidance from institution
- Read NIH/ORI handout



Best practices

- Adding stress management to RCR training
- Requiring RCR training for *all* graduate students
- Involving faculty in RCR training (only 15% currently do; 95% of our plagiarism findings are against faculty/PIs, not UGP)
- Periodic RCR training—3+ years
- Telling trainees why RCR is important
- Participants take training before beginning NSF research



Conclusions

- Most institutions have RCR plan, designated person, and tracking
- Without definitions or guidance, no standards, so compliance with adequate training can't be verified
- Institutions want guidance, not regulations
- More 'compliance' than 'education' focused
- Prevalence of online training
- PIs rarely involved



Questions?



www.nsf.gov/oig

Hotline: 1-800-428-2189

E-mail: oig@nsf.gov

Fax: 703-292-9158

Mail: ATTN: OIG HOTLINE
NSF Suite II-705
4201 Wilson Boulevard
Arlington, VA 22230 USA

amanka@nsf.gov – 703-292-5002