

act with honesty: fabrication



Presented by:

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Hi. My name is Jackie Stapleton, liaison librarian at the University of Waterloo.

This video will outline some examples of fraudulent behaviour in academic research.

scenario 1 fake data

Dr. Hwang Woo Suk, South Korean biomedical scientist

Time magazine's
"People Who Mattered 2004"

"Hwang has already proved that human cloning is no longer science fiction, but a fact of life."



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In this real life example:

Dr. Hwang was a highly respected South Korean biomedical scientist, specializing in stem cell and cloning research.

Time magazine named him one of its "People Who Mattered for 2004".

“Science regrets the time that the peer reviewers and others spent evaluating these papers as well as the time and resources that the scientific community may have spent trying to replicate these results.”

Retraction of Hwang *et al.*, *Science*

“With Hwang discredited, both the field of therapeutic cloning and the public’s trust in science have suffered a serious setback”

Nature News



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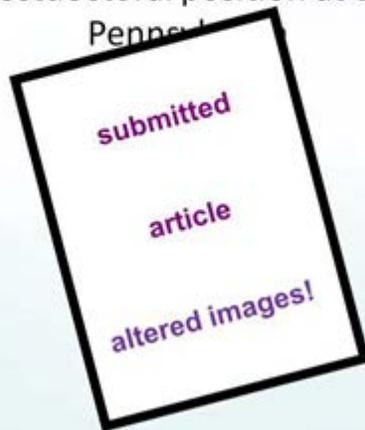
The ramifications from this discovery were felt across academia. Science magazine retracted both articles and acknowledged the time wasted by peer reviewers and other researchers, like yourself, attempting to duplicate the results.

In our second example, Kristin Roovers was a post doc studying the role of cell growth in diabetes.

In 2005, Kristin submitted an article to the peer reviewed Journal of Clinical Investigation. The editor assigned to Kristin’s article found that images had been cut and pasted, reversed or flipped in order to better support her research findings.

real life example 2 tampering with images

Kristin Roovers, postdoctoral position at the University of Pennsylvania



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real life example 2 what happened next?

As a result, Kristin resigned from U of Pennsylvania, was declared ineligible for U.S. government grants for the next 5 years. She realized more long lasting effects when she was released from a subsequent position at U of Ottawa in 2008 when they became aware of her misconduct.



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What happened to Kristin next?

Well, her article was not published and articles in other journals were retracted

The incident was reported to the Office of Research Ethics and now Kristin is ineligible for US government grants for 5 years.

Kristin resigned from her position at Pennsylvania and was later expelled from a position at the University of Ottawa once they became aware of her past misconduct. Her actions have resulted in long lasting effects to her academic career.

In her
defence:

"Not the only one in the lab to do so"

*"I was not trying to deceive. It was trying to present it
even better."*



(Young, J., 2008)

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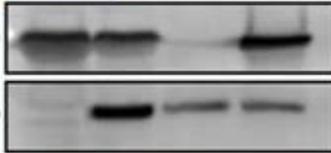


When Kristin spoke in her defence, she commented that she “was not the only one in the lab doing this” and she “wasn’t trying to be deceitful” she was “trying to present the information in a better way.”

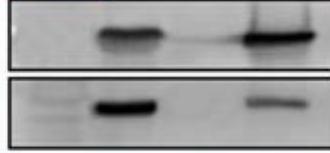
Of course this is not a justification for doing what she did but might you find yourself making similar comments to justify certain actions?

can you **detect** the alteration?

Before:



After:



Immunoprecipitation images supplied by UW Dept. of Biology

detection software **can!**



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Simple imaging software such as Photoshop makes it very easy for people to adjust or manipulate image.

These before and after pictures demonstrate how difficult it can be for the naked eye to detect an alteration.

Journals are responding to this growing problem by using detection software which can find digital codes or marks left behind when images are altered.

Don't be
tempted!

"I'm just polishing up the image for you!"

"It looked much cleaner through the lens!"

*"... beautification is a form of misrepresentation.
Slightly dirty images reflect the real world."*

Nature editor, Linda J. Miller



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Edit or alter images with caution.

Talk to your instructor before editing images for a class assignment or lab report. Also, read journal submission guidelines in respects to images. For example, the journal 'Nature' provides a Guide for Digital Images for all authors planning to submit articles for publication.

ask yourself...

What would I do if I saw someone in my lab or research group fabricate or falsify research results?

Is it OK to make slight changes to clean up an image or data set if it will present the results better?



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I'll leave you with these questions for self-reflection.

What would you do if you saw someone in your lab or research group fabricate or falsify research results?

Is it OK to make slight changes to clean up an image or data set if it will present the results better?

Think about your response to these situations as you may encounter them during your graduate career.

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