



THE COMPASS

A Research Integrity Bulletin by NTU RIEO

A Special Report on the Current State of Research Integrity



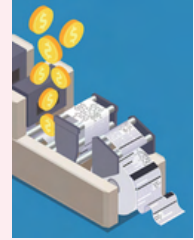
The [8th World Conference on Research Integrity](#) was held on 2-5 Jun 2024 in Athens, Greece. This biennial conference was attended by over 800 participants internationally.

Much of the discussion at this year's conference was focused on advances in **GenAI technology**. Whilst GenAI provides many opportunities to benefit and advance society, it has also caused a severe detrimental impact on academic and research integrity and increased the risks of fraudulent research outputs.

The key areas of concerns include unethical uses of GenAI to generate large-scale disinformation resulting in significant societal consequences. These include:

1. Paper mills:

Paper mills create fake research publications for a profit, and such papers are polluting the literature. Simple paper mills sell authorships online, but advanced networks have created entire papers including data, and have fake academics that have taken over whole editorial and peer review processes so that fake papers can bypass scrutiny.



- [An unpublished analysis suggests that there are hundreds of thousands of bogus ‘paper-mill’ articles lurking in the literature.](#)
- [Hindawi, a subsidiary of Wiley, retracted over 8,000 papers in 2023, primarily due to paper mill activity. Hindawi was shut down thereafter.](#)
- [Paper mills are also attempting to bribe editors at scholarly journals.](#)

2. Fake clinical trials:

Society would expect clinical trials to help inform healthcare decisions and to benefit mankind. With advances in GenAI, it is now possible to falsify certain data to produce misleading conclusions, in a manner that can evade traditional means of detection, thus leading to harmful treatments to patients.



- [Medicine is plagued by untrustworthy clinical trials. How many studies are faked or flawed?](#)
- [Doctors who fake data in clinical drug trials](#)
- [Disgraced researchers can still reap drug industry payouts](#)

3. Image manipulations:

The inappropriate altering of images to support scientific conclusions is common in some disciplines, particularly in the life sciences and nanotech. Image sleuths, such as Elisabeth Bik and Jana Christopher, work to detect image manipulations in publications. However, images fabricated by GenAI are almost impossible to detect as fabricated. This development is deeply concerning to the research integrity community.



- [How papers with doctored images can affect scientific reviews](#)
- [Biomedical paper retractions have quadrupled in 20 years](#)

Conclusion & Afterthought

The research integrity community is rapidly recognising the opportunities but also the challenges that can be posed by GenAI. Traditional tools (such as iThenticate) to spot plagiarism and image manipulations may be useless against researchers engaged in research misconduct.

Legislations may be necessary to mitigate the risks to research integrity caused by GenAI. The EU was amongst the first with the passing of their **Artificial Intelligence Act** in March 2024.



Meanwhile, it might be useful to study why researchers would commit misconduct, and if measures can be taken to remove the incentives driving misconduct.

- [Elite researchers in China say they had 'no choice' but to commit misconduct](#)

For NTU's position on the use of Gen AI in research, please click [here](#).

Upcoming Event

REALISING YOUR AUTHORSHIP POTENTIAL

Date: 26 Aug 2024, Monday

Time: 12-2pm

Venue: LKC Medicine (Novena)
Headquarters building
Level 2, Seminar room
11 Mandalay Road
Singapore 308207

* Lunch will be provided.
* There will be quizzes with prizes!



REGISTER NOW!



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Refer to [RIEO's website](#) for more information on Research Integrity in NTU

