

NSF OIG Investigations: Misconduct, Malfeasance, and More



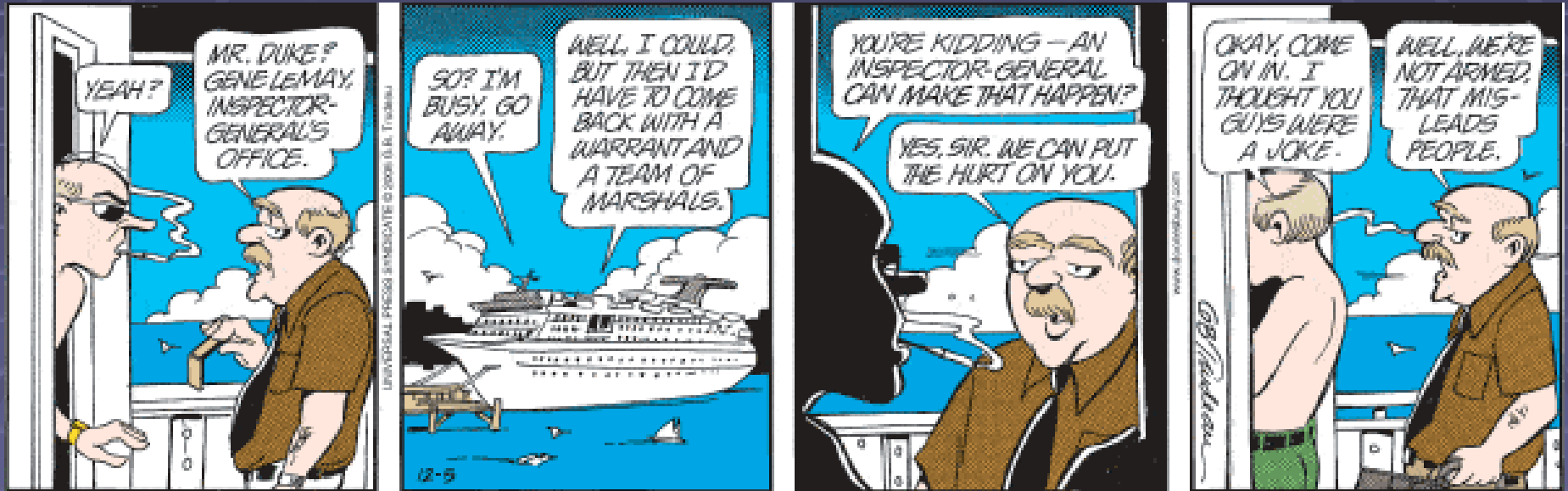
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Research and
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What's an OIG?



G. Trudeau
Doonesbury, 5 December 2005

Office of Inspector General (OIG)

- Almost every federal agency/entity has an IG
- An IG is an independent office for oversight
 - Promote economy, efficiency, and effectiveness...
 - Prevent and detect fraud, waste, and abuse...

...in agency programs and operations

- NSF OIG
 - 38 audit staff, 22 investigative staff
 - Investigations staff includes:

Ph.D. scientists	Special agents
CPAs	Attorneys

What does NSF OIG investigate?

The simple answer:

Lying
Cheating
Stealing



NSF OIG Inquiries/Investigations

- Administrative Issues
 - Research Misconduct (RM) – the MISCONDUCT
 - Other regulatory violations and grant administration issues
- Civil/Criminal Misconduct
 - False statements and false claims
 - Embezzlement and other financial crimes – the MALFEASANCE
 - Falsification of evidence
 - Mail and wire fraud

More and more frequently we are
encountering “hybrid” cases and new issues – the MORE

How does OIG know what to investigate?

Allegations received from:

- Program officers
- Reviewers
- Colleagues
- Students and post-docs
- University administrators
- People like you
- Anyone with an interest in what NSF funds
- Anonymous



We take a general look:

- Proactive reviews
- Recurring “problems”

Ethical Issues grantees confront

- Data: Fabricating/Falsifying, Sharing
- Sharing and Using Ideas
- Balancing Priorities
- Making Financial Decisions
- Authorship and Acknowledgements
- Collaborations
- Conflicts of Interest
- Paraphrasing and Plagiarism
- Mentorship/Advisor Problems
- Merit Review
- Obtaining Oversight Reviews (Compliance with Rules and Regulations)

Research Misconduct (RM)

- Federal-wide definition and procedural framework.
- RM means **fabrication**, **falsification**, or **plagiarism** in proposing or performing research [], reviewing research proposals [] or in reporting research funded by [the agency]. 45 C.F.R. 689.1.a

Fabrication:
making up data or results and recording or reporting them

Falsification:
manipulating materials, equipment, or processes, or changing or omitting data or results

Plagiarism: appropriation of another person's ideas, processes, results or words without giving appropriate credit.

The RM Investigation Procedure

Allegation
Inquiry
Investigation
Decision

NSF Grant Conditions

If institution determines that an investigation is needed

it MUST notify NSF immediately

The Referral Process

Inquiries and Investigations may be referred to the institution

RM Case Examples from the September 2007 SemiAnnual Report

- **Professor Reviews Proposal for NSF, Then Plagiarizes From It Into His Own Proposal**
- **Student Claims “Laziness” for his Fabrication/Falsification of Data in Four Manuscripts**
- **PI Copied Significant Text, Tries to Blame Post-Doc**
- **PI Plagiarizes in Four NSF Proposals**

Examples of Other Regulatory Violations

- Human Subjects / Animal Welfare

- Research with human subjects (non-medical)

Examples: a physical sciences award with an education component for undergraduates that tracks student career paths post-graduation; any project with human subjects that is not conducted anonymously

- IACUC and IRB Committees w/o assurances

Example: Institution with both an IRB and IACUC without approved assurances (the Federal seal-of-approval) loses award.

- Program Income and Participant Support

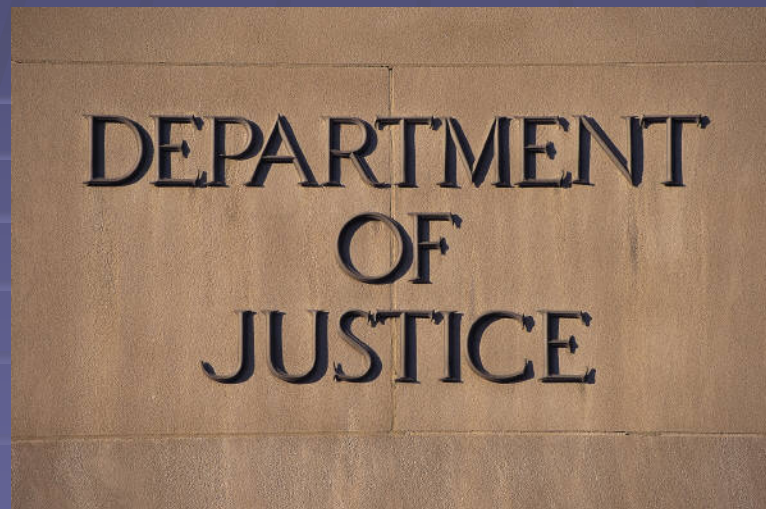
When Administrative cases turn Civil/Criminal . . .

- PI submitted his student's thesis chapter as an SBIR-1 proposal (\$100K, 6 months).
- When awarded, PI used the money to pay his child's tuition at a University, along with other personal expenses.
- PI copied the thesis into his final report and proposal for the SBIR-2 award (\$500K).
- University notifies OIG of plagiarism allegation
- PI denied everything. His wife did not.



When Administrative cases turn Civil/Criminal . . .

- NSF suspended the award and OIG issued subpoenas.



- OIG referred the case to DOJ, who accepted it for prosecution.

When Administrative cases turn Civil/Criminal . . .

- At a meeting with DOJ, the professor through his attorneys indicated that he would like to
 - 1) plead guilty to a criminal count (1001) and pay \$240,000 restitution
 - 2) avoid jail
 - 3) avoid Federal action against his wife
- NSF OIG recommended RM finding and debarment. Professor and NSF settled for 3 years voluntary exclusion from Federal funding.



What we don't do . . .

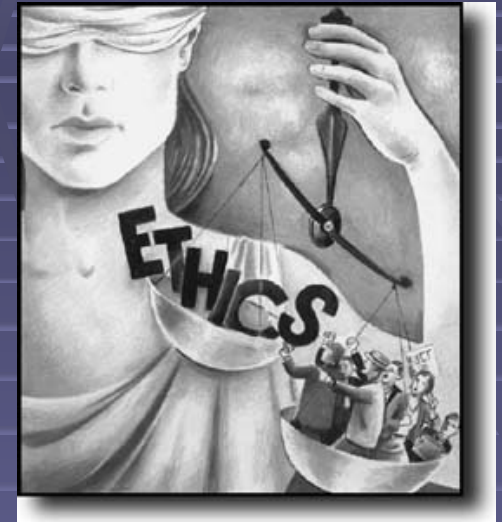
- Generalized INTEGRITY OF SCIENCE
- Scientific “divorces”
- Patent, copyright or programmatic disputes
- Institutional personnel issues that do not violate statutes, regulations, or grant conditions connected with NSF programs
- Authorship disputes
i.e., Whose name goes on the paper? In what order?

Possible Outcomes

- Whatever sanctions the institution makes

From the NSF/Federal side of the issue . . .

- Letter of Reprimand
- Ban from serving as a reviewer
- Ethics Training
- Certifications
- Assurances
- Federal-wide Debarment
- Fines / Restitution
- Prison



drawing by Terri Groat-Ellner



Research Misconduct- Case Study

Allegation

University notifies us that data submitted into an NSF proposal may have been fabricated

Research Misconduct- Case Study

- Student conducting survey research
- Results look very promising—too promising
- Mentors colleague states such
- Mentor submits NSF proposal but then questions student on veracity of data
- Student suggests that proposal be withdrawn
- Begins to claim that data was analyzed by some unknown individual—data exchanges via email

Research Misconduct- Case Study

Unknown person then sends an email to mentor stating data are made up, apologizes and account is deleted

University investigates, determines that student made up data. Student does not defend herself but does not offer up identify of unknown person

Research Misconduct- Case Study

Results

Student dismissed from University

NSF Debars subject for three years

Research Misconduct- Case Study

Allegation

Post doc allegedly fabricates data in a plant research project

Research Misconduct- Case Study

- Post doc publishes in a major journal
- Supplementary data posted online
- Peer in CA reviews research and finds data are questionable— notifies mentor
- When approached, post doc confesses
- Research supposedly had three replicates
- Only one conducted – other two data sets were multiples of original data (.95,1.05)
- Claims pressure to publish and lack of adequate supplies in laboratory

Research Misconduct- Case Study

Results

Removed from school

Debarred for three years

Now works in pharmaceutical sales

Research Misconduct- General Observation

- Mentor/Student interactions is a trusted relationship
- We continue to see a slip in the effort that professors put forth to mentor students
- Mentoring often off-loaded to PhD or Post Docs

Research Misconduct- Case Study

PI copies 124 lines of text into four NSF proposals; all are 3-4 line “snippets”

- University committee confirms that subject’s act was “violation of institutional standard of scholarly integrity”
- However, committee votes on each individual snippet
- Fails to see forest for the trees
- Concludes his acts were not research misconduct
- NSF disagrees – 4 yrs certs/assurances; ethics course; letter of reprimand

Research Misconduct- Case Study

- PI submits 3 proposals within a month
 - Allegation from peer review is that one is largely plagiarized
 - Inquiry shows the all three proposals are 85% copied from previously submitted NSF proposals
 - Subject provides false statements and false evidence
 - University committee concludes he plagiarized
 - NSF concurs – debar for 3 yrs; certs/assurances for 3 yrs; ethics course

Research Misconduct- Case Study

- PI submits proposal w/ copied text and altered figures
 - Amount of text was somewhat minor
 - Figures of cells were taken from a publication by his former mentor
 - Figure caption was altered to represent three fluorescence images that did not accurately describe the image
 - Text in proposal was written to suggest that images were preliminary data collected in his lab
 - University found research misconduct and PI's employment was terminated
 - NSF finds research misconduct – letter of reprimand; 3 yrs of certs/assurances

Research Misconduct- Case Study

- PI fabricates the existence of two manuscripts in his CV and makes reference to a non-existent manuscript in the text of his proposal
 - PI admits that manuscripts did not exist.
 - Showed a pattern of deceit about these manuscripts in other scientific proposals submitted to other funding sources
 - Institution finds research misconduct and PI's employment is terminated
 - NSF makes finding of research misconduct – letter of reprimand and 3 yrs of certifications

Research Misconduct- Case Study

- PostDoc allegedly fabricates data in a published paper
 - Data is a hysteresis curve – first half appears real, return curve is not supportable
 - PD concurs with committee that data looks questionable but denies wrongdoing
 - Analysis of files shows data plotting algorithms where false data was plotted
 - University concludes RM and removes PD from school
 - NSF concurs and finds RM – letter of reprimand, 3 yr debarment, 2 yrs certs/assurances, ehtics training course

Making Sound Financial/Administrative Decisions

- PI receives grants to work with foreign collaborators—mostly travel money to assist collaborator visit to US
- Post 9/11 makes travel difficult
- PI unilaterally decides to put grant monies to other related research
- Files false final report stating collaboration occurred
- PO meets collaborator at foreign conference
- Other awards have similar problems
- Extensive travel for Lab Tech
- Lab Tech turns out to be spouse
- Institution supposedly aware of the COI
- Possible civil liability

Making Sound Financial/Administrative Decisions

- In 1993, NSF awarded a 5-year \$3.8 million grant to an institution to create a center to enhance science teaching in public schools
- Subject was hired to be a Co-PI
 - Had been convicted in 1988 for burglarizing the homes of his and his mother's friends
 - He lied on his Institution application about his criminal history

Making Sound Financial/Administrative Decisions

- Subject habitually used the VISA card issued to him for the project as if it were his own — for example:
 - Groceries: 85 times at stores such as Safeway
 - Garden supplies, hardware, and pet supplies: 90 times at stores such as Home Depot
 - Expensive clothing and jewelry for his wife, and clothing and toys for his children: dozens of times
- He submitted paperwork to Institution that lied about the items and their purpose

Making Sound Financial/Administrative Decisions

- Institution hired subject's wife to work on the project in 1995
- For 2½ years, she was employed part time and paid for the hours worked at an hourly rate based on a hand-written timesheet submitted twice each month.
- She never filled out her timesheets — instead, subject filled them out with exaggerated hours, forged her signature, and submitted them to Institution to receive fraudulently larger paychecks

Making Sound Financial/Administrative Decisions

- Institution became suspicious of subject in 1999 and began an internal review
- He acknowledged the \$108,497 fraud Institution uncovered, but did not inform them of any of his additional fraudulent activities
- Institution allowed subject to continue working on the grant project, though it removed his ability to charge expenditures to the grant and required him to repay the \$108,497 — of which it repaid \$56,676 to NSF

Making Sound Financial/Administrative Decisions

- We and defense counsel submitted sentencing memoranda, argued in sentencing hearing
- The court rejected a request for a reduction, sentenced him to: (1) 1 year in prison; (2) 2 years of supervised release following prison; and (3) pay restitution to NSF in the amount of \$93,503 (in addition to the \$56,676 previously repaid to NSF)
- NSF may recover additional funds from Institution, for unallowable costs above \$202,000



Contact Information

www.oig.nsf.gov

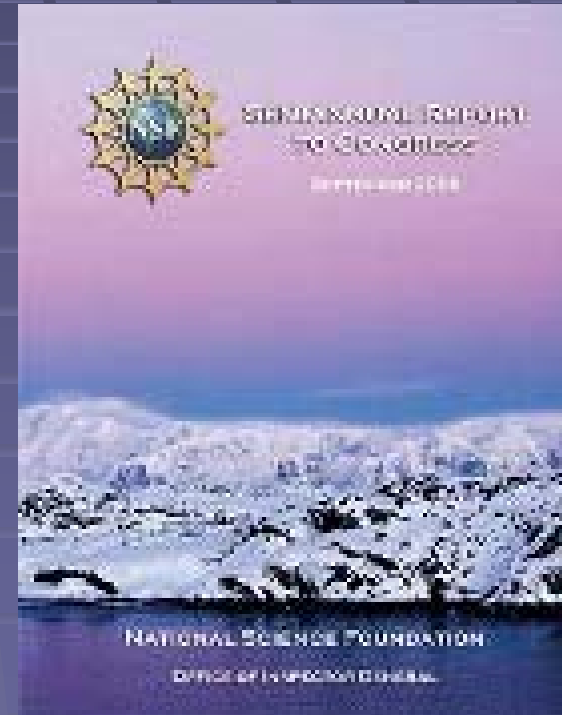
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QUESTIONS?

