

# RESEARCH MISCONDUCT

## KEY CONCEPTS

**Fabrication:** creating the false appearance of data that does not actually exist; making up results.

**Falsification:** tweaking data that does exist in order to give it a false appearance; manipulating results.

**Plagiarism:** repurposing data in order to falsely present it as novel or original; appropriating results.

**Questionable Research Practices (QRPs):** e.g., abuse of editorship or peer review practices; breach of duty or care with respect to confidentiality or supervision; dishonest or unethical authorship practices; failure to take or obtain proper records; interference with a misconduct investigation, or retaliation; misleading or misrepresentative statistical or other data practices; other forms of misconduct.

## TEXTBOOKS & REPORTS

- *Responsible Conduct of Research* (Shamoo & Resnik 2015, 3<sup>rd</sup> ed)
- *Fostering Integrity in Research* (The National Academies Press 2017; free at [nap.edu](http://nap.edu))

## ASSOCIATED ARTICLES

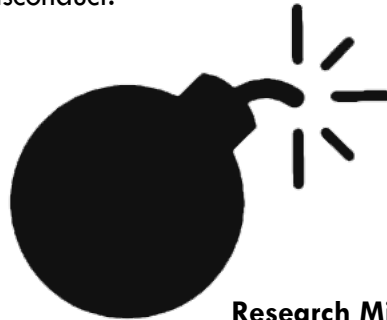
- Rossner & Yamada's (2004) "What's in a picture?" *J Cell Biol* 166(1): 11–15.
- Martinson, Anderson, & de Vries' (2005) "Scientists behaving badly" *Nature* 435: 737–8.
- Helgesson & Eriksson's (2015) "Plagiarism in research" *Med Health Care Phil* 18:91–101.

## CASES IN THE NEWS

- Yoshihiro Sato—see Kai Kupferschmidt (2018) writing for *Science*; Holly Else (2019) for *Nature*
- Jan Hendrik Schon—see Robert Lee Hotz (2002) writing for *The LA Times*; Eugenie Samuel Reich's (2009) *Plastic Fantastic*

## DISCUSSION QUESTIONS

1. How do potential issues of research misconduct arise most commonly or significantly for scientific work in your laboratory or research setting?
2. How could your institution's research misconduct policy be improved? Consider what additions, removals, or alterations you think ought to be made.
3. What responsibility do individuals have for pursuing allegations of scientific fraud?
4. What responsibility do journals have for assessing allegations of scientific fraud in their pages?
5. When do you get excited about a reported new result in your field: right away, or only after some time has passed, in order to allow for establishment and / or replication?



## POLICY & REPORTING

Every federally-funded American research institution has a federally-mandated research misconduct policy, and a corresponding officer in charge of enforcing that policy.

**Research Misconduct Policy:** your institution's rules for what qualifies as research misconduct, as well as how alleged instances of it will be handled.

**Research Integrity Officer (RIO):** your institution's appointed officer for handling and reporting alleged instances of research misconduct.

If you encounter what you think is an instance of research misconduct, you can check your institution's research misconduct policy or contact your RIO to discuss the situation. Having a conversation is not the same thing as issuing a formal allegation; so, you can reach out for help without triggering a formal review.

## FINE PRINT

In 1992–3, the National Academy of Sciences (NAS) published a pair of reports on *Responsible Science* (Vol. 1–2), and those reports ushered in an era of ethical oversight centered around the concept of the Responsible Conduct of Research (RCR) at federally-funded American research institutions across the nation. By 2009, the National Institutes of Health (NIH) had mandated that "all trainees, fellows, participants, and scholars receiving support through any NIH training, career development award (individual or institutional), research education grant, and dissertation research grant must receive instruction in responsible conduct of research" (NOT-OD-10-019). The National Science Foundation (NSF) recommends—though does not require—something similar. Both agencies suggest that satisfactory RCR instruction tends to cover: research misconduct; conflict of interest; human subjects research; animal subjects research; collaboration and interdisciplinarity; data acquisition and management; authorship, peer review, and publication; mentoring and being mentored; and the relationship between science and society.

This handout introduces the topic of **research misconduct**.