



Understanding the University of Pittsburgh's New Research Misconduct Policy

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PittResearch

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Research Integrity – What is it?

Research integrity includes:

- the use of **honest and verifiable methods** in proposing, performing, and evaluating research
- reporting research results while **actively adhering to rules**, regulations, and guidelines
- **following** commonly accepted **professional ethical standards**
 - honesty and fairness
 - accuracy and proficiency
 - transparency
 - collegiality
 - protection of animal and human subjects
 - respect for trainees



Research Misconduct – What is it?

As defined by both federal and university regulations, Research Misconduct is defined as data **fabrication**, data **falsification**, or **plagiarism**, *committed intentionally, knowingly, or recklessly*.

F

Fabrication: The creation of non-existent data and results and the act of recording and reporting them.

Don't lie.

F

Falsification: The manipulation of research materials, equipment or processes or omitting data and results so that the research is not accurately represented in the research record.

Don't cheat.

P

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

Don't steal.



Integrity and Misconduct Are NOT a Perfect Inverse

What is not Research Misconduct?

- honest errors
- differences of opinion
- disputes over authorship or credit
- text recycling (self-plagiarism)
- conflicts of interest
- violations of rules for using
 - human subjects
 - animals
 - chemicals or investigative drugs
 - equipment
 - research funds
- harassment (Title IX violations)
- other unethical activities involving research



Why Do Research Integrity and Misconduct Matter?

Because **scientific progress**:

- requires reporting of **trustworthy results**
- requires **public support**
 - investments
 - voluntary participation in experiments
- **improves life** for everyone

Real harm can be caused by researchers who act without integrity and commit research misconduct.

- harm to people and animals
- harm to reputations
- loss of trust in science and institutions
- delay in research progress
- waste of resources



Research Misconduct in the News

NIH funded a \$30 million study led by Berislav Zlokovic at USC.

In Nov 2023, *Science* received a large report recommending a halt to clinical testing.

Science described **allegations of research misconduct based on a lab culture of intimidation, pressure and humiliation.**

So far:

- drug study halted
- multiple papers retracted or have “expressions of concern”
- Zlokovic on indefinite leave
- USC returned some money to the US government



Berislav Zlokovic, USC

Piller Nov 2023 *Science*, 382 (6672): 754-9

Research Misconduct in the News

A whistleblower identified at least 58 instances of “faulty data” in publications and grants.

So far:

- Dana-Farber has admitted that some investigators “misrepresented and/or duplicated” images and data.
- At least 6 manuscripts have been retracted, and dozens are still undergoing corrections.
- A \$15 million dollar settlement was paid to the US government in December 2025.



Retraction Watch
Boynton et al., Dec 2025 Wilmer Hale website

How Can Allegations of Research Misconduct Be Avoided?

Allegations of misconduct can be prevented by

- having a high personal regard for ethics and the soundness of the scientific record
- recognizing areas where responsible and ethical conduct of research often breaks down
 - poor mentor-trainee relationships and inadequate training
 - lack of rigor in daily practices and record keeping
 - failure to review raw data for publication/grant submission



Research Misconduct Policy

Pitt policy derives from federal policy: US Department of Health and Human Services PHS Policy 42 CFR Parts 93 and 50.

The old policy dated from 2005.

The federal Office of Research Integrity (ORI) updated the policy to take effect Jan 1, 2025, and institutions had one year to implement the changes.

Our **new policy** was published December 17, 2025, and **took effect January 1, 2026.**



What is Unchanged?

Much Remains the Same

The policy re-affirms the University's commitment to Research integrity in all scholarly endeavors.

The Research Integrity Officer (RIO) is the person responsible for:

- encouraging scientists and institutions to follow ethical conduct when carrying out and reporting experiments
- handling allegations of research misconduct
- ensuring research misconduct procedures adhere to policy

All University members engaged in research are obligated to report allegations, suspicions, or evidence of research misconduct.

- contact the RIO
- use Pitt Concern Connection

What is Unchanged?

Much Remains the Same

Respondent the person alleged to have committed research misconduct

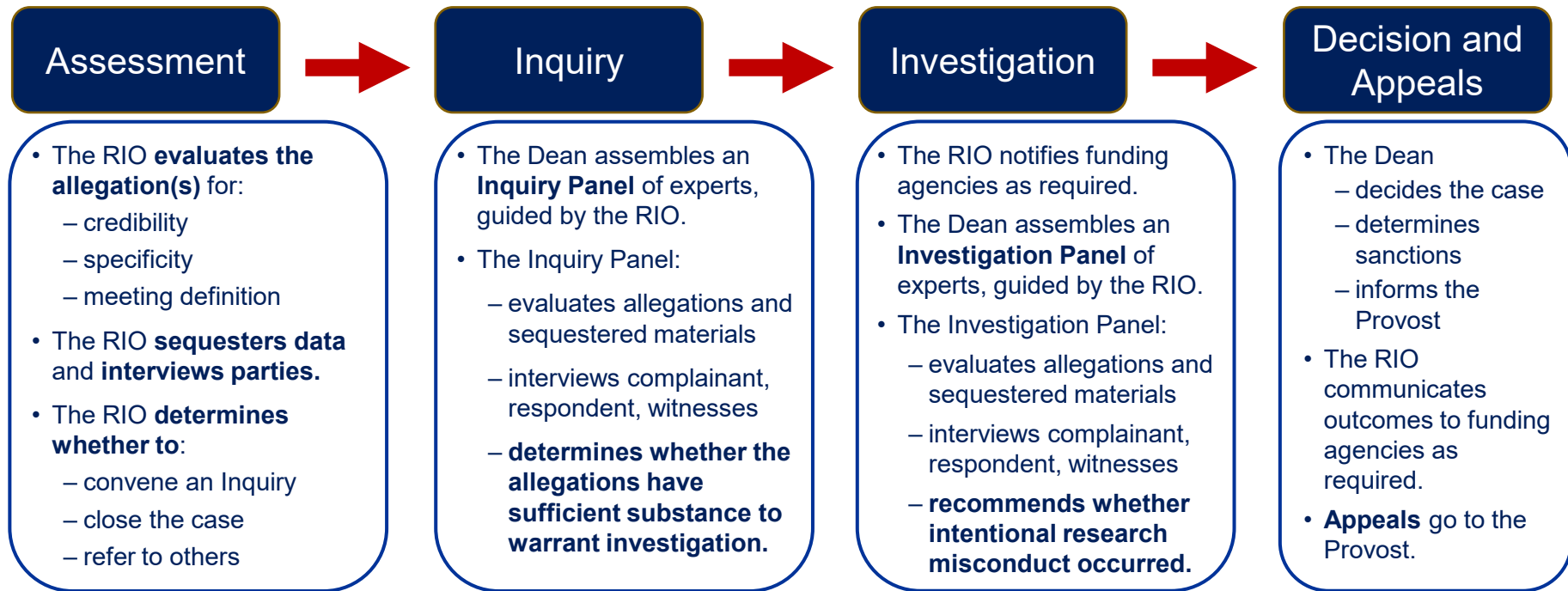
Complainant the person alleging misconduct

Witness any person having material knowledge of the events

Dean the deciding official

Provost handles appeals

Research Misconduct Proceedings



The evidentiary standard is “preponderance of evidence.”

All proceedings are confidential.

Research Misconduct Policy – What's New?

Most Obvious Changes

name changed to Research Misconduct Policy

divided into Policy and Procedures

Mainly Affects RIOs

extends the time allowed for Inquiries and Investigations

allows the RIO to close cases when honest error is the finding

allows the RIO to conduct an Inquiry in lieu of a panel

elaborates joint procedures for multi-institution cases

defines a six-year time limit on allegations, barring subsequent use

What Is “Subsequent Use”?



Subsequent use occurs when authors cite their *own* work in manuscripts, grants, progress reports, posters, and similar materials.

If research misconduct was involved, or if errors occurred, authors are perpetuating questionable results through self-citation.

The Six-Year Time Limit and Subsequent Use

Professor A publishes a paper in 2025.

The paper is cited by the field, but Professor A does not cite it.

The RIOs receive an allegation of research misconduct in 2032.

The RIOs do a cursory assessment and:

- determine **there has been no subsequent use**
- ① - determine the issue is likely one of honest error
 - urge Professor A to work with the journal to publish an erratum
 - are not obligated to follow Research Misconduct Proceedings
- ② - determine the issue is likely more serious than honest error and may involve research misconduct
 - will follow the Research Misconduct Proceedings

The Six-Year Time Limit and Subsequent Use

Professor A publishes a paper in 2025.

Professor A uses the data in a 2027 grant application.

The RIOs receive an allegation of research misconduct in 2032.

The RIOs do a cursory assessment and:

- determine **there has been subsequent use**
- will follow the Research Misconduct Proceedings

So How Long Should Data Be Retained?

Save your data!

Original data is the best defense against allegations of research misconduct or errors.

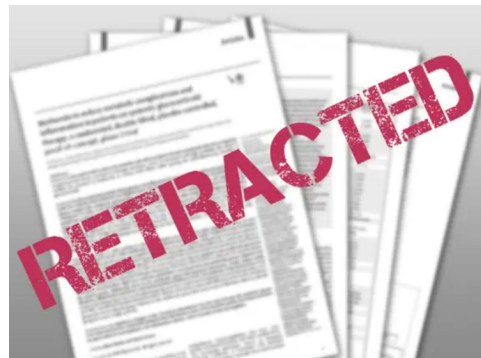
Know your funding agency and university policies.

Think twice before destroying data for papers you still cite.

Know that journals and publishers have no time limits!

Publishers can retract papers at any time if misconduct is alleged and the senior corresponding author cannot counter the allegations with original data.

Pitt Digital recognizes the need for better long-term electronic data storage and continues to work on solutions.



Research Misconduct Policy – What's New?

Changes Affecting Research Community

defines recklessly

more thoroughly defines failure to retain or provide data as evidence of research misconduct

requires the Respondent to be interviewed for an Inquiry

stipulates that the Respondent may not be present during other witness testimony

but has the right to see all transcripts

allows the RIO to redact transcripts to protect confidentiality

streamlines the Appeals process

Research Misconduct Policy – What's New?

Changes Affecting Research Community

extends to appointment stream faculty the right to have one person with equal rank on the Investigation Panel

(already true for students, staff, and postdoctoral trainees)

clarifies the Respondent's responsibility to correct the research record

stipulates that the RIO will perform this function on behalf of the institution if the Respondent does not comply

What About AI?

The new policy does not specifically mention generative AI

Text

Publishers have already created rules governing the use of generative AI in text.

Committee on Publication Ethics (COPE) guidelines:

- AI tools cannot be authors.
- Authors must transparently disclose any use of AI.
- Authors are responsible for AI content and liable for any ethical breaches.



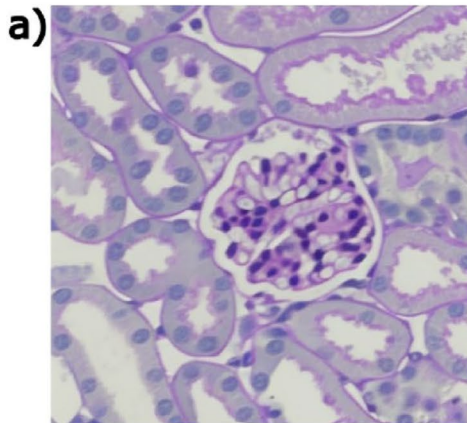
What About AI?

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Images

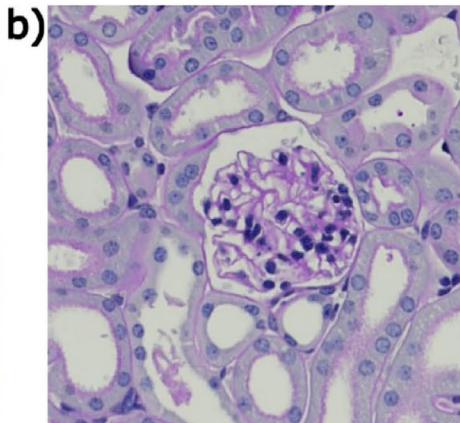
Creating biological images using generative AI is, by definition, data fabrication.

Fake

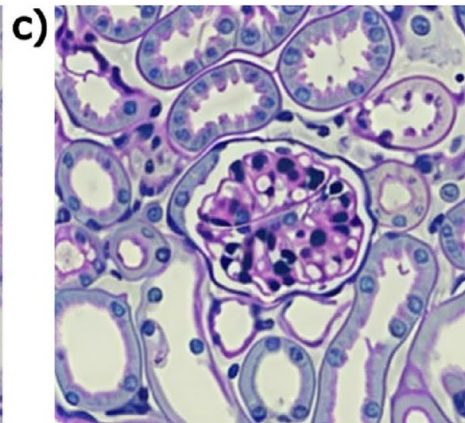


Hartung et al., *Nature* 2024

Real



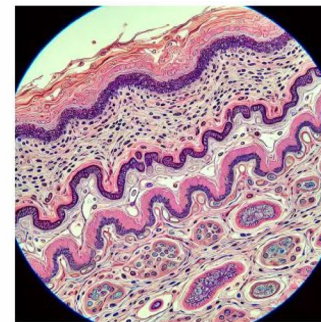
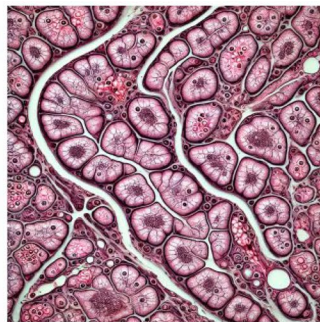
Fake



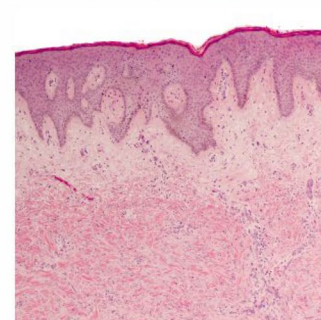
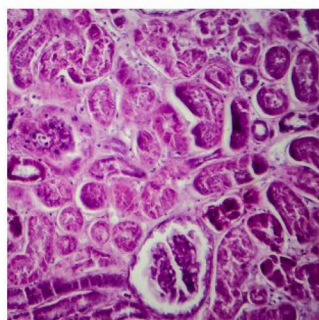
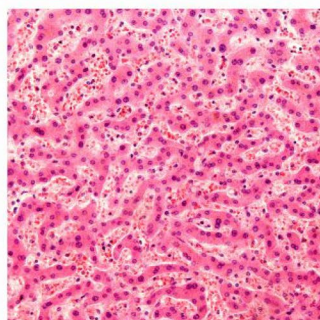
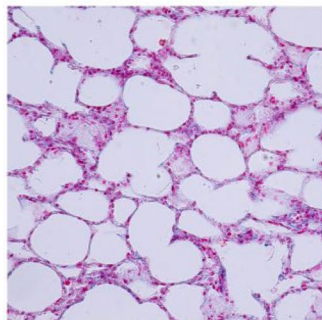
What About AI?

The world of AI-powered images is moving fast!

Early 2024



AI-generated



Real

lung

liver

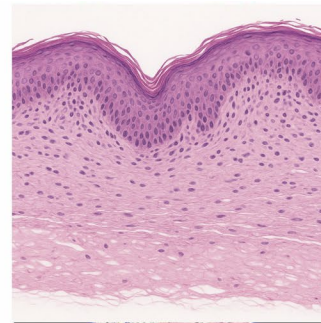
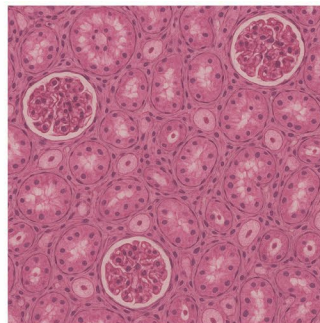
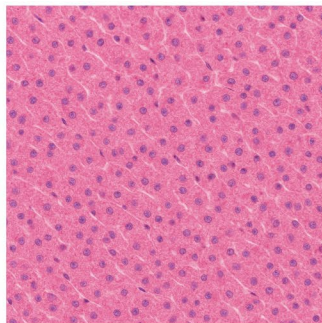
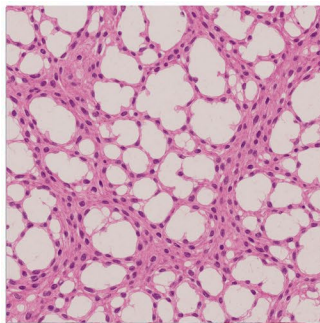
kidney

skin

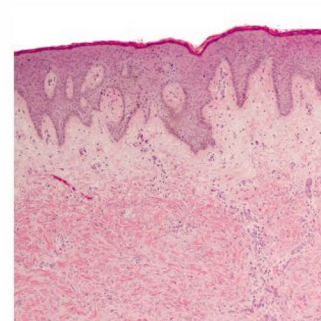
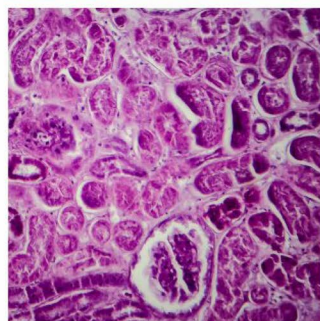
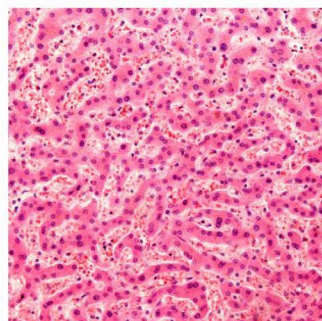
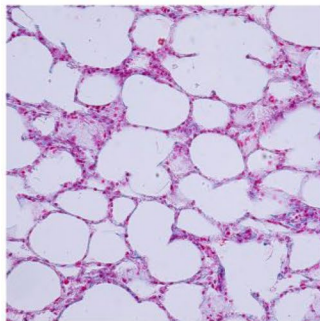
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The world of AI-powered images is moving fast!

October 2025



AI-generated



Real

lung

liver

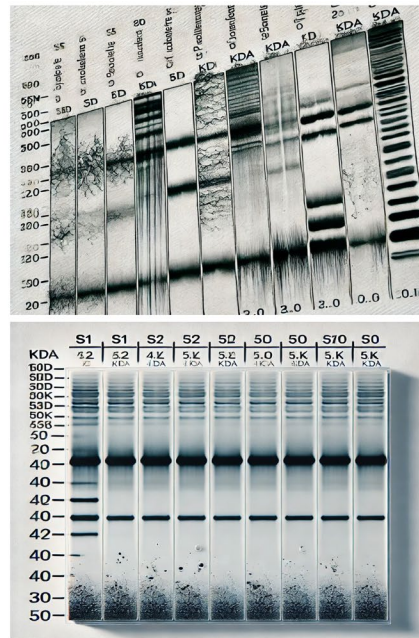
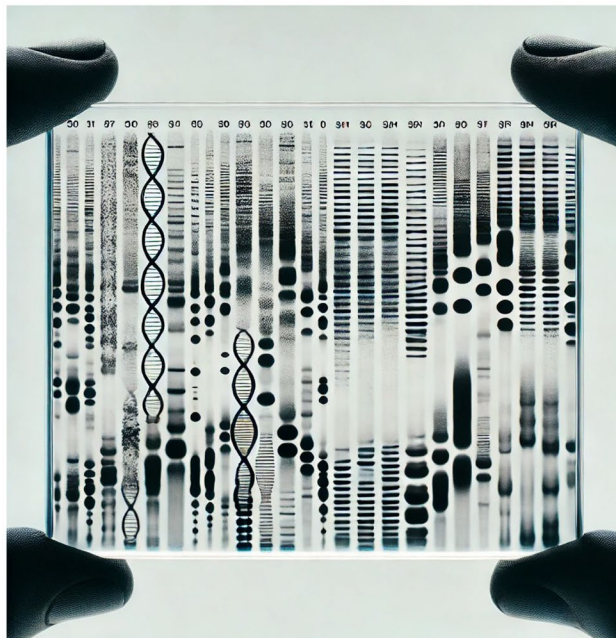
kidney

skin

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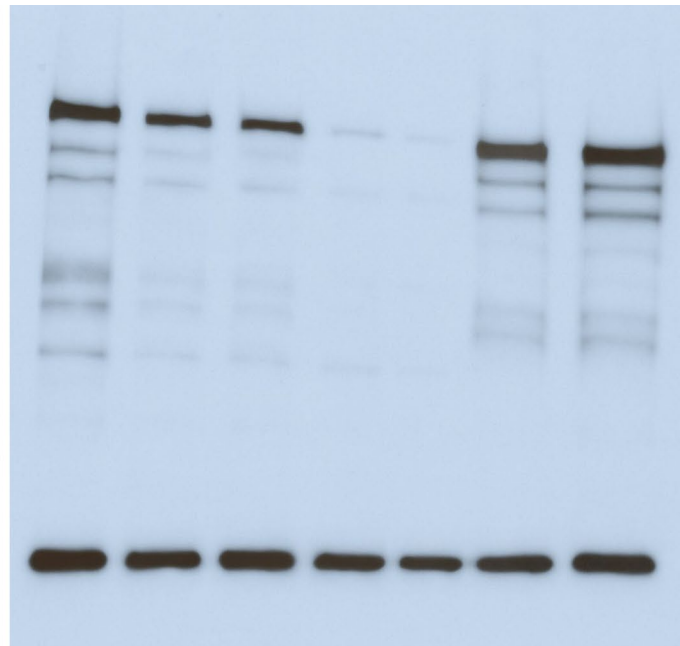
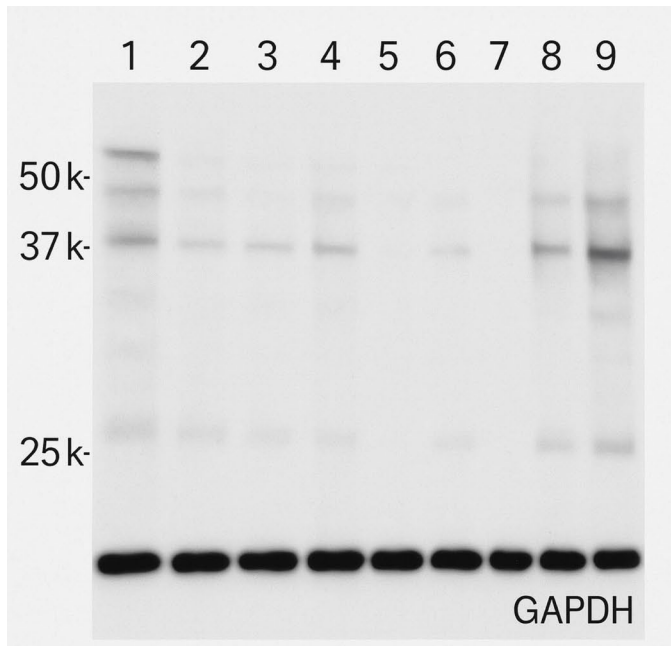
Early 2024



What About AI?

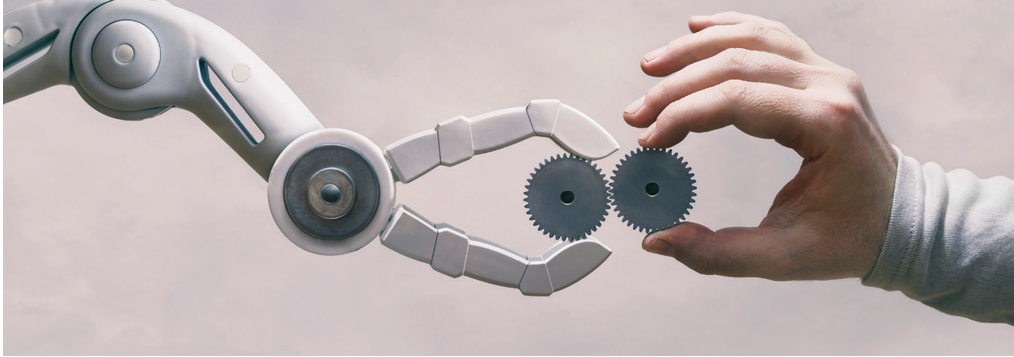
The world of AI-powered images is moving fast!

October 2025



What Can We Do?

Use AI !!



Coevolutionary arms race:

- fraudulent use of generative AI
- **detection** of generative AI products

Using AI to Check Manuscripts

Use AI !!



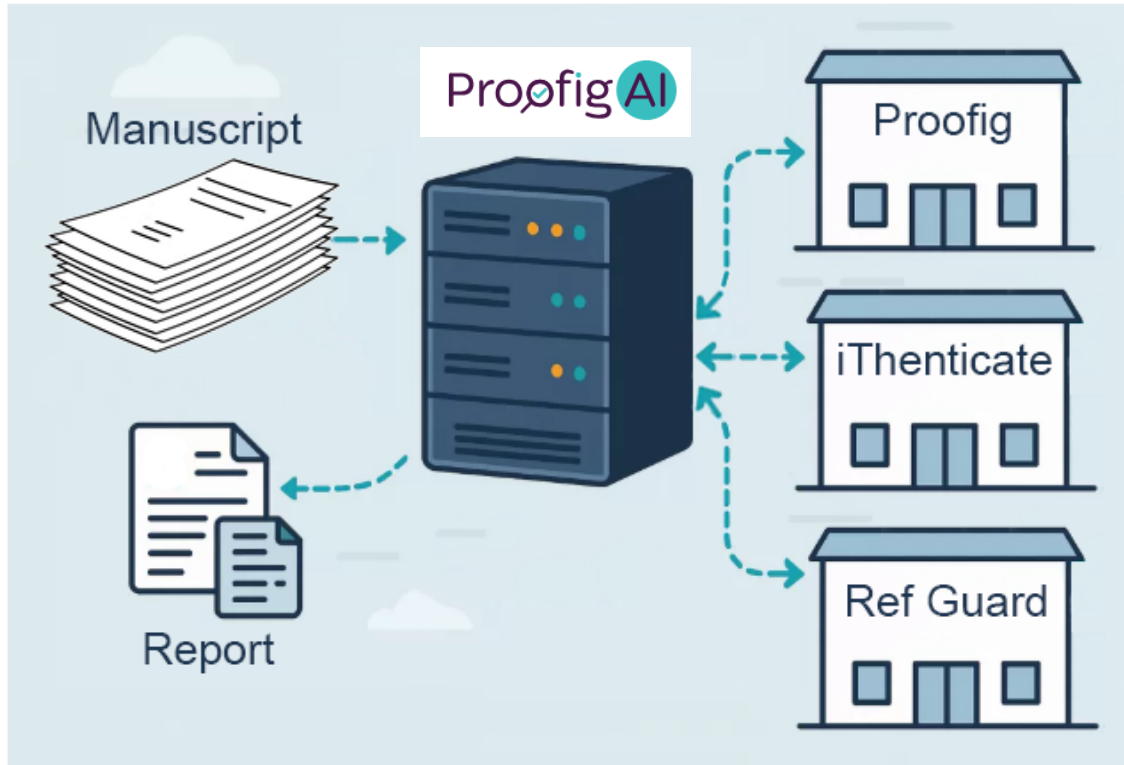
Solutions ▾

Technology ▾

We Are Proofig AI

The leading AI platform for automated image integrity quality assurance in scientific publications, trusted by top researchers, publishers, and institutions.

Using AI to Check Manuscripts



Using AI to Check Manuscripts

Proofig Image Check is primarily for life sciences

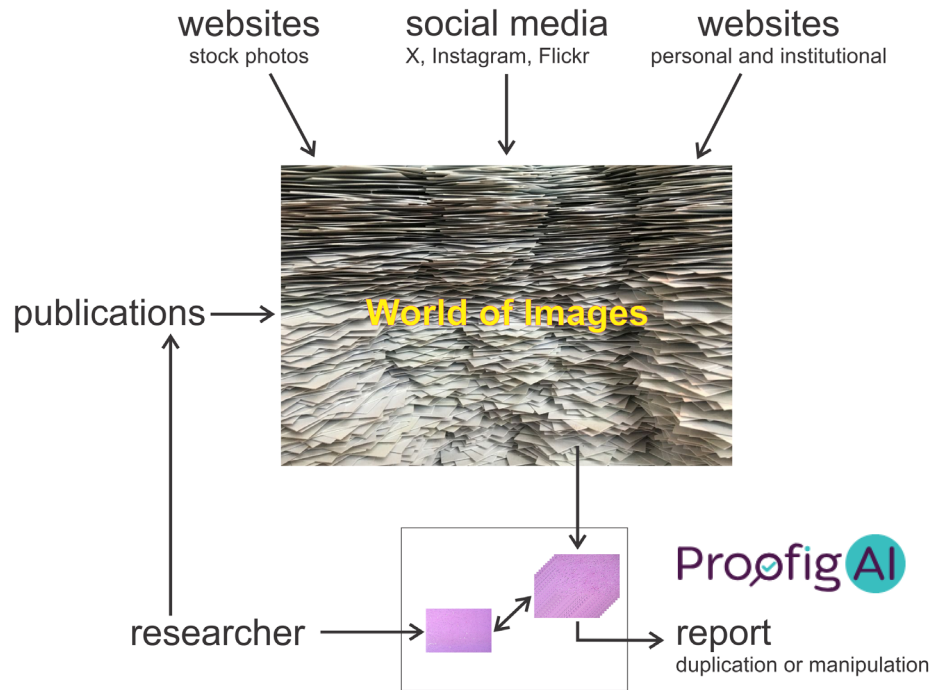
Proofig AI

- any microscopy
- Western blots
- cell culture and FACS
- *in vivo/vitro* images
- X-rays, CT, and MRI scans
- bioluminescence



Using AI to Check Manuscripts

Proofig Image Check does not share the user's images

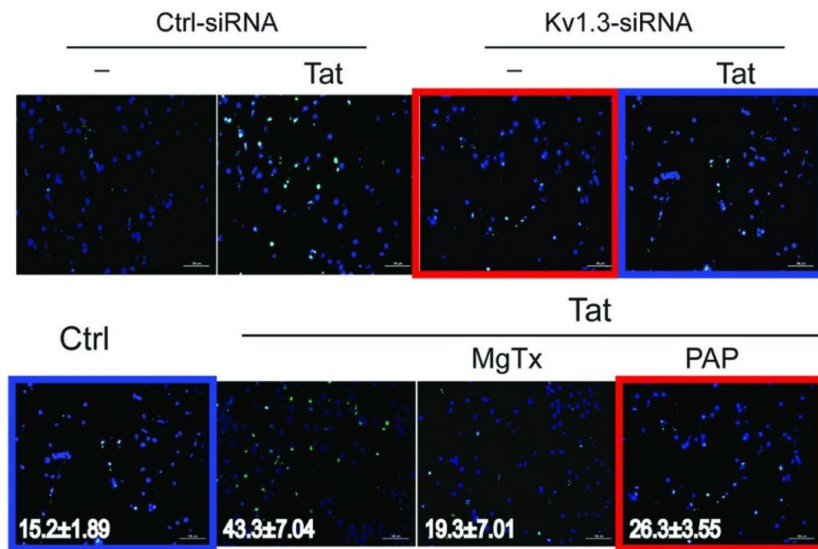
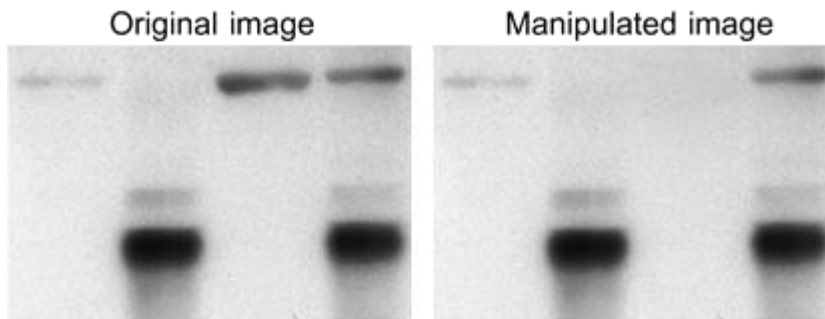


Using AI to Check Manuscripts

Proofig Image Check

- duplications within manuscript – whole or in part
- duplications across the world of images – “
- common image manipulations
- AI-generated images

Proofig AI



Bik et al., 2016 *mBio* DOI: 10.1128/mBio.00809-16
Enago Academy 2024

Using AI to Check Manuscripts

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iThenticate Check for text

- plagiarism
- text-recycling



The screenshot displays the iThenticate software interface. On the left, the manuscript title is "Polystyrene-supported GaCl₃ as a highly efficient and recyclable heterogeneous Lewis acid catalyst for one-pot synthesis of N-substituted pyrroles" by Ali Rahmatpour. The document is dated 27 December 2013. The main area shows the abstract and the beginning of the introduction. The introduction discusses the use of nitrogen-containing cyclic compounds as Lewis acid catalysts. On the right, a "Match Overview" sidebar shows a list of matches with their similarity percentages: 3%, 3%, 2%, 2%, 2%, 2%, and 1%.

Match Number	Match Description	Similarity Percentage
1	CrossCheck 135 words Liang Wang, "Polystyrene-supported AlCl ₃ : A highly active and reusable heterogeneous catalyst for the one-pot synthesis of N-substituted pyrroles"	3%
2	CrossCheck 131 words Chen, J., "An approach to the Paal-Knorr pyrrole synthesis: catalyzed by Sc(OTf) ₃ under solvent-free conditions", Tetrahedron	3%
3	CrossCheck 113 words Borjesson, K.P., "Synthesis and application of polystyrene-supported aluminum triflate as a new polymeric Lewis acid catalyst"	2%
4	CrossCheck 91 words Liang Wang, "Polymer-supported zinc chloride: a highly active and reusable heterogeneous catalyst for one-pot synthesis of N-substituted pyrroles"	2%
5	CrossCheck 76 words Ali Rahmatpour, "An efficient, high yielding, and eco-friendly method for the synthesis of 14-aryl- or 14-alkyl-14H-dibenz[1,2-b:4,5-b']pyridine"	2%
6	CrossCheck 73 words Ran Ruicheng, "Polymer-Supported Lewis Acid Catalysts: Polystyrene-Gallium Trichloride Complex", Journal of Macromolecular Science	2%
7	CrossCheck 64 words Karimi, B., "Solid silica-based sulfonic acid as an efficient and recoverable interphase catalyst for selective tetrahydroxylation of alkenes"	1%

Using AI to Check Manuscripts

Ref Guard Check for references

- self citations
- old papers
- retracted papers
- AI hallucinations
- predatory journals
- paper mills

Proofig AI



Using AI to Check Manuscripts

What else?

- increase the size of “My Database”
- table and graph recognition
- link to Lab Archives

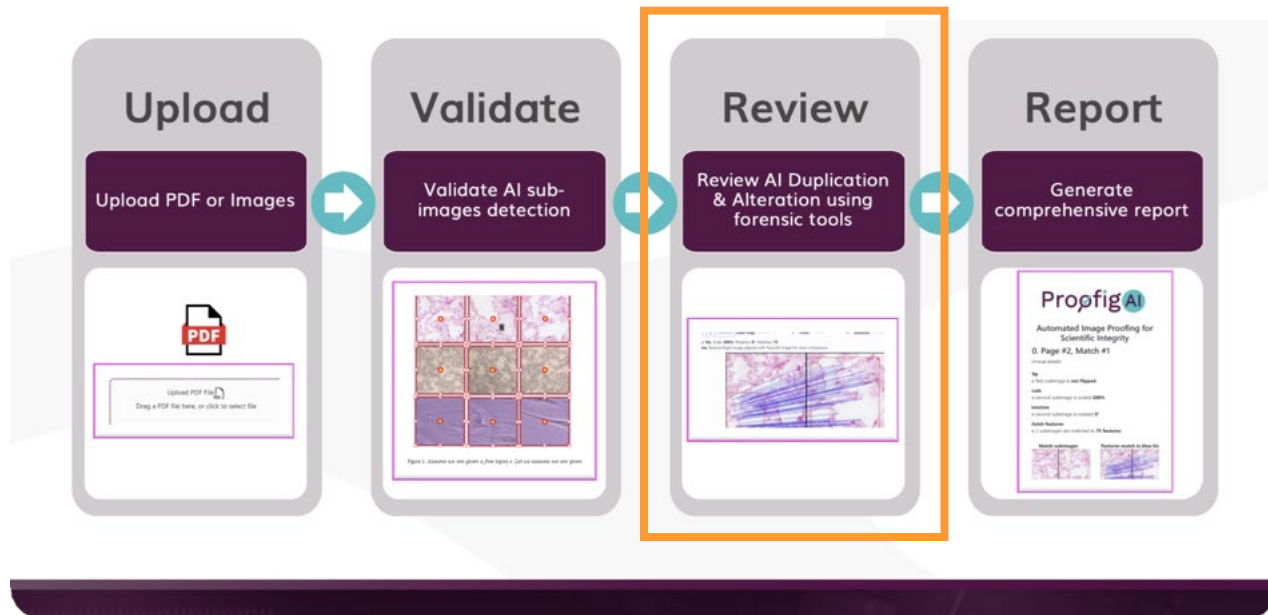
Proofig AI



Using AI to Check Manuscripts

What is the process?

ProfigAI



Using AI to Check Manuscripts

Proofig AI

What issues will be encountered?

- false positives
- false negatives
- uncertainty

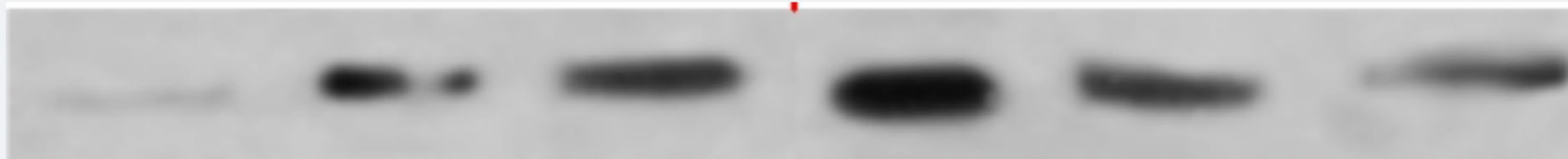


User must decide

  Color map: ----- Filter: ----- Enhance: -----

Alteration AI confidence Score: 89%

Note: AI confidence scores aren't definitive. Use filters like histogram equalization to confirm alterations.

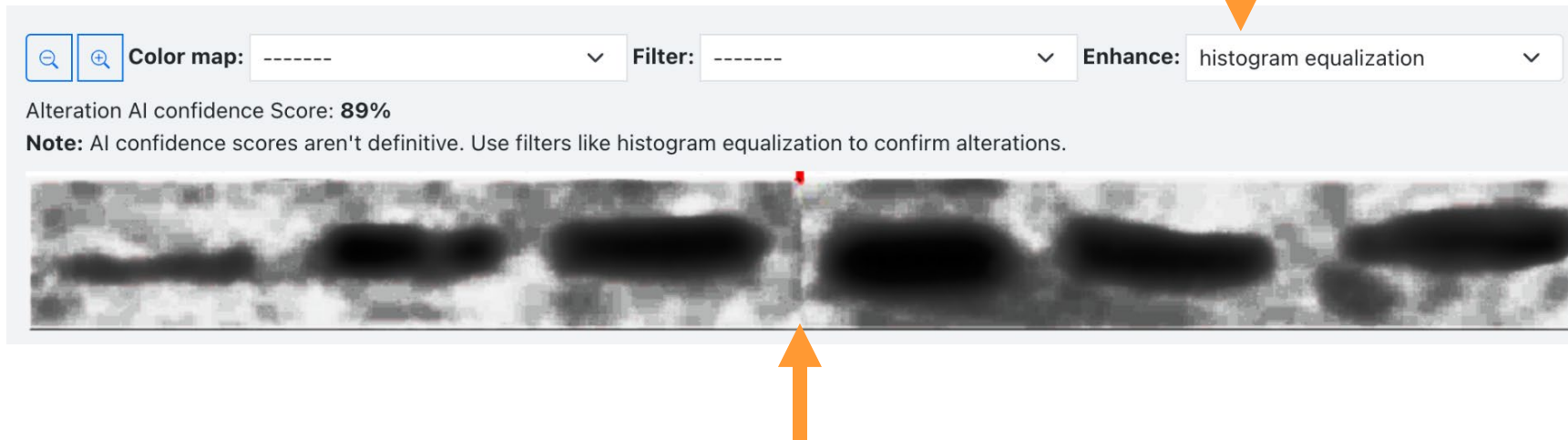


Using AI to Check Manuscripts

Proofig AI

What issues will be encountered?

- false positives
- false negatives
- uncertainty



Using AI to Check Manuscripts



How is this going to work?

- Proofig online tutorials
- Proofig webinars for Pitt
- Guidance documents
- HSLS will provide training and support – not Research Integrity within ORP
- Divisional/Departmental resident experts

If you suspect research misconduct – contact Research Integrity within ORP

Reporting Research Misconduct

If you have a concern about possible research misconduct in your area:

- Contact the Research Integrity Officer, Dr. Susan Sesack
sesack@pitt.edu or research.integrity@pitt.edu
- Go to the ORP Website <https://www.orp.pitt.edu>



- For complete anonymity, contact Laurel Gift, Assistant Vice Chancellor for Compliance, Investigations, and Ethics lgift@pitt.edu
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