# University of Surrey study warns AI use may fuel rise in low-quality scientific research



The advent of Artificial Intelligence (AI) in the realm of scientific research has sparked a significant debate concerning its impact on the quality and integrity of published studies. A recent study from the University of Surrey has raised alarms about the rise of subpar research output, attributing this trend to the increasing reliance on AI tools by researchers. This research indicates that a surge in new papers may exhibit qualities deemed “superficial and oversimplified,” potentially undermining the credibility of academic literature.

Investigations revealed that many of the emerging papers display a troubling tendency to rely on inadequate research methodologies, such as focusing on single variables or cherry-picking data subsets. Matt Spick, a lecturer at the University of Surrey in Health and Biomedical Data Analytics, articulated his concerns, stating, “We’ve seen a surge of papers that look scientific, but don’t hold up to scrutiny.” This sentiment resonates particularly strongly in medical research, where the implications of flawed studies could be particularly dire. Critics have voiced that AI-assisted research often misses vital context, limiting the applicability of its findings to real-world scenarios.

Nonetheless, the narrative surrounding AI in science is not uniformly negative. Proponents argue for the significant potential embedded in AI's capabilities. A comprehensive review from Science Direct, encompassing findings across 24 studies spanning six domains, suggested that AI tools like ChatGPT have shown considerable promise in enhancing the management of data, refining content structure, and improving outreach efforts. This dichotomy presents a call for balance: while AI can enhance certain aspects of research, it is crucial that it plays a supportive role rather than an autonomous one.

The scientific community's cautious optimism is further examined in discussions around AI's role in drug discovery, notably in diseases like cancer. While AI is praised for expediting data analysis and hypothesis generation, experts from prominent pharmaceutical companies, such as Pfizer and Moderna, stress that it remains an adjunct to traditional lab work and comprehensive clinical trials. Even as AI has been positioned as a powerful ally in addressing global health challenges, its introduction into research processes requires careful consideration and stringent standards to mitigate risks.

Christopher Bishop, head of Microsoft's AI for Science lab, echoes this perspective, emphasising how deep learning and advanced models can spur scientific breakthroughs across various fields, including climate science and drug development. Such innovations hint at an optimistic future where AI not only coexists with rigorous scientific inquiry but also aids in resolving issues like climate change and public health.

Yet, the consensus among critics and advocates alike is clear: to harness AI's full potential, there must be an emphasis on transparency and human oversight. The University of Surrey's study advocates for increased clarity around AI methodologies, enabling academic authors to comprehend their data’s usage and integrate human insights where AI’s capabilities fall short. This hybrid approach could help ensure that AI enhances, rather than jeopardises, the integrity of scientific research.

Institutional efforts are already underway to mitigate these concerns. Leading universities, such as the University of Singapore and Oxford, are developing ethically grounded guidelines for employing large language models in academic writing. Rather than imposing a ban—which many argue would be impractical—these institutions push for improved transparency and a framework that empowers researchers to understand and supervise AI’s engagement with their work.

In summary, while the integration of AI into scientific research presents a mixture of potential benefits and serious challenges, it is imperative that the academic community navigates this landscape with care. Striking a balance between innovation and rigorous scientific standards will be essential for ensuring that AI serves as a tool for advancement rather than a detractor from the credibility and depth of scholarly work.

## Reference Map:

* Paragraph 1 – [[1]](https://theboar.org/2025/05/increase-in-poor-quality-research-papers-due-to-the-use-of-ai-threatens-the-scientific-field-reveals-new-study/)
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* Paragraph 3 – [[2]](https://www.theatlantic.com/technology/archive/2025/04/how-ai-will-actually-contribute-cancer-cure/682607/?utm_source=apple_news), [[4]](https://www.ft.com/content/ed2acfa7-7b7f-4e3d-af28-720b6154dd02), [[5]](https://www.axios.com/2024/01/09/ai-copilots-cloud-labs-science-research)
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* Paragraph 5 – [[1]](https://theboar.org/2025/05/increase-in-poor-quality-research-papers-due-to-the-use-of-ai-threatens-the-scientific-field-reveals-new-study/), [[7]](https://www.theatlantic.com/podcasts/archive/2025/01/ai-scientific-productivity/681298/?utm_source=apple_news)

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## Bibliography

1. <https://theboar.org/2025/05/increase-in-poor-quality-research-papers-due-to-the-use-of-ai-threatens-the-scientific-field-reveals-new-study/> - Please view link - unable to able to access data
2. <https://www.theatlantic.com/technology/archive/2025/04/how-ai-will-actually-contribute-cancer-cure/682607/?utm_source=apple_news> - This article discusses the cautious approach of the scientific community towards AI's role in curing diseases like cancer. While AI executives tout its potential, real-world applications are progressing incrementally. AI is seen as a tool to complement human researchers by rapidly analyzing data and proposing hypotheses, rather than discovering new cures independently. Experts from institutions like Pfizer and Moderna highlight that AI accelerates drug development but doesn't eliminate the need for extensive lab work and clinical trials.
3. <https://time.com/6227118/eric-schmidt-ai-human-intelligence/> - Eric Schmidt discusses the transformative impact of AI on science, emphasizing its role as a vital third pillar alongside theory and experiment. Despite its potential, AI's full capabilities remain untapped due to limited interdisciplinary adoption and insufficient incentives for bold research. The article highlights the need for rigorous, interdisciplinary training for scientists and equitable access to AI tools to unlock AI's full potential in scientific discovery.
4. <https://www.ft.com/content/ed2acfa7-7b7f-4e3d-af28-720b6154dd02> - Christopher Bishop, head of Microsoft's AI for Science lab, emphasizes AI's transformative impact on scientific discovery. He explains how deep learning and large language models have revolutionized research in fields like chemistry, physics, biology, and climate science. Bishop believes AI will accelerate breakthroughs addressing global issues such as drug discovery and climate change mitigation, marking a new era of scientific inquiry powered by AI.
5. <https://www.axios.com/2024/01/09/ai-copilots-cloud-labs-science-research> - AI copilots and automated labs are accelerating research in developing new drugs, chemicals, and materials. This innovation is pivotal in addressing global challenges like climate change and personalized cancer treatments. AI's capability extends beyond identifying new compounds to speeding up and scaling lab experiments, facilitated by cloud labs that can be controlled remotely. These tools aim to reduce experimental uncertainty and improve error identification, contributing to resolving the replication crisis in science.
6. <https://time.com/7277608/demis-hassabis-interview-time100-2025/> - Demis Hassabis, CEO of Google DeepMind, discusses the development of AlphaFold, an AI capable of predicting protein structures, and its impact on disease research and drug development. He also addresses the challenges in achieving Artificial General Intelligence (AGI) and the ethical, technical, and geopolitical considerations involved. Hassabis advocates for international cooperation and robust safety measures to mitigate risks associated with advanced AI technologies.
7. <https://www.theatlantic.com/podcasts/archive/2025/01/ai-scientific-productivity/681298/?utm_source=apple_news> - This podcast episode explores the impact of AI on scientific discovery, focusing on a study that found AI assistants led to significant productivity gains in a U.S. R&D lab. Researchers discovered more materials, filed more patents, and developed more product prototypes. However, the impact was uneven, with the highest-performing scientists seeing substantial increases, while others saw minimal gains. The episode also discusses concerns about job satisfaction and the loss of creativity and autonomy as AI takes over idea generation.