

Research Misconduct

“What is it? How Does it Happen? Could it Happen to you”

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Disclaimer

The opinions expressed are those of the presenters and may not necessarily reflect Montana State University.





Group Guidelines



- Stories stay, lessons leave
- Make sure everyone is heard in your small group discussions
 - Limit your comments to a couple of sentences so that you don't dominate the discussion.
 - Three and me principle where you allow three people to speak before you speak again.
- Speak with the expectation you will be heard and listen with the opportunity to be changed.
- Use "I" statements so that you are speaking from your personal experience.
- Take risks and expect discomfort: We ask that you contribute to discussions and exercises by sharing your thoughts, feelings, and experiences. Sometimes this may involve personal discomfort and risk taking. It is up to you the degree of risk or disclosure you make.

Research Misconduct Background



Federal Regulation since 1985: “Health Research Extension Act”



42 CFR PART 93: Defines the expectations of institutions regarding Research Misconduct and responsibilities of reviewing a research misconduct case.

Research Misconduct

In proposing, performing, or reviewing research results:

Fabrication

Falsification

Plagiarism

Research Misconduct

In proposing, performing, or reviewing research results:

Fabrication: making up results and recording or reporting them.

Research Misconduct

In proposing, performing, or reviewing research results:

Falsification: manipulating research materials, equipment, or processes, or changing or omitting results such that the research is not accurately represented in the record.

Research Misconduct

In proposing, performing, or reviewing research results:

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

Criteria for Research Misconduct

- ✓ Represents a significant departure from accepted practices
 - ✓ Has been committed intentionally, knowingly, or recklessly
 - ✓ Can be proven by a preponderance of evidence
-
- NOT Misconduct: honest, unintentional error

Not Research Misconduct

Authorship
disputes

Conflict of
Interest/Conflict of
Commitment

Bad Mentorship

Collaboration
disputes

Non-adherence
IACUC, IRB, IBC
policies and
regulations

Why Does Misconduct Occur?

These quotes come from people who admitted to research misconduct in closed Office of Research Integrity cases. Research misconduct is never justified, but it is important to recognize potential drivers of misconduct to better understand how it might be prevented.

POOR SUPERVISION
“ I WAS SCARED TO GO TO [MY PI]. HE USED TO SCREAM & YELL AT ME WHEN THINGS DID NOT WORK AS PLANNED. ”

INADEQUATE TRAINING
“ AFTER TWO YEARS OF A POSTDOCTORAL FELLOWSHIP... I STILL DON'T KNOW HOW TO PROPERLY PUBLISH WESTERN BLOT DATA. ”

COMPETITIVE PRESSURES
“ I FELT IT WAS NECESSARY TO GET A PAPER IN A HIGH-PROFILE JOURNAL IN ORDER TO GET A FACULTY POSITION. ”

PERSONAL CIRCUMSTANCES
“ [I] HAD BEEN APPLYING FOR A GREEN CARD AND FELT PRESSURED TO MAKE A GOOD PAPER AND GET GOOD PUBLICATIONS. ”

INDIVIDUAL PSYCHOLOGY
“ HALF OF ME WANTED TO MAKE [MY PI] PROUD. THE OTHER HALF WAS TERRIFIED OF FAILING... SO I FABRICATED A PIECE OF DATA. ”

Seek support from a mentor if stressors are impacting your work.

Publish or Perish Pressure

Desire to “get ahead”

Personal problems

Character issues



Questions?

Contact Penn State's Research Integrity Officer,
Candice Yekel:
Email: researchconcerns@psu.edu
Phone: 814-865-1775



Moral Reasoning

The rules do not apply to me



Tired or...



I was righting a wrong done to me



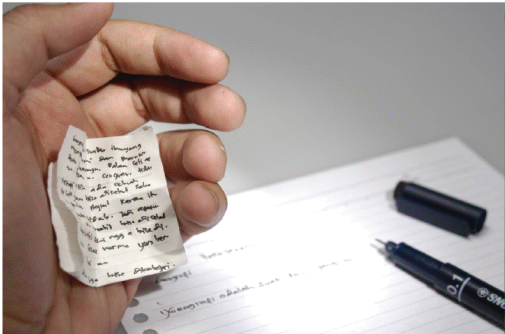
I don't understand the rules



The rule does not fit the context



It is a victimless offense



I was too hungry or...



There are other things I value more



Adapted from:

John Pijanowski

University of Arkansas

<https://sites.google.com/site/pijanowskhome/Home/nsf-biological-research-experience-for-undergraduates>

Bad Research Behaviors Research Misconduct



Falsifying	Falsifying or 'cooking' research data
Using	Using another's idea without obtaining permission or giving credit
Failing	Failing to present data that contradict one's own previous research
Removing	Removing observations or data points from results
Publishing	Publishing the same data in two or more publications



POSSIBLE RED FLAGS OF RESEARCH MISCONDUCT



TIME

- Usable data are only generated when there is a pressing deadline
- Experiments are completed faster than usual

RESULTS

- Data are too good to be true
- Findings can't be replicated by others in the lab



POSSIBLE RED FLAGS OF RESEARCH MISCONDUCT



LACK OF TRANSPARENCY

- Raw data can't be produced when requested
- Research materials and protocols are kept hidden
- Work is mostly done when no one else is around

Follow Your Research Misconduct Policy

Research Misconduct Policy

[Download Research Misconduct Policy PDF](#)

Subject: Research Misconduct Policy
Revised: October 6, 2021, November 11, 2022
Effective: November 15, 2012
Review Date: November 11, 2025
Responsible Party: Office of Research Compliance

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Research Misconduct Process



Assessment – RIO evaluates the allegation to determine whether it meets the elements of a research misconduct allegation.



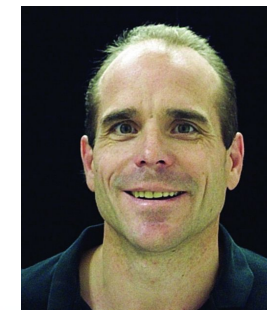
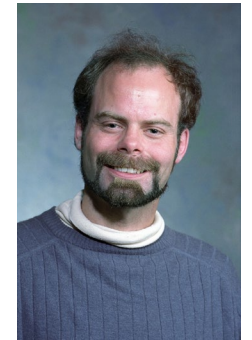
Inquiry- Gather information and initial fact-finding to determine whether an allegation or apparent instance of research misconduct warrants an investigation.



Investigation - explore in detail the allegations, to examine in depth to determine specifically whether misconduct has been committed, by whom, and to what extent.

Some Famous Cases

- Duke University – Anil Potti – Cancer Research
- University of Kansas – Mahwah Visvanathan and Gerald Lushington – Computer Scientist
- Columbia University – Bengu Sezen – Chemistry
- Penn State – Craig Grimes - Biomedical



Case Studies

FIGURE 1. COMET ASSAY

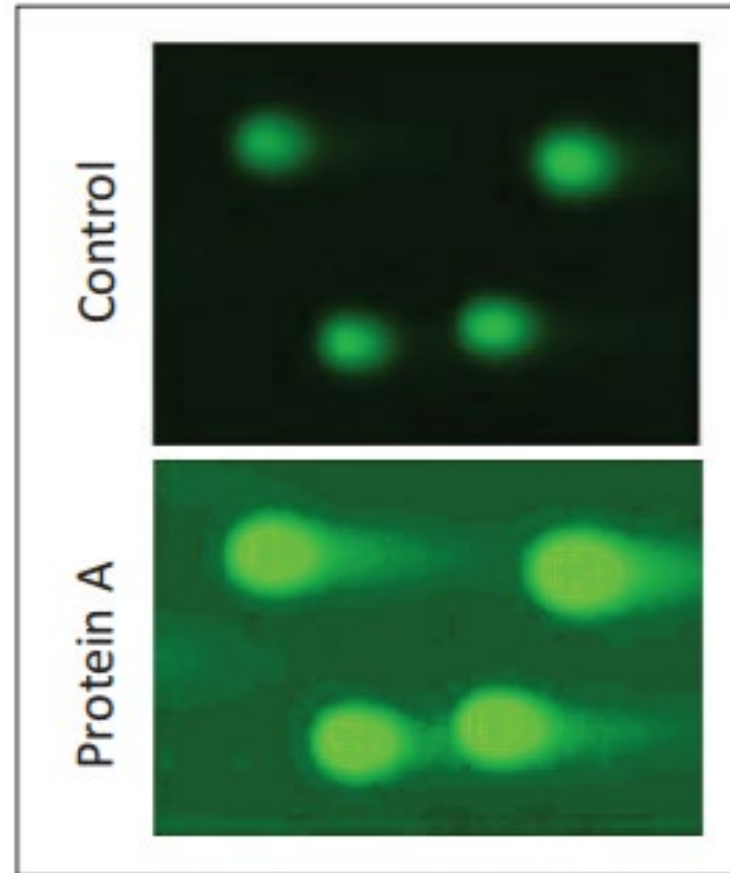


FIGURE 1. COMET ASSAY

The control image was cropped and relabeled as the image for Protein A. It was also intentionally lightened to make the “tails” appear longer.

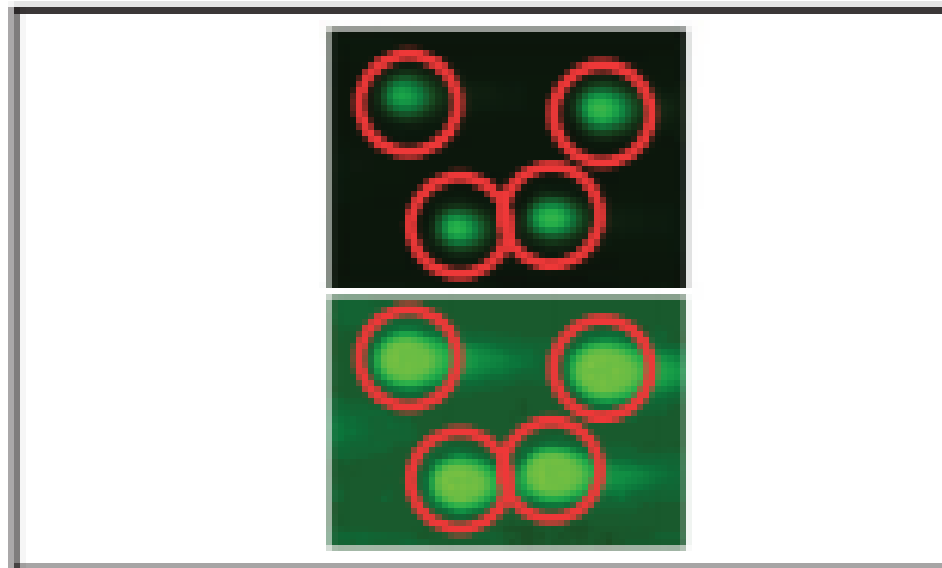


FIGURE 2. IMMUNOFLUORESCENCE COLOCALIZATION ASSAY

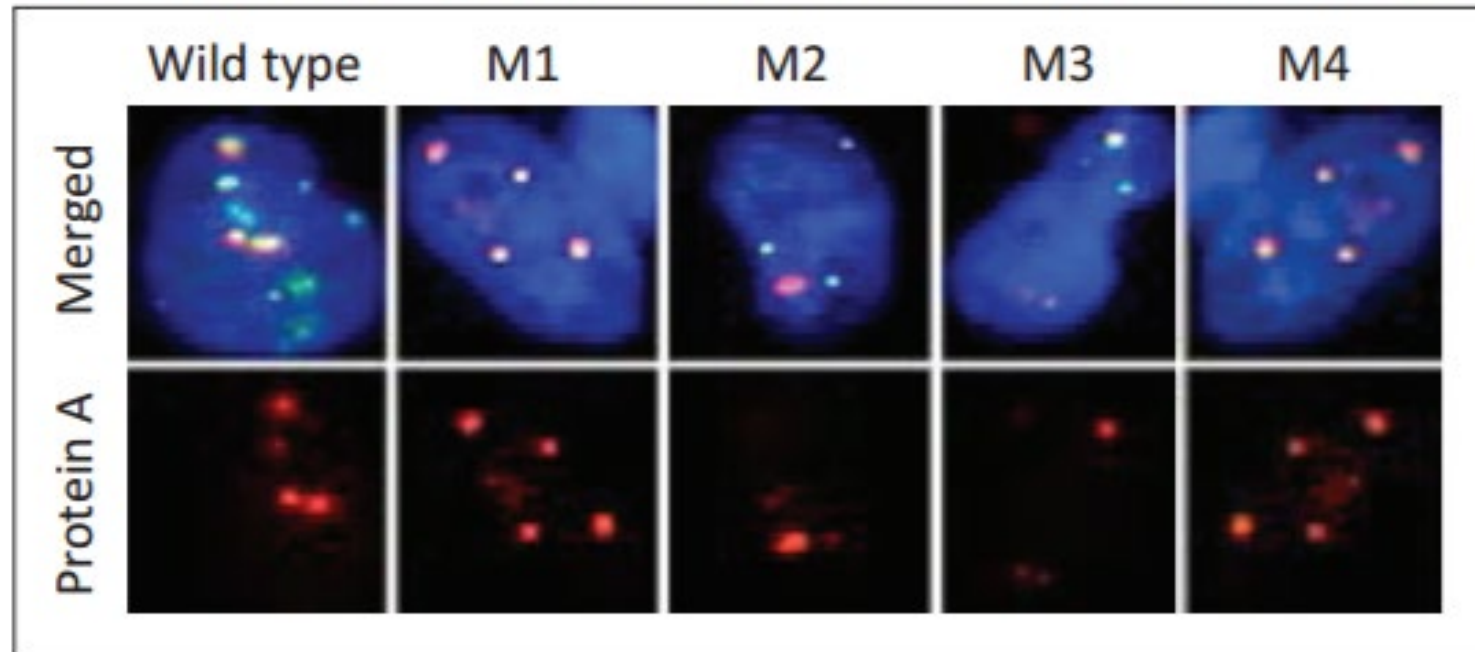


FIGURE 2. IMMUNOFLUORESCENCE COLOCALIZATION ASSAY

M1 and M4 are the same image but flipped vertically.

