

# THE CAMBRIDGE STATISTICS DISCUSSION GROUP

**Please note the slightly earlier start time**

**Wednesday 22nd November 2023 7:00 for 7:30**

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

## **Quantifying personal exposure to air pollution with sensor technologies and digital science**

**Lia Chatzidiakou/Rod Jones**

Yusuf Hamied Department of Chemistry

**Abstract:** Air pollution is a leading environmental risk factor for chronic disease and millions of premature deaths every year worldwide. Much of this evidence comes from epidemiological studies that employed networks of outdoor reference monitoring stations to provide indications of the effects of ambient air pollution on population health. However, as individuals move between different, highly heterogeneous microenvironments that are mainly situated indoors, outdoor static measurements become potentially poor metrics of actual personal exposure, leading in many cases to bias and error in health estimations. We develop miniaturised multi-pollutant portable sensors and computational models to improve associations between personal exposure and health outcomes.

**Speaker:** Lia is a Senior Research Associate in the group of Professor Rod Jones at the Department of Chemistry (2014-now). The overarching aim of her work is to better characterise individual and population-level exposure to air pollution and how this relates to the health of susceptible population subgroups.

**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):**

5th February – Peter Fretwell (BAS) on ‘Wildlife from Space: Detecting, monitoring and studying wildlife using satellite imagery’.

21st March – Klaudia Walter (Sanger).

16th April – Peter Treasure (National Cancer Registration and Analysis Service).

2nd May – Roger Sewell on ‘Monitoring Vaccine Effectiveness: can we trust results from parties with a vested interest’.

8th October – Fabio Rigat (AstraZeneca).

**Supper:** Some members eat regularly in the Mill pub (Mill Lane) before each meeting at **5-15pm**. Feel free to join them.

**Subscriptions:** of 1 pound are now due for attending the 2023-2024 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](mailto: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 2018-2019

The Annual General Meeting for the year 2018-2019 was held at the Cognition and Brain Sciences Unit on 9th October 2019. Present: Peter Watson (in chair), Cong Chen, Hongyan Chen, M Courtney, David Culliford, Mary Garratt, Martin Gibson, Stephen Kaptoge, Imre Leader, Alexey Lukionov, Melina Moore, Chris Pointon, Linda Pointon, Jayantha Ratnayake, Alex Reid, Roger Sewell, Sally Vernon, Adam Wagner, Klaudia Walter, Lorenz Wernisch, Andras Zsak. **Apologies:** Ted Harding, Nelson Kinnersley, Garo Panikian, Haidee Philpott. The **minutes** of the previous A.G.M. were circulated and approved. The secretary reported a total attendance over 7 meetings of 100 for the 2018-2019 session. He also asked for anyone who might be interested in chairing future meetings to please contact him.

### Treasurer's Accounts and Report 2018-2019:

The CSDG started the year in October 2018 with £55.62 cash in addition to £252.69 in the Cambridge Building Society. The table below shows the financial activity during the current year (Oct18 to Sept19).

Expenditure		Income	
Speakers' expenses	£32.44	Balance at Sep 2018	£55.62
Added to Bank a/c		Subscriptions	£69.10

Cash balance at 1<sup>st</sup> October 2018 £55.62, cash remaining 1<sup>st</sup> October 2019 £92.28. 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 2019-2020 session.

**Election of officers and committee:** Committee for 2019-2020: *chair & secretary* Peter Watson; *treasurer* Adam Wagner; *officio* Ted Harding; *ordinary* Haidee Philpott, Jayantha Ratnayake, Tony Sabin. Many thanks to Ted and Martin Gibson for their long-standing support and work on the committee.

**Any Other Business:** None.

## Draft 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 Hillejart(?), Yue Jia, Oisin Kim, Stephen Lamb, Luna Luan, Angus McLean, Irini Orbes, Haidee Philpott. Andrea Pironi Marti, Odiase Nathan, Kal Sandhu, Karran Sandhu, James Xu, Jianing Yin, Gary Zhau, Coral Zheng. **Apologies:** Jane Burnett and 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 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 1<sup>st</sup> October 2019 £92.28, cash remaining 1<sup>st</sup> 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 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 two 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 2023-2024: *chair & secretary* Peter Watson; *treasurer* Adam Wagner; *officio* vacant; *ordinary* Haidee Philpott, Jayantha Ratnayake, Tony Sabin.

**Any Other Business:** None.