

Fraudulent Cancer Research Papers Increased 10x in Recent Years

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SCIENCE IS THE BELIEF IN THE
IGNORANCE OF EXPERTS.

- RICHARD FEYNMAN -

Richard Feynman

The body of scientific literature on which new research is based is being flooded with fake research, much of which is published in respected scientific journals.

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Worse, fake papers are among the most cited, meaning current research and [spending are often built on shaky or fraudulent prior work](#).

The problem is hardly fringe. A new French study examining the influence of fake and AI-generated papers found that one in ten papers is the product of paper mills or AI, and that frequency has increased by 1000 percent.

France's National Centre for Scientific Research — Europe's largest public research institution — formally declared in late 2025 that generative AI has turned a chronic integrity problem in academic publishing into an acute systemic crisis, one threatening both the reliability of the global scientific record and the financial sustainability of the institutions that fund it. CNRS canceled its multimillion-dollar subscriptions to the two dominant commercial bibliographic databases, retooled how it evaluates its 11,000-plus researchers, and deployed detection tools designed to catch AI-generated fraud before it enters the literature.

A January 2026 study in The BMJ delivered one of the sharpest measurements yet of the crisis's scale. A team led by biostatistician Adrian Barnett of Queensland University of Technology trained a BERT-based text classifier — a bidirectional language

model — on 2,202 known paper mill papers drawn from the Retraction Watch database, then turned it loose on 2.6 million cancer research papers published between 1999 and 2024. The model achieved 91% accuracy in distinguishing genuine from fraudulent manuscripts. **What it found when applied to the broader literature was sobering: nearly 10% of all cancer papers screened — more than 261,000 studies — showed textual patterns consistent with paper mill origin, according to the machine-learning cancer paper mill study.**

The study drew particular attention to a paradox built into the fraud problem: *flagged papers accumulated significantly more citations than non-flagged papers. Fraudulent research, in other words, was not sitting ignored at the margins of the literature — it was being cited and built upon, according to Barnett's BMJ analysis of paper mills.*

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Of course, it's not just cancer research. Research that guided the study of Alzheimer's Disease was found to be fraudulent, meaning that tens of billions of dollars had been sunk into research based on fraud, setting back the search for cures by decades.

Paper mills are commercial operations that produce fraudulent research and sell authorship slots to clients under career pressure to publish. They are not a new phenomenon, but generative AI has qualitatively changed what they can do. Older paper mills left detectable fingerprints: standardized sentence templates, recycled figures, suspicious patterns in co-authorship networks. Detection algorithms were built to catch those patterns. Generative AI eliminated them. "Our system worked because the paper mills would have a template," Adam Day, chief executive of Clear Skies — a publishing integrity analytics firm — noted this year. "But now with AI, there is no template," Day told Chemistry World's paper mill feature.

The result has been a near-vertical scaling of fraud. A Northwestern University study published in PNAS in August 2025 found that suspected paper mill output was doubling every 1.5 years — roughly ten times faster than the 15-year doubling rate of legitimate scientific output. Of more than 32,000 fraudulent articles identified in the study, only 29% had been retracted.

The raw volume numbers behind this trend are difficult to absorb. More than eight million scientific publications appeared in 2025 alone, according to Science magazine — more than double the figure from five years earlier, fueled in part by the wider availability of large language models that can draft manuscripts in minutes. To process one completed peer review, editors in 2025 needed to send an average of 4.5 invitations — double the number required in 2018, according to Science's peer review

investigation.

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One of the great ironies of the past century is that we have turned [scientific research](#) into a massive industry, both because it is a high-prestige, high-value "product" and because the questions we are trying to answer are now difficult to answer by lone wolves working with tight budgets.

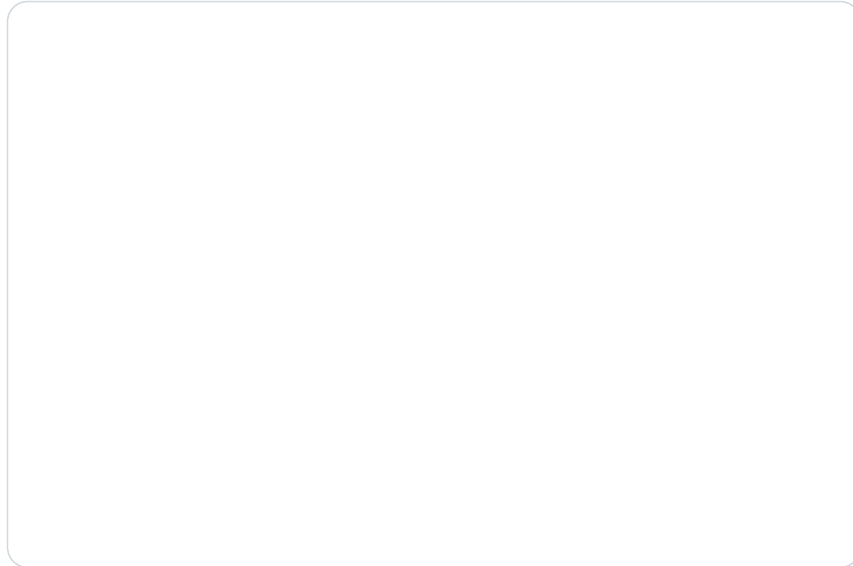
The number of researchers has exploded, and academia is flooded with large research budgets that a relatively small group controls, and competition to become one of them is fierce. The primary way to do so is to produce large volumes of highly cited papers in prestigious journals and to generate "results" that appear revolutionary.

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From fabricated research to paid authorships and
citations, organized scientific fraud is on the rise,
according to a new Northwestern University study.

By combining large-scale data analysis of scientific
literature with case studies, the researchers led a deep
investigation into scientific fraud. Although concerns

around scientific misconduct typically focus on lone individuals, the Northwestern study instead uncovered sophisticated global networks of individuals and entities, which systematically work together to undermine the integrity of academic publishing.

The problem is so widespread that the publication of fraudulent science is outpacing the growth rate of legitimate scientific publications. The authors argue these findings should serve as a wake-up call to the scientific community, which needs to act before the public loses confidence in the scientific process.

The study, "The entities enabling scientific fraud at scale are large, resilient and growing rapidly," was published in the Proceedings of the National Academy of Sciences.

"Science must police itself better in order to preserve its integrity," said Northwestern's Luís A. N. Amaral, the study's senior author.

"If we do not create awareness around this problem, worse and worse behavior will become normalized. At some point, it will be too late, and scientific literature will become completely poisoned. Some people worry that talking about this issue is attacking science. But I strongly believe we are defending science from bad actors. We need to be aware of the seriousness of this problem and take measures to address it."

An expert in complex social systems, Amaral is the Erastus Otis Haven Professor and professor of engineering sciences and applied mathematics at Northwestern's McCormick School of Engineering. Reese Richardson, a postdoctoral fellow in Amaral's

laboratory, is the paper's first author.

Extensive analysis

When people think about scientific fraud, they might remember news reports of retracted papers, falsified data or plagiarism. These reports typically center around the isolated actions of one individual, who takes shortcuts to get ahead in an increasingly competitive industry. But Amaral and his team uncovered a widespread underground network operating within the shadows and outside of the public's awareness.

"These networks are essentially criminal organizations, acting together to fake the process of science," Amaral said. "Millions of dollars are involved in these processes."

To conduct the study, the researchers analyzed extensive datasets of retracted publications, editorial records and instances of image duplication.

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The easiest way to do that is to [cheat](#). It's not good science that is rewarded, but highly cited science. Since research papers are more

commonly written by academics for whom the pressure has less to do with reliable results than with high-profile ones, [people pursue profile enhancement](#) over results.

As the numbers show, junk science pays dividends. The junkier the science, the more citations.

Science has grown into an industry driven by the massive flow of government money distributed by committees, with the opposite effect of what was expected: rather than seeing a massive increase in breakthroughs, we have seen a massive increase in the "noise" injected into the process. It's not that all science is bad science, but good science is often lost in the noise, or even directed by high-prestige bad science, as happened in Alzheimer's research.

Dr. Jason Fung 

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In recent years, there has been a lot of concern about the [massive decline in "productivity"](#) in research fields. We keep throwing people and resources at STEM, but the results are underwhelming, especially from [academia](#).

Back in 2023, [I wrote about a study that showed a dramatic slowdown in the pace of scientific discovery](#) and the drying up of "disruptive" research — research that revolutionizes our understanding of a scientific problem. More and more resources are poured into producing smaller and smaller results, and the explanations have more to do with the incentive structures and funding mechanisms that drive research than with a lack of things to discover.

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Working on a problem from a new perspective and with far-out ideas can be dangerous to one's career, and contradicting the work of the people on funding committees is a great way to get rejected for grants.

So we get small-ball science, or even total junk produced by AI.

