

PUBLIC LECTURE

03.07.2025 | 17:00

Belval Campus
Maison des Arts et des Étudiants



Open-source AI for accelerating scientific discovery

Large AI models require tremendous resources, both compute and data, to train. FAIR (Fundamental AI Research @Meta) has taken an open-source approach to AI research since it was founded in 2013, developing and releasing foundational tools such as PyTorch, and large language models such as Llama. These tools enable an ecosystem of scientific discovery and start-ups who build on top of these tools and models. This month, we released new datasets and trained models to enable research at the atomic level in chemistry, to work on problems such as climate change, drug discovery, and material design. We released models for neuroscience research to study the brain, and datasets for research in cryptography and security. This talk will cover some of these open-source tools and the related research in mathematics and cryptography we are pursuing.

Registration



Dr. Kristin Lauter

Dr. Kristin Lauter is Senior Director of North American Labs for Meta AI Research (FAIR) and an Affiliate Professor at the University of Washington. Her research focuses on the interface between machine learning and cryptography, with a focus on cloud security and health and genomic privacy. She is particularly known for her work on homomorphic encryption, Private AI, and AI4Crypto.

Dr. Lauter spent 22 years as a researcher at Microsoft Research in Redmond, Washington, (1999–2021), as Partner Research Manager of the Cryptography and Privacy Group from 2008–2021. Her group developed Microsoft SEAL, an open-source library for homomorphic encryption. Lauter is an elected fellow of the American Mathematical Society (AMS), the Association for Women in Math, the Society for Industrial and Applied Mathematics, and the American Association for the Advancement of Science (AAAS) and an elected Honorary Member of the Royal Spanish Mathematical Society.

This lecture is part of the conference Journées Arithmétiques.