



RESEARCH INTEGRITY CHALLENGES: NSF OIG'S PERSPECTIVE

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THE RESEARCH ENVIRONMENT

- Number of women, minorities and foreign-born dramatically increasing in research work force.
- Aging and retiring research workforce
- Science and engineering occupations are an increasing percentage of workforce (only 10% hold doctorates)
- R&D \$ are continually increasing
<http://www.nsf.gov/statistics/seind06/figures.htm>
- 75% of high school students admitted to cheating
- 61% of undergraduates admitted to cheating
- 30% of researchers admitted to “questionable practices”



INCREASING ALLEGATIONS

- From 1998-2008, NSF has observed a 3-fold increase in RM allegations

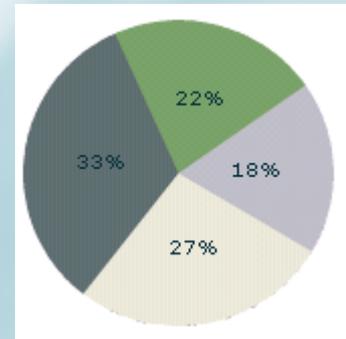


FROM THE GOVERNMENT'S PERSPECTIVE, GRANTS ARE NOT "SMALL BUSINESS"

Federal Spending for FY 2009

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Award Type	Amount	Total Percentage
Direct Payments	\$799.9B	33%
Grants	\$659.1B	27%
Contracts	\$537.8B	22%
Insurance	\$443.6B	18%
Others	\$2.2B	0%
Loans	\$727.2M	0%





CHANGES OVER THE PAST 20 YEARS

- Past:
 - 20 years from when Congress expressed interest in **Misconduct in Science** (1981) until OSTP Policy and Guidance issued on **Research Misconduct** (2000)
 - HHS implements RCR training requirement in Training Grants (1989)
- Present:
 - 24 Federal agencies conduct research (16 have policies or draft policies); dramatic changes in electronic communications, storage and data manipulation; increased international research collaborations, increased oversight, changing demographics in research community
 - NSF implements RCR training and post-doc mentoring requirements and HHS expands its RCR requirement (2010)

INTEGRITY CHALLENGES



- 1) How is “responsible research” defined?
- 2) Have the concepts of research ethics and research integrity changed?
- 3) Who is responsible for ensuring research integrity?
- 4) Is science really self-correcting?
- 5) What is research fraud?
- 6) How is government oversight / responsibility for funds related to academe / PI responsibility?
- 7) Do the concepts of legal / government structures and academic administration / PI freedom conflict?
- 8) Is university research still academia or has it become a business or have the two merged?
- 9) What is meant by responsible management of the research enterprise?
- 10) Do new government oversight rules change the view that institutions have full responsibility for projects?
- 11) How do the challenges of the global research enterprise and the digital age change the concepts of and management of integrity?



CURRENT EFFORTS TO ADDRESS THESE CHALLENGES

- There are no immediate answers to many of these challenges.
- Certain challenges should be addressed by the academic community; others by government; some by both.
- U.S. government has already taken the following approaches:
 - America COMPETES Act
 - Postdoctoral Researcher Mentoring Plan
 - Training in the Responsible and Ethical Conduct of Research
 - Data Sharing and Management
 - Data Management Plan
 - Global Considerations
 - Oversight Plans
 - Global Science Forum

CONTACT INFORMATION

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