

Final Programme

Advances in Quantitative Neuroscience Workshop

Date 14 March 2025

Venue 10 Merton Street, Swire Room, University College, Oxford.

Timetable

8:30-9:00

Registration – Coffee and tea in the foyer.

9:00-9:15

Opening session

Introduction to the meeting, purpose, breakdown of the sessions and housekeeping.
Dr David Menassa, Professor David Holcman and Professor Thibault Lagache.

Session 1: Recent tools in quantitative neuropathology **Chair Professor David Holcman**

9:20-9:45

Dr David Menassa on novel methods to study neuropathological processes including microglia in health and disease.

9:50-10:15

Professor Laura Parkkinen on recent transcriptomic tools to investigate selective vulnerability in neurodegeneration.

10:20-10:45

Dr Katherine Long on cortical folding and human neurodevelopmental disorders.

10:50-11:00

Dr Clara Limbaeck-Stanic on the Oxford biobank and available resources to study tumours.

11:00-11:30

Coffee/tea break in the foyer – posters in the Swire Room.

Session 2: Modelling and analysis methods in neuroscience **Chair Dr David Menassa**

11:30-11:55

Professor David Holcman on modelling approaches and insights in biology and medicine.

12:00-12:25

Professor Amanda Sierra on the analyses of microglial phagocytosis in development and disease.

12:30-12:55

Professor David Rowitch on novel methods to study selective neuronal vulnerability in demyelinating and developmental disease.

1:15-2:15 pm

Lunch in the Butler room. Posters remain in the Swire room.

Session 3: Flash talks

Chair Professor Thibault Lagache

2:30-2:40

Mr Theo Perochon on DeepCellMap as a tool to study cellular organisation.

2:40-2:50

Dr Duncan Martinson on data-driven modelling applied to microglial development.

2:50-3:00

Dr Ulrich Dobramysl on sensing, triangulation and chemical gradients.

3:00-3:10

Dr Joshua Bull on MuSpan as a spatial biology tool.

Plenary lecture

3:15-3:45

Professor Philip Maini on spatiotemporal models and how they help us understand embryonic self-organisation or cancer growth.

3:45-4:10

Coffee/tea break in the foyer and posters.

Session 4: Statistical tools in neuroscience and pathology

Chair Professor David Holcman

4:10-4:35

Professor Thibault Lagache on spatial statistical methods in pathology and imaging.

4:35-5:00

Dr Ed Cohen on statistical and stochastic methodology for image and signal analysis.

5:00-5:30

Closing remarks

5:30-6:30

Drinks reception in the Swire room foyer.