

# AI for Science Summit

**Monday 25 November 2024**

**10:00 Registration and refreshments**

**10:30 Welcome and introduction**

Professor Neil Lawrence and Jessica Montgomery, University of Cambridge

**10:45 *A More Dynamic View of Deep Learning***

Professor Max Welling, University of Amsterdam

**11:45 Coffee break**

**12:15 Short talks**

- *Use of explainable machine learning models in metabolic medicine*, Dr Chris Bannon, University of Cambridge
- *Recurrent VAE with Gaussian Process Decoders for De Novo Molecular Generation*, Dr Vidhi Lalchand, Broad Institute of MIT and Harvard
- *Learning stringy geometry*, Justin Tan, University of Cambridge
- *Nowcasting the wildlife trade*, Dr Amy Hinsley, University of Oxford

**13:15 Lunch and poster session**

**14:15 Welcome back and introduction to afternoon session**

**14:20 Short talks**

- *Studying Regulatory Dynamics Driving Cell State Transitions with Flow-Based Models and Neural ODEs*, Dr Pinar Demetci, Broad Institute of MIT and Harvard
- *Discovering Electrochemistry with Electrochemistry Informed Neural Network*, Dr Haotian Chen, University of Michigan
- *Digital twin brain models for insomnia powered by artificial intelligence and EEG*, Dr Sam Nallaperuma, University of Cambridge
- *First Steps in Using Topographic Deep Artificial Neural Network Models to Generate Hypotheses about Not-yet-detected Functional Neural Aggregates in the Ventral Stream*, Dr Kamila Jozwik, University of Cambridge
- *Application of AI/ML in nuclear engineering*, Dr Kamal Abdulraheem, University of Michigan
- *Disentangled Representations in Multimodal Healthcare Models*, Dr Sana Tonekaboni, Broad Institute of MIT and Harvard

**15:50 Coffee**

**16:15 *Using cohort data to explore health and disease - the example of respiratory disease across the life course***

Professor Erik Melén, Karolinska Institutet

**17:00 Panel discussion - *Our aspirations for AI in science***

- Professor Anil Madhavapeddy, University of Cambridge
- Professor Ciira Maina, Dedan Kimathi University of Technology, Kenya
- Professor Stephen Roberts, University of Oxford
- Dr Heloise Stevance, University of Oxford

**17:45 Close of session**

**18:00 Drinks Reception**

**19:00 Dinner for registered participants**

# AI for Science Summit

**Tuesday 26 November 2024**

**10:00 Registration and refreshments**

**10:30 Welcome and introduction**

Professor Neil Lawrence and Jessica Montgomery,  
University of Cambridge

**10:45 *AI for data-driven astrophysics***

Professor Anna Scaife, University of Manchester and  
Alan Turing Institute

**11:30 Coffee break**

**12:00 *AI for imaging: from differential equations to deep learning for images***

Professor Carola Bibiane Schönlieb, University of Cambridge

**12:45 Lunch and poster session**

**14:00 Panel discussion:**

***What could unlock a step-change in AI for science?***

- Dr Miles Cranmer, University of Cambridge
- Dr Jing Liu, University of Michigan
- Professor Carola Bibiane Schönlieb, University of Cambridge
- Professor Sophia Yaliraki, Imperial College London

**14:45 Closing Remarks**

**15:00 Close**



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