

Lessons from Neural Injury
Cambridge Spring School 2020
2nd-3rd April
Jesus College, Cambridge

Welcome back to the Cambridge Spring School! This event is organised by the Department of Clinical Neurosciences at the University of Cambridge. We are delighted to announce that the Cambridge Spring School 2020 will take place in Jesus College on the 2-3rd April. This conference is specifically designed to maximise networking between students, postdocs and PIs, for example with plenty of time for an interactive poster session, inviting early career researchers (ECRs) to ask questions before PIs, having ECRs chair several of the sessions, and including college lunch/dinner in long-table and buffet formats. The Spring School is attended by around 120 delegates from Cambridge (50%), elsewhere in the UK (30%) and international visitors (20%) with those ranging from academics, to clinicians and to industry delegates.

This year's event, 'Lessons from Neural Injury', will explore what can be learned about disease mechanisms from clinical or experimental injury. We will also discuss how injury informs us about plasticity, axon regeneration and neuronal survival mechanisms in the central or peripheral nervous system with sessions on brain, spinal cord, eye and peripheral nerve injury.

This year's Spring School will include:

- 19 invited speakers' talks
- 4 short talks (selected from abstracts, prize for best talk)
- Plenary session with keynote speaker (Prof. Zhigang He from Boston Children's Hospital at Harvard University)
- 2 Poster sessions (selected from abstracts, prize for best poster presentation)
- Public session on spinal cord and brain injury after sports accidents and their risk of developing dementia
- Meet and greet social night (1st April)

Organisers

Prof. Michael Coleman, Department of Clinical Neurosciences, University of Cambridge
(mc469@cam.ac.uk)

Dr Veselina Petrova, Department of Clinical Neurosciences, University of Cambridge
(vp351@cam.ac.uk)

Transport

To/from Stansted Airport: There is a direct train from Stansted Airport to Cambridge Rail Station (35mins) or alternatively a bus to Parker's Piece Bus Stop (45mins).

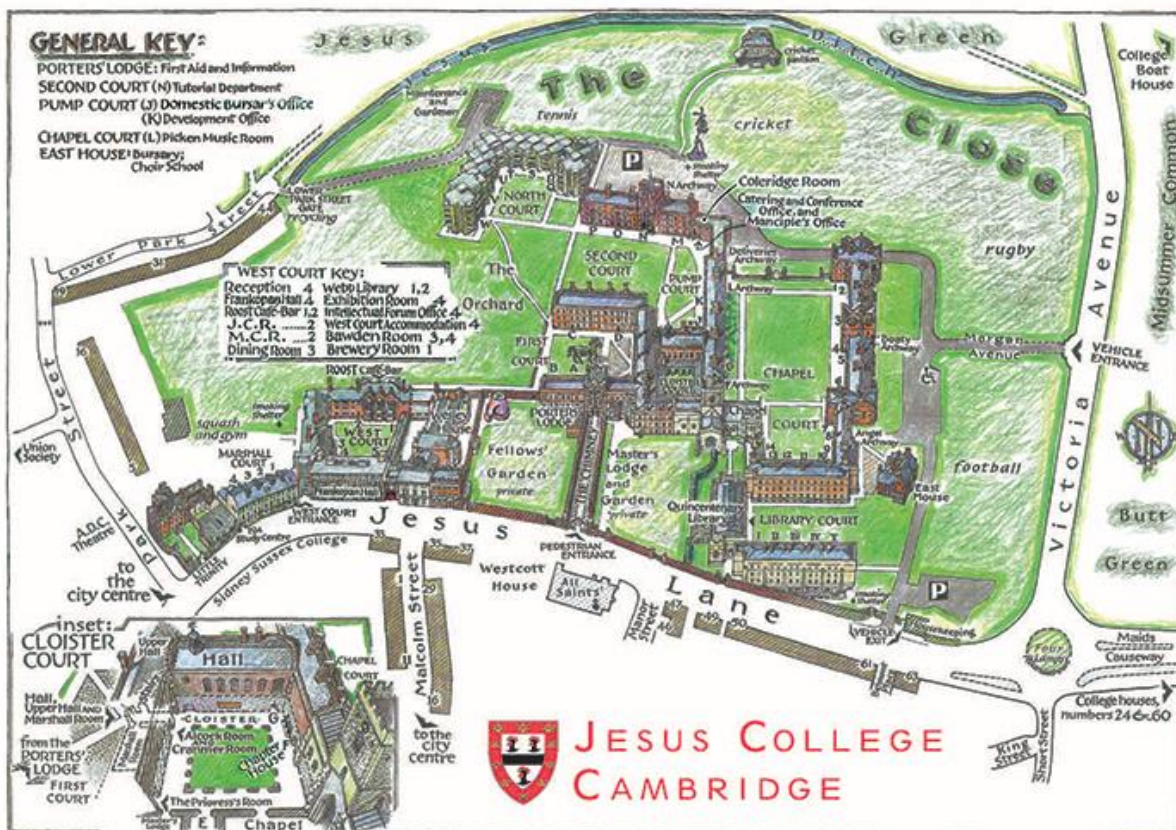
To/From Cambridge Railway Station: You can reach Jesus College by foot (15 mins), by taxi (Panther taxi: 01223 715715) or by bus (A/D Busway, Citi1/3 or Citi7).

Accommodation

We have a small number of rooms reserved in Jesus College on first come first served basis for attendees of the conference. Please contact the organisers if you wish to reserve a room.

Map of Jesus College, Cambridge:

Our event will take place in the West Court at Jesus College which could be accessed through the main pedestrian entrance on Jesus Lane and via the porter's lodge or through the West Court entrance directly.



Programme

Wednesday, 1st April

- 17:00 – 18:30 Registration
- 18:30 – 19:30 Plenary Lecture – **Prof. Zhigang He**, Harvard University, USA
From axon regeneration to function recovery after CNS injury
- 19:30 onwards Meet and greet social evening with a buffet dinner

Thursday, 2nd April

- 8:15 – 8:45 Registration
- 8:45 – 9:00 Welcome Speech

Lessons from Brain Injury

- 9:00 – 9:30 **Emmanuel Stamatakis** (University of Cambridge, UK)
Understanding brain injury: A computational neuroimaging perspective
- 9:30 – 10:00 **Michael Grey** (University of East Anglia, UK)
Can sport lead to dementia?
- 10:00 – 10:30 **Britta Eickholt** (Charité – Universitätsmedizin Berlin, Germany)
Essential role of the actin cytoskeleton during astrogliosis and scar formation
- 10:30 – 11:00 Tea/Coffee
- 11:00 – 11:30 **Claire Durrant** (University of Edinburgh, UK)
Revealing and manipulating pathological mechanisms: lessons from Organotypic Brain Slice Cultures
- 11:30 – 12:00 **Jemeen Sreedharan** (King's College London, UK)

Sarm1 deletion suppresses TDP-43-linked motor neuron degeneration and cortical spine loss

12:00 – 12:15 Short Student Talk (selected from abstracts)

12:15 – 13:30 Lunch/Posters

Lessons from Eye Injury

13:30 – 14:00 **Pete Williams** (Karolinska Institutet, Sweden)
Targeting NAD for neuroprotection in glaucoma

14:30 – 15:00 **Lieve Moons** (KU Leuven, Belgium)
Fueling axonal regeneration: dendritic energy to the rescue?

15:00 – 15:30 **Veselina Petrova** (University of Cambridge, UK)
Axonal trafficking of cellular components in optic nerve repair and neuroprotection

15:30 – 16:00 Tea/Coffee

16:00 – 16:30 **Andrew Osborne** (University of Cambridge, UK)
Designing a Gene Therapy to Prevent Retinal Ganglion Cell Loss

16:30 – 17:00 **Thomas McWilliams** (University of Helsinki, Finland)

17:00 – 17:15 Short Student Talk (selected from abstracts)

17:15 – 18:30 Poster Session

18:30 – 20:00 Public Event – Brain and spinal cord injuries after sports accidents

20:00 onwards Speakers' Dinner

Friday, 3rd April

Lessons from Peripheral Nerve Injury

- 9:00 – 9:30 **Andrea Loreto** (University of Cambridge, UK)
Insights into axon degeneration
- 9:30 – 10:00 **Ahmet Hoke** (Johns Hopkins, USA)
Programmed axon degeneration pathway in peripheral neuropathies
- 10:00 – 10:30 **Peter Arthur-Farraj** (University of Cambridge, UK)
Schwann cell - axonal communication in peripheral nerve injury and repair
- 10:30 – 11:00 Tea/Coffee
- 11:00 – 11:30 **Shaline Fazal** (University of Cambridge, UK)
c-Jun overexpression in Schwann cells in nerve development and injury
- 11:30 – 12:00 **Richard Ribchester** (University of Edinburgh, UK)
Molecular mechanisms of neuromuscular paralysis and degeneration in agricultural insecticide toxicity
- 12:00 – 12:15 Short Student Talk (selected from abstracts)
- 12:15 – 13:30 Lunch/Posters

Lessons from Spinal Cord Injury

- 13:30 – 14:00 **Mark Anderson** (EPFL, Switzerland)
Dissecting mechanisms of spinal cord regeneration
- 14:30 – 15:00 **Brett Hilton** (DZNE, Bonn, Germany)
Assessing the role of neuronal activity in axon regeneration after spinal cord injury

- 15:00 – 15:30 **Emily Burnside** (DZNE, Bonn, Germany)
Chondroitinase ABC gene delivery following spinal cord injury
- 15:30 – 16:00 **Catherina Becker** (University of Edinburgh, UK)
*Complex interactions with the non-neural environment regulate
successful regeneration of the zebrafish spinal cord*
- 16:00 – 16:15 Short Student Talk (selected from abstracts)
- 16:15 – 16:30 Closing Remarks