

THE CAMBRIDGE STATISTICS DISCUSSION GROUP

Monday 4th November 2024 6:45 for 7:15

Please note earlier start time

The Statistical Laboratory,
Centre for Mathematical Sciences,
Wilberforce Road, Cambridge, CB3 0WB

Time: The next frontier in causal machine learning

Mihaela van der Schaar

Cambridge Centre for AI in Medicine

Abstract: Mihaela will talk about the work of her lab in developing cutting-edge machine learning (ML) methods to apply to real-world problems in medicine and healthcare in areas such as prostate, breast and skin cancers, cystic fibrosis, beta-blocker use in hypertension, coronary heart disease and COVID-19. The work encompasses a very large range of areas associated with ML including deep learning, decision trees, causal inference, time series data analysis and statistical machine learning. Mihaela will also explore the role that statistics plays in underpinning machine learning in order to make data-driven decisions.

Speaker: Mihaela van der Schaar is the John Humphrey Plummer professor of machine learning, artificial intelligence and medicine at the University of Cambridge and a fellow at the Alan Turing Institute in London. In addition to leading the van der Schaar Lab, Mihaela is founder and director of the Cambridge Centre for AI in Medicine (CCAIM) and delivered the Significance lecture at RSS conference in Harrogate in 2023. Mihaela is personally credited as inventor on 35 US patents, many of which are still frequently cited and adopted in standards. She has made over 45 contributions to international standards for which she received 3 ISO Awards. In 2019, a Nesta report determined that Mihaela was the most-cited female AI researcher in the UK.

Directions: The main entrance is reached from Clarkson Road by going along the footpath to the right of the Newton Institute, and turning left through the gatehouse towards the main building (Pavilion A), which has a glass front and a curved grassed roof. The main entrance is in the middle of the glass front. Coffee before the talk will be in the common room in Pavilion D, and the talk will be in Meeting Room 4 in Pavilion A. Free parking is available after 5pm on Clarkson and Wilberforce Roads.

Provisional Next Meetings (2024):

27th November – Peter Treasure (Peter Treasure Statistical Services Ltd).

3rd February 2025 – Lara Mani (formerly Centre for the Study of Existential Risk)..

3rd March – James Grime (Institute of Continuing Education) on 'Alan Turing and the Enigma Machine'.

10th April – Roger Sewell on 'Predicting recurrence of prostate cancer: a Bayesian approach'.

7th October - Florian Markowetz (Cancer Research UK Cambridge Institute) on

'All models are wrong and yours are useless: making clinical prediction models impactful for patients'.

3rd November – Sam Gilbert (Bennett Institute for Public Policy) on 'Benefits of data openness in a digital world'.

Late November – Riikka Hofmann (Faculty of Education) on '100 years of educational trials – no significant difference?'

Supper: There won't be a pre-talk supper on this occasion.

Subscriptions: of 1 pound are now due for attending the 2024-2025 session.

Secretary: Peter Watson, MRC Cognition and Brain Sciences Unit, 15 Chaucer Road, Cambridge CB2 7EF;
telephone 01223 769479; E-mail peter.watson@mrc-cbu.cam.ac.uk.

Slides and .mp3 files of old talks: <http://www.mrc-cbu.cam.ac.uk/people/peter.watson/csdg.html>

Approved Minutes of Annual General Meeting 2019-2020

The Annual General Meeting for the year 2019-2020 was held at the Cognition and Brain Sciences Unit on 10th October 2023. Present: Peter Watson (in chair), David Culliford, David Galloway, Allègre Hadida, Sam Hamilton, Cecil Hillegart(?), Yue Jia, Oisin Kim, Stephen Lamb, Luna Luan, Andrea Pironi Marti, Angus McLean, Odiase Nathan, Irina Orbes, Haidee Philpott, Kal Sandhu, Karram Sandhu, James Xu, Jianing Yin, Gary Zhau, Coral Zheng. **Apologies:** Jane Burnell & son, Mary Garratt, Adam Wagner. The **minutes** of the previous A.G.M. were circulated and approved. The secretary reported a total attendance over 4 meetings of 43 for the 2019-2020 session. No meetings were able to be held in 2020-2021, 2021-2022 & 2022-2023.

Treasurer's Accounts and Report 2019-2020:

The CSDG started the year in October 2019 with £92.28 cash in addition to £252.69 (plus interest) in the Cambridge Building Society. The table below shows the financial activity during the most recent year of talks (Oct19 to Feb20).

Expenditure		Income	
Speakers' expenses	£23.45	Balance at Sep 2019	£92.28
Added to Bank a/c		Subscriptions	£24.00

Cash balance at 1st October 2019 £92.28, cash remaining 1st October 2020 & 2023 £92.83. There is now £252.69 (plus interest) in a Community account at the Cambridge Building Society. The account holders are Ted Harding (past chair), Peter Watson (current secretary) and Adam Wagner (current treasurer). These names can be changed on application. The principle holder is the treasurer. Any of the three account holders can deposit and withdraw money. It is suggested subscriptions remain at £1 for the 2023-2024 session.

Election of officers and committee: Committee for 2021-2022: *chair & secretary* Peter Watson; *treasurer* Adam Wagner; *officio vacant*; *ordinary* Haidee Philpott, Jayantha Ratnayake, Tony Sabin.

Any Other Business: None.

Draft Minutes of Annual General Meeting 2023-2024

The Annual General Meeting for the year 2023-2024 was held at the Cognition and Brain Sciences Unit on 8th October 2024. Present: Peter Watson (in chair), Rajenki Das, Liz Gardener, Wendi Qian, Fabio Rigat, Adam Wagner, Jinghuo Zhu. **Apologies:** David Culliford, David Galloway, Mary Garratt, April Le. The **minutes** of the previous A.G.M. were circulated and approved. The secretary reported a total attendance over 5 meetings of 56 for the 2023-2024 session. He mentioned his intention to stand down as secretary at the end of the 2025-2026 session and invited anyone interested in the position to informally contact him. Possible suggestions for future hosting of the CSDG talks webpages and paper archive of talks going back to 1996 were invited and also possible places to donate any funds held by CSDG in the event of no-one coming forward and the group closing.

Treasurer's Accounts and Report 2023-2024:

The CSDG started the year in October 2023 with £92.83 cash in addition to £255.38 (plus interest) in the Cambridge Building Society. The table below shows the financial activity during the most recent year of talks (Oct23 to May24).

Expenditure		Income	
Speakers' expenses and account update	£50.27	Balance at Sep 2023	£92.83
Added to Bank a/c		Subscriptions	£19.00

Cash balance at 1st October 2023 £92.83, cash remaining 1st October 2024 £61.56. There is now £255.38 (plus interest) in a Community account at the Cambridge Building Society. The account holders are Peter Watson (current chair & secretary) and Adam Wagner (current treasurer). These names can be changed on application. The principle holder is the treasurer. Any of the account holders can deposit and withdraw money. It is suggested subscriptions remain at £1 for the 2024-2025 session.

Election of officers and committee: Committee for 2024-2025: *chair & secretary* Peter Watson; *treasurer* Adam Wagner; *officio vacant*; *ordinary* Haidee Philpott, Jayantha Ratnayake, Tony Sabin.

Any Other Business: None.