

Symposium on AI and Academic Publishing

Speakers and Topics

Thursday 7 November 2024

13:00 - 17:00

Academiegebouw, Leiden University

Rapenburg 73, 2311 GJ, Leiden



Why We Write: Rediscovering What Matters About Scientific Publishing

Dr. Michael Cook
King's College London

Like many areas of life, academic publishing is feeling the effects of AI tools being released into an unprepared world. While we worry about potential damage and look for mitigations, it's also an important moment to reflect on what we are trying to protect in the first place. Are scientific papers just a way to disseminate results? To get rubber stamps from our peers? Or does the act of writing papers have other roles in our society, perhaps ones that AI could help with more constructively?



Dr **Michael Cook** is a Senior Lecturer in Artificial Intelligence at King's College London, where he studies creative artificial intelligence and how it can be applied to domains such as game design. He is best-known as the creator of ANGELINA and Puck, two game-designing AI systems, and as the organiser of PROCJAM, a global community of generative artists.

Research Assistant through Hybrid Intelligence

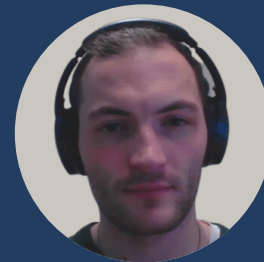
Prof. dr. Catholijn Jonker
TU Delft and Leiden University

Niklas Hopner
University of Amsterdam

Hybrid Intelligence is about creating systems consisting of humans and Artificial Intelligent Agents in which the agents augment human intellect. In this presentation we explain the concept of Hybrid Intelligence in more detail. Then we show how this notion leads to a vision on how AI and, in particular, LLMs can play a role in the development of an artificial research assistant. The aim of the scientific assistant is to support one or more steps in the scientific method cycle: formulating research questions, analysing the literature, formulating a hypothesis, designing an experiment, analysing data, and drawing conclusions. This will require a combination of symbolic and subsymbolic AI techniques, ranging from domain ontologies to deep learning, as well as theory of mind and shared planning to support the collaboration. We will provide an overview of how far we currently are with the development of such a research assistant, and discuss the hurdles that still need to be overcome.



Prof. dr. **Catholijn Jonker** is professor in Artificial Intelligence at TU Delft and Leiden University. Her research interests are hybrid intelligence, decision support, and mental models. She is president of ICT Platform of the Netherlands, principal investigator of the Amsterdam Institute of Advanced Metropolitan Solutions (AMS), and vice-coordinator of the Hybrid Intelligence Centre.



Niklas Hopner is a PhD candidate in the Amsterdam Machine Learning Lab, supervised by Herke van Hoof and Ilaria Tiddi. His research interests are Deep Reinforcement Learning and Human-AI Interaction. Specifically, he is leveraging class abstractions for commonsense reinforcement learning via residual policy gradient methods.

Science, Shadows & Simulacra: Past and Future of AI in Re- search

Dr. Peter van der Putten
Leiden University

Whilst there is nothing more cliché in AI than the utopian-dystopian divide, one can't help to wonder what the future impact of AI on knowledge production might be. In this talk I will argue that AI in a way is not just a research topic or a method, but almost a metaphor for the research and scientific endeavor itself – sharing all its pluses and its minuses. And don't worry – in addition to some philosophical musings I will use concrete research examples to illustrate this point of view, and show possible futures for AI in research.



Dr **Peter van der Putten** is a creative researcher particularly interested how machines learn from interaction. Or going beyond AI to Artificial 'X': study other human qualities through an artificial creature lens such as creativity, emotions, or even topics such as religion, to see what we can learn from this, what the boundary limits are and to speculate on possible futures. Next to his role as assistant professor at LIACS, Leiden University he is Director of the AI Lab at Pegasystems.

AI in Science Means AI in Publishing

Prof. dr. Paul Groth
University of Amsterdam

AI is rapidly diffusing through science, whether its automated experimentation, helping with hypothesis formation or assisting in literature reviews. In 2021 14% of the prestigious ERC funded projects in the social science had AI components. In 2022, 6% of the scholarly publications in the life sciences were AI related. This is already impacting the publication process. Hence, in this talk, I give examples of the cutting edge of the use of AI in science practice and I reflect on the ramifications of this change for academic publishing. To do so, I draw on the recent scientific advice to the European Commission on the uptake of AI in science as well as my experience leading the University of Amsterdam's Data Science Centre and the Discovery Lab.



Paul Groth is Professor of Algorithmic Data Science at the University of Amsterdam where he leads the Intelligent Data Engineering Lab (INDElab). He holds a Ph.D. in Computer Science from the University of Southampton (2007) and has done research at the University of Southern California, the Vrije Universiteit Amsterdam and Elsevier Labs. His research focuses on intelligent systems for dealing with large amounts of diverse contextualized knowledge with a particular focus on web and science applications. This includes research in data provenance, data integration and knowledge sharing.

From Robotlabs to Papermills: How AI Is Affecting Research, and Scholarly Publishing

Dr. Anita de Waard
Elsevier



AI is here to stay and is having a profound effect on how we plan, conduct and share research and the methods and means by which we learn about it. Can we still trust papers, if they can be written by ChatGPT prompted by a high schooler? Will AI take over the planning and evaluation of research? Who will win and who stands to lose in this new world, that may or may not be brave? And where do scholarly publishers stand in all this?

In this presentation, Anita will discuss some of the ways in which AI is affecting research and scholarly communications. She will explain what publishers are doing to adapt to a world where generative AI is becoming mainstream and describe some of the possibilities and pitfalls of using new text tools to communicate research. Topics will include research integrity and the use of responsible AI and the impact this can have on research institutions and its members: librarians, students, faculty and staff.

Anita de Waard is VP of Research Collaborations at Elsevier. Her work focuses on working with academic and industry partners on projects pertaining to progressing models and frameworks for scholarly communication. Since 1997, she has worked on bridging the gap between science publishing and computational and information technologies. Her efforts include working on a semantic model for research papers, co-founding the interdisciplinary member organization Force11, and supporting models for research data management in cross-stakeholder alliances such as the Research Data Alliance and the NIST Research Data Framework, and through a series of workshops on Scholarly Document Processing. Her current work focuses on developing collaborations to improve trust, reproducibility and research integrity in scholarly communications. Anita has a degree in low-temperature physics from Leiden and worked in Moscow before joining Elsevier as a physics publisher in 1988.