

New Research Misconduct Policies

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What is Research Misconduct?

- ◆ Research Misconduct is defined as fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results.
 - **Fabrication** is making up results and recording or reporting them
 - **Falsification** is manipulating research materials, equipment, or processes or changing or omitting data or results such that the research is not accurately represented in the research record.
 - **Plagiarism** is the appropriation of another person's ideas, processes, results, or words without giving appropriate credit,
 - Policy defines "research" and "research record"

Findings of Research Misconduct

- ◆ A significant departure from accepted practices of the scientific community for maintaining the integrity of the research record
- ◆ The misconduct must be committed intentionally, or knowingly, or in reckless disregard of accepted practices
- ◆ The allegation be proven by a preponderance of the evidence

Common Features of OSTP Policy and NSF Regulation

- ✓ Discrete, separate phases: inquiry, investigation, adjudication, appeal
- ✓ Reliance on community-based standards (“serious deviation” or “significant departure”)
- ✓ Partnership with institutions
- ✓ Level of intent and standard of proof
- ✓ Confidentiality for subjects and informants
- ✓ Fair, accurate, timely, fact- and document- based process
- ✓ Similar actions to protect Federal interests - range from reprimand to debarment

How did we get here?

- ◆ 1981 Congressional Interest (Gore and others)
- ◆ 1987-89 NSF and HHS Policies (and others)
- ◆ 1989 AAAS-ABA Meetings/other Society Efforts
- ◆ Notorious Cases
- ◆ 1992 NAS Report
- ◆ 1995 Commission on Research Integrity (Ryan Commission)
- ◆ 1996 HHS Implementation Report (Raub Report)
- ◆ 1996 NSTC Research Integrity Panel (OSTP Effort)
- ◆ 1999 HHS Implementation Plan
- ◆ Intense, Long-term Community Interest

NSF's and OIG's Experience Resolving Allegations of Research Misconduct



NSF's Definition

- ◆ Misconduct means

- (1) fabrication, falsification, plagiarism, or other serious deviation from accepted practices in proposing, carrying out, or reporting results from activities funded by NSF; or
- (2) Retaliation of any kind against a person who reported or provided information about suspected or alleged misconduct and who has not acted in bad faith.

NSF is adopting the OSTP definition and includes research and education proposals.



NSF Model for Investigation

<u>Step</u>	<u>Time-frame Targets</u>
1. Receipt	30 days - OIG
2. Inquiry	90 days - OIG 90 days - Awardee
3. Investigation	150 days - OIG 180 days - Awardee
4. Adjudication	120 days - NSF (Deputy Director)
5. Appeal	30 days - NSF (Director) response in 60 days

- * Case may close at any step
- * Referral:
 - ✓ Awardees - 88% of investigations
 - ✓ 61% accepted--39% require OIG investigation
- * Provide on-site assistance



Allegations Reviewed (%)

✓ Intellectual theft	24	◆ Fabrication in proposal	3
✓ Verbatim plagiarism	16	◆ Data sharing	2
✓ False statements (CV& CPS)	9	◆ Impeding research progress	3
◆ NSF procedures	8	◆ Conflicts of interests	2
✓ Falsification in a proposal	7	✓ Duplicate submissions	2
✓ Peer review violation	7	✓ Mishandled investigation	1
✓ Mentoring or colleague abuse	6	✓ Data tampering	2
◆ Retaliation	4	✓ Human subjects	1
✓ Fraud	3	◆ Animal welfare	0.2
		◆ Recombinant DNA	0.2

Findings of Misconduct as of April 2001:

- | | |
|---------------------|-------------------|
| * 61% Plagiarism | * 17% Fabrication |
| * 11% Falsification | * 11% Other |

✓ Indicates a finding



What Issues are Important in Resolution?

- ◆ Independence and Deferral
- ◆ Confidentiality
- ◆ Separation of Processes
- ◆ Timely, Fact-based, Objective
- ◆ Intent
- ◆ Burden of Proof
- ◆ Seriousness
- ◆ Community Practices



Sources and Tools

◆ Sources of Allegations

- ◆ Program Officers other NSF officials
- ◆ Awardees
- ◆ Reviewers
- ◆ Members of Scientific Community
- ◆ Disclosure in literature

◆ Tools to Resolve Allegations

- ◆ Interviews
- ◆ Analysis by experts
- ◆ Access to all evidence
- ◆ Coordinate administrative and criminal investigations



Actions

- ◆ Institution Actions
- ◆ NSF Letter of Reprimand
- ◆ Increased Oversight
- ◆ Correct the Record
- ◆ Certification and Assurances
- ◆ Remedial Education/Educate Others
- ◆ Suspension/Debarment (1-3 years)
- ◆ Fund Recovery or Redirection

Educational Efforts

- ◆ **Parallel Interest and Emphasis**

- ◆ High profile cases
- ◆ Erosion of traditional mentor system

- ◆ **Requirement of Federal Agencies**

- ◆ NIH Training Grants...more global expectation
- ◆ NSF Fellowship Grants

- ◆ **Efforts by Societies/Individuals/Institutions**

- ◆ **Approaches**

- ◆ Case-based, Talking Head
- ◆ Separate or Integrated into required courses



Points to Consider

- ◆ Final Implementation OSTP Policy Dec. 2001
- ◆ Mechanism of Implementation (regulation or policy, or current practices)
- ◆ Integration of other Rules and Regs (PA, System of Records, FOIA, Civil/Criminal issues)
- ◆ Internal vs. External Research Programs
- ◆ Coordination with other Agencies and IGs
- ◆ Education and Investigation

INTEGRITY STARTS WITH YOU!

If you are aware of, or suspect

➤ misconduct in science

➤ fraud

➤ waste

➤ abuse

or if you just have questions,

Please contact the

NSF Office of Inspector General

Suite 1135



(703) 292-7100



Anonymous Hotline 1-800-428-2189