Artificial Intelligence in the Physical Sciences

Leveraging AI for scientific discovery

Thursday 25 June 2026
30 Euston Square, London

Find out how artificial intelligence is reshaping how scientific discovery happens, from automated laboratories and data-driven experiments to large-scale climate and atmospheric modelling.

6pm – Drinks reception
6:45pm – Talks
7:30pm – Q&A
8pm - Talks end

You are welcome to stay for a drink with the speakers after the talks end.

UNIVERSITY OF CAMBRIDGE | School of the Physical Sciences

Professor James Fergusson

Department of Applied Mathematics and Theoretical Physics

James Fergusson's research group operates at the interface of physics and artificial intelligence, focusing on areas where AI has the potential to fundamentally transform the way science is conducted. Key research themes include AI for simulations, using physics to deepen our understanding of AI, employing AI to explore equations, advancing AI interpretability and error quantification, and developing agentic automation for scientific discovery.
James frequently delivers talks and workshops on the application of AI in science and business, delivers lectures on the impact of AI via the Judge business school, and his work has been featured in the Financial Times.

Visit Professor Fergusson's webpage

Professor Alex Archibald

Yusuf Hamied Department of Chemistry

Visit Professor Archibald's webpage

Alex Archibald's work leverages a hierarchy of models to understand the interactions between atmospheric composition - the gases and aerosols in the atmosphere - and the climate system. This work increasingly spans space and time with current research questions focused around the use of Earth based models to understand the atmospheric chemistry on distant exoplanets and help answer the outstanding question of whether or not we are alone in the Universe.

Dr Matthew Osman

Department of Geography

Matthew Osman's work combines climate models with historical and geological records of the past - including sediments, ice cores, and other environmental archives - to understand how Earth's climate system responds to major changes in temperature, greenhouse gases, and ice sheets. A key focus of his research is developing statistical frameworks that allow climate models to "learn" from past climates. By combining the "big data" of Earth's geologic past with model simulations, he aims to reduce uncertainties in projections of future climate change.

Visit Dr Osman's webpage

Professor Shijing Sun

Department of Materials Science and Metallurgy

Shijing Sun's research focuses on fostering human–AI–robot collaboration, with the aim of enhancing scientists' capabilities through artificial intelligence. She develops data-driven methods that leverage machine learning to automate experiments, analyse data, and predict reaction outcomes—ultimately accelerating and guiding scientific discovery.

Visit Professor Sun's webpage

The Future of Physical Sciences webinar series

Watch the recording of our alumni webinar *'Artificial Intelligence: accelerating research at the University of Cambridge'* featuring Prof James Fergusson

Alumni Festival 2026

Join us for this years' Alumni Festival from 18-20 September. This year we introduce a new lecture programme at the Ray Dolby Centre. Prof Alex Archibald will be giving a talk at the Yusuf Hamied Department of Chemistry.
Bookings open on Wednesday 15 July

Support the School of the Physical Sciences

Find our how you can support the world changing research taking place at the University of Cambridge