

Research Misconduct & A Culture of Integrity

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University of Colorado
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Office of Research Integrity

Human Research Protection

- 750 active protocols

Animal Care & Use

- ~40,000 animals in 114 protocols

Research Misconduct

Responsible Conduct of Research Education

Biosafety Review

- 65 active protocols

Export Control

Conflict of Interest

Radiation Safety



Why are we (you) here today?



Survey of 1,326 CU Grad Students

- Do you know where to report a concern [about research misconduct]?
 - **Yes: 33%**
 - **No: 31%**
 - **Possibly: 36%**



Agenda

- What is Research Misconduct?
 - How common is it?
 - Why is it important?
- How does CU respond to allegations?
- How do we prevent/minimize misconduct?
 - Why does it occur?
 - Promoting a culture of integrity



What is Research Misconduct?

- **Plagiarism**
 - Portraying another person's intellectual property as one's own.
- **Fabrication**
 - Making up data and recording or reporting them
- **Falsification**
 - Manipulation of the research process, or altering data, such that reported results are not accurate
- Not honoring authorship rights
- Retaliation against Complainant/witnesses
- Not honest error or differences of opinion

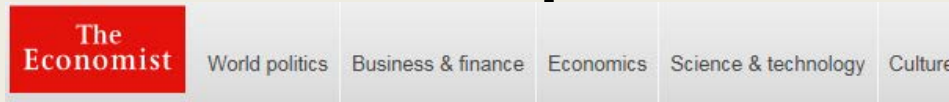


Why Do We Care?

- Parties have vested interests
- Science builds on earlier results
- Sponsors and regulators are concerned about fraud



“Research Reproducibility”



Unreliable research

Trouble at the lab

Scientists like to think of science as self-correcting. To an alarming degree, it is not

Oct 19th 2013 | From the print edition



21k



2,133



“I SEE a train wreck looming,” warned Daniel Kahneman, an eminent psychologist, in an open letter last year. The premonition concerned research on a phenomenon known as “priming”. Priming studies suggest that decisions can be influenced by apparently

“researchers would find it hard to reproduce at least at least three-quarters of all published biomedical findings...” (NIH)

Amgen could replicate only 6 of 53 landmark cancer studies

Bayer Healthcare could replicate only a quarter of landmark drug studies



Why Do We Care?

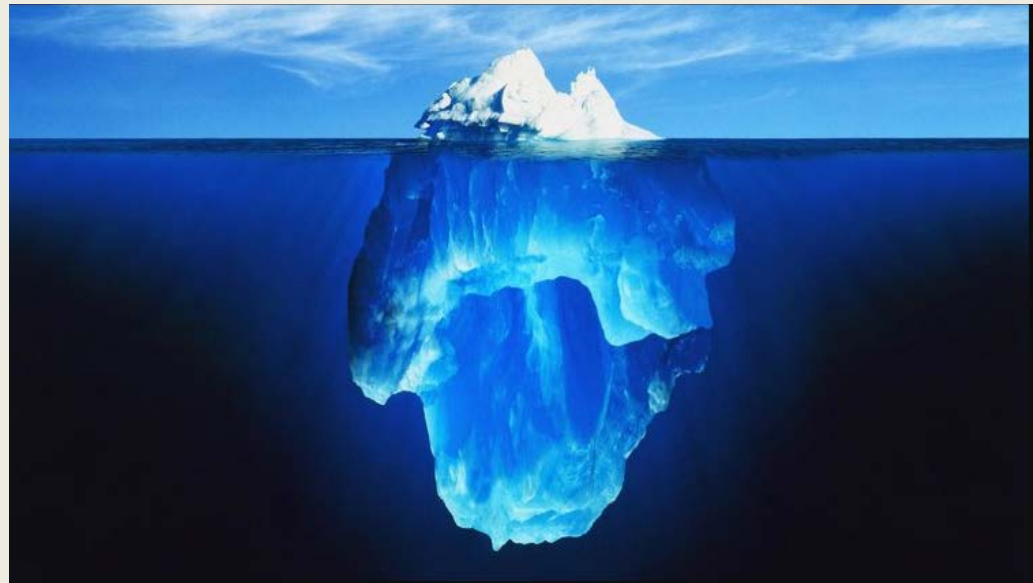
- Parties have vested interests
- Science builds on earlier results
- Sponsors and regulators are concerned about taxpayer dollars (fraud)
- Reputation (individuals & university)



Is Misconduct Common?

2005 *Nature* paper of self-reported unethical behavior

- Falsifying or “cooking” research data: 0.3%
 - Using another’s ideas without permission: 1.4%
- (n = 3,247)



Is Misconduct Common?

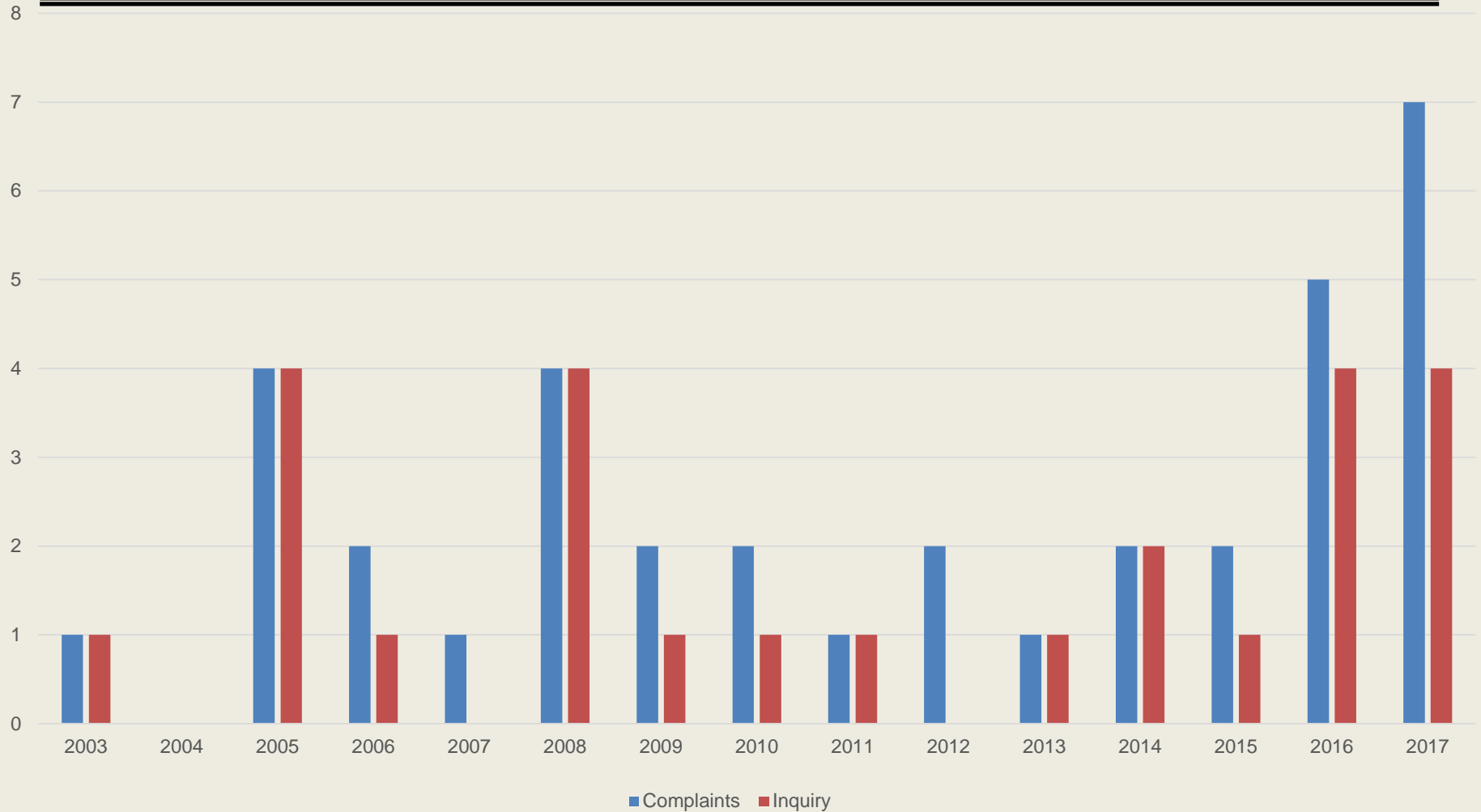
Survey: Do you believe you have encountered research misconduct while a student at CU?

- **Yes: 3%**
- **Possibly: 5%**
- **No: 92%**

That's 40 – 105 students, or 75 – 200 students if we extrapolate to ALL grad students



Is Misconduct Common?



Investigating Misconduct Claims

1. Assessment: RIO and Committee Chair determine if complaint is relevant and credible.
2. Inquiry: Faculty panel determines, based on records and interviews, that “there’s smoke”
3. Investigation: Second faculty panel determines, based on the preponderance of the evidence, whether misconduct occurred, and if so, by whom.

Recommendations are forwarded to Provost for a final decision on actions

– Corrective, Disciplinary, Preventive



Protecting all the Parties

- Respondent
 - Confidential investigation
 - Opportunity to explain/defend
- Complainant & Witnesses
 - Whistleblowing is a protected activity
 - Retaliation is punishable



Preventing Research Misconduct

- First, need to understand why it occurs
- Bad apples, or bad barrels?



Case of Diederik Stapel



- 1997: PhD from Univ of Amsterdam
- 2000: Professorship at Univ of Groningen
- 2006: Founded Tilburg University Institute for Behavioral Economics Research
- 2009: Career Trajectory Award, based on 130 articles and 24 book chapters
- 2010: Dean of Social & Behavioral Sciences
- **2011: It all fell apart....**





PERCOLATOR

Research that matters.

PREVIOUS

[← Oh the Horror of the Post-Idea World](#)

NEXT

[Penn State, Motivated Blindness, and the Dark Side of Loyalty →](#)

The Fraud Who Fooled (Almost) Everyone

November 3, 2011, 1:37 pm

By *Tom Bartlett*

[f](#) [t](#) [+](#) [e](#) | [Print](#) [Comments \(61\)](#)

It's **now known** that Diederik Stapel, the Dutch social psychologist who was suspended by Tilburg University in September, faked dozens of studies and managed not to get caught for years despite his outrageous fabrications. But how, exactly, did he do it?

- Completely fabricated data for “dozens of studies”
- Including data used for multiple students’ dissertations
- 58 papers retracted
- Fired, degree revoked, now academic pariah





The Three
“Pillars of Guilt”

Motive



“Cheaters know their field well, and so they put forward data that look reasonable”

Means

The Three
“Pillars of Guilt”

Motive



“Cheaters know their field well, and so they put forward data that look reasonable”

Means

The Three
“Pillars of Guilt”

“Nobody ever checked my work. They trusted me.... I did everything myself, and next to me was a big jar of cookies. No mother, no lock, not even a lid.... Every day, I would be working and there would be this big jar of cookies, filled with sweets, within reach, right next to me — with nobody even near. All I had to do was take it.” (Stapel, 2012, p.64)

Opportunity

Motive

“The basic problem is that the entire scientific enterprise is not set up to deal with outright fraud. Scientists trust other scientists....”



“Although it is tempting to blame misconduct on the occasional “bad apple” Misconduct may be the unintended result (or side effect) of a system of scientific research, education, and funding that overemphasizes career advancement, institutional prestige, money, and a ‘win at all costs’ attitude.”

(Shamoo & Resnik, p. 152)



Research Culture

Culture: Shared values, beliefs,
perceptions

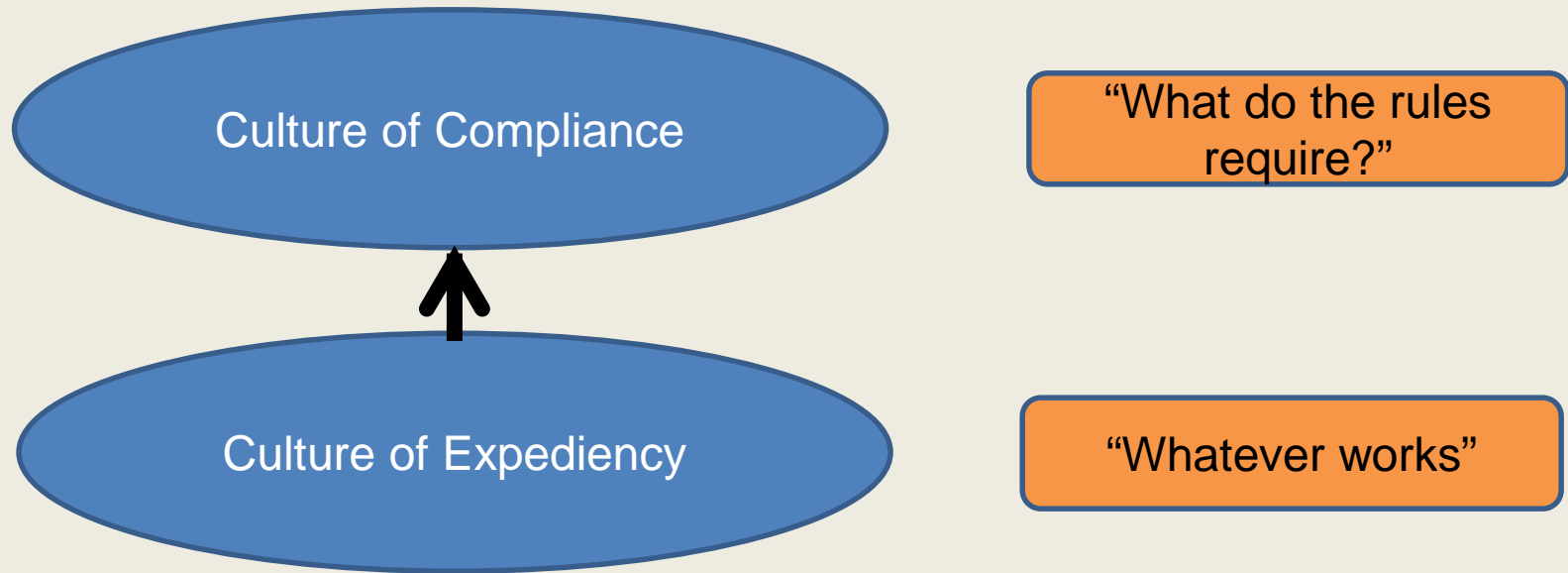
“The way we do things around here”

Culture of Expediency

“Whatever works”



Research Culture



Research Culture

Culture of Integrity

“What’s right?”

Integrity is:

- “the quality of being honest and having strong moral principles; moral uprightness”
- doing the right thing when no one is watching....

S”



Building a Culture of Integrity

- What campus can do
 - Chancellor has voiced strong support
 - Code of Conduct and compliance website (<https://www.colorado.edu/compliance/>)
 - Responsible Conduct of Research (RCR) training required for NIH & NSF trainees
 - Professional Skills graduate seminars
 - Guest speakers
 - Posters coming...
 - Other?



Building a Culture of Integrity

- “Turning Square Corners”
 - Fastidious record keeping, documentation
 - Take “hypothesis testing” seriously
- Awareness of best practices
- Lab management
 - Effective mentoring
 - Be sure norms and expectations are clear
 - Review primary data (with mind to FFP)
- Check (and recheck) authorship expectations
- Challenge non-normative behavior



Building a Culture of Integrity

“...not just doing research, but doing research well! Conducting research with integrity is a matter of excellence.”



Source: U of New Mexico



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