

FALLING WALLS CIRCLE

PLENARY TABLE “THE IMPLICATIONS OF AI FOR SCIENCE: FRIEND OR FOE?”

Artificial Intelligence (AI) has proven very valuable in research and science. Recent technological developments promise to dramatically increase scientific output and assist humanity in addressing important global concerns ranging from climate change to developing epidemics. Simultaneously, new AI technologies raise social, ethical, and legal concerns as they can be used to provide deceptive results. This Falling Walls Circle aims to explore the conditions and guidelines under which AI systems can be used in the scientific environment.

Panelists: [Alena Buyx](#) (TUM Institute of History and Ethics in Medicine, DE), [Sudeshna Das](#) (Indian Institute of Technology Kharagpur, IN), [Benoit Schillings](#) (X – The Moonshot Factory, US), [Bernhard Schölkopf](#) (Max Planck Institute for Intelligent Systems, DE), [Henning Schönberger](#) (Springer Nature, DE), and moderator [Cat Allman](#) (Digital Science, US).

KEY TAKEAWAYS

- 1. More scientific output requires more scrutiny.** According to Benoit Schillings, we are entering "a new paradigm of knowledge". Artificial Intelligence presents opportunities to significantly increase scientific output and assist in addressing global challenges like climate change and epidemics. AI can act as a proxy in identifying relevant scientific information and accelerate scholarly research, potentially enabling faster book writing and broader, more inclusive community participation in scientific conversations. While the potential is significant, so are its risks. Thus, the experts stress the importance of weighing the pros and cons of AI use at every step and ask for even more rigorous scrutiny and research.
- 2. We need guard rails to ensure ethical AI use.** The use of AI raises social, ethical, and legal concerns. The experts request caution regarding the validation of AI-generated results and the mitigation of biases in AI systems, especially in critical fields such as healthcare. To support the responsible use of this novel technology, we need solid international standards. Alena Buyx says: "Legal frameworks such as the AI Act in the EU, or bipartisan bills in the US make me confident that we can establish some guard rails in regards to responsible AI use". Still, the discussion between science and policy makers needs to be ongoing and decisive, to keep up with the fast-moving technology development.
- 3. Focus on humility and accountability in AI development.** As AI technologies advance, our experts call for humility and attentiveness to the potential impacts. This includes the need to make AI systems more causal and transferable, improve language models by curating data, and involve diverse voices in AI development, so biases decrease, and inclusivity is ensured. Despite all of AI's potential, we cannot eliminate the human factor.

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