

Introducing AI-supported Research Highlights



With the debut of our AI-supported Research Highlights, we combine advances in large language models with the trust and expertise of human editors.

Artificial intelligence (AI) is the simulation of human intelligence in machines, which enables them to perform tasks that normally require human thought processes, such as pattern recognition, problem-solving and decision-making – in a nutshell, it is a way of making machines think and behave like humans, and it is changing the way microbiologists carry out research. AI is being used to search through huge reams of data to predict infectious disease outbreaks, analyse and interpret vast datasets generated by metagenomic sequencing, refine microbial classification and expedite antimicrobial discovery¹. With the advent of large language models (LLMs), AI is also influencing the way research is designed and communicated, with researchers using chatbots as research assistants and scribes, to help them brainstorm research ideas, generate hypotheses, perform literature reviews and draft manuscripts².

At *Nature Reviews Microbiology*, we see the promise of AI and are committed to fostering an open dialogue about the benefits that AI can offer to our community. We recognize the potential of AI in enhancing the efficiency and speed of research communication. This accelerated exchange of knowledge could offer great benefits to our readers, allowing them to stay ahead and contribute to a more responsive research ecosystem. Furthermore, we wish to champion initiatives that promote the responsible and transparent application of AI, and, equally, help refine this technology to ensure that when it is used in the preparation of articles that the content is accurate and reliable. With these aims in mind, we are experimenting with AI to help us understand its potential in research communication. Using an internal

Springer Nature (publisher of *Nature Reviews Microbiology*) tool, editors are now able to use AI to help them craft Research Highlights on editorially selected papers. Our approach uses automated content generation to create an initial draft, which is then checked and edited by a human editor. This approach allows the published article to benefit from cutting-edge technology without compromising on accuracy, quality or the nuance that a human editor provides. This synergy of technology and editorial experience reflects our view about the irreplaceable role of editors in research communication. In this issue, we present the first Research Highlights written with the support of AI and published in a Nature journal.

During the AI-supported writing process, accuracy and reliability are paramount. Each article, after being generated, undergoes rigorous scrutiny, fact-checking and editing by our journal editors to ensure that the article meets our high standards of accuracy, coherence and quality. As usual, papers that are the subject of AI-supported Research Highlights will continue to be selected by the editorial team, and editors will continue to take accountability for the articles that we publish by being credited as authors. To ensure transparency to our readers, a statement clearly indicating that AI has been used in the writing process will appear on the published article.

We hope that you enjoy reading the AI-supported Research Highlights, which will occasionally appear in our pages. With this initiative, we endeavour to embrace technological progress while fostering a deeper conversation about the potential of AI in the communication of research.

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References

1. Goodswen, S. J. et al. Machine learning and applications in microbiology. *FEMS Microbiol. Rev.* <https://doi.org/10.1093/femsre/fuab015> (2021).
2. Owens, B. How Nature readers are using ChatGPT. *Nature* <https://doi.org/10.1038/d41586-023-00500-8> (2023).