



125th Meeting of the British Neuropathological Society

The View, Royal College of Surgeons of England, Lincoln's Inn Fields, London

WEDNESDAY 31ST JANUARY 2024

Symposium: Neurodegeneration: Alternative perspectives

Chairs: Professor Tammaryn Lashley (UCL-Institute of Neurology, UK) and Dr Karl Frontzek (UCL-Institute of Neurology, UK)

- 11:00** **Registration**
- 11:30 - 11:35** **Opening remarks**
- 11:35 - 12:05** **Prof Jon Schott (DRC:UCL; UK)**
What can a birth cohort tell us about neurodegeneration?
- 12:05 - 12:35** **Prof Mina Ryten (Cambridge DRI; UK)**
The long and short of it: transcriptomics in human neurodegeneration
- 12:35 - 14:00** **Lunch**
- 14:00 - 14:30** **Prof Marco Prinz (Institute of Neuropathology; Germany)**
The myeloid side of the human brain
- 14:30 - 15:00** **Prof Dorothee Dormann (Institute of Molecular Biology (IMB), Germany)**
Molecular mechanisms of RNA binding protein dysfunction in neurodegenerative disorders
- 15:00 - 15:05** **Concluding remarks**
- 15:05 - 15:30** **Coffee Break**
- 15:30 - 16:30** **Dorothy Russell Memorial Lecture – Prof Anthony Schapira (UCL, UK)**
Parkinson's disease gut brain axis

THURSDAY 1ST FEBRUARY 2024

08:00 Registration

08:50 - 09:00 Opening of meeting
Professor Stephen Wharton, BNS President

09:00 - 10:35 FIRST SCIENTIFIC SESSION – Neurodegeneration I
Chairs: Claire Troakes and Robin Highley

09:00 **O1 Efficacy of a new vaccine targeting tau in mouse models**
Christopher Brown, Katharine Griffiths, Louise Kelly, Jeanne Brooks, Matthew Longo, Justin Boyd, Roxana Carare, Jean-Cosme Dodart

09:15 **O2 Beyond proteopathy: lipid dyshomeostasis in Lewy body dementia**
Jade Hawksworth, Searlait Thom, Calum A. Hamilton, Daniel Erskine

09:30 **O3 Cystatin C in MND/ALS**
Sarah Granger, Kurt De Vos, J Robin Highley

09:45 **O4 The role of DNA methylation in oligodendrocyte (dys)function across subtypes of frontotemporal lobar degeneration**
Katherine Fodder, Megha Murthy, Ignazio Piras, Patrizia Rizzu, Jack Humphrey, Matt Huentelman, Towfique Raj, Johnathon Mill, Peter Heutink, Tammaryn Lashley, Conceição Bettencourt

10:00 **O5 Patterns of TDP-43 species in LATE and Alzheimer’s Disease with LATE-NC**
Sandra Tomé, Klara Gawor, Rik Vandenberghe, Peter T Nelson, Dietmar R Thal

10:15 **O6 Prevalence of Chronic Traumatic Encephalopathy Pathology in Sporadic Motor Neuron Disease/Amyotrophic Lateral Sclerosis**
Phoebe van Meter, Johnathan Cooper-Knock, Robin Highley

Flash talk

10:30 **P34 Apolipoprotein E abundance is increased in Down syndrome-Alzheimer’s disease compared to early-onset Alzheimer’s disease**
Cliona Farrell, Jenny Hallqvist, Wendy W Heywood, Yixing Wu, Samuel Crawford, Paige Mumford, Karen Cleverly, Selina Wray, Elizabeth Fisher, Kevin Mills, Christina E Toomey, Frances Wiseman

10:35 - 11:05 Coffee break

11:05 – 12:30 SECOND SCIENTIFIC SESSION – Brain Tumours
Chairs: Nitika Rathi, Sebastian Brandner

11:05 **O7 FOXR2-activated central nervous system tumours exhibit substantial diversity across histological, molecular, and clinical dimensions**
Jason Chiang, Mohammad K. Eldomery, Maria F. Cardenas, Emily Hanzlik, Soniya Pinto, Christopher L. Tinkle, Alexa X. Siskar, Sandeep K. Dhanda, Qunyu Zhang, Xiaoyu Li, David A. Wheeler, Patrick R. Blackburn, David W. Ellison

- 11:20 **O8 Defining the recommended gray zone in MGMT promoter methylation pyrosequencing reporting: a robust, translatable method to implement new EANO guidelines**
Polly Wickens, Gabby Cruickshank, Jack Wildman, George Doyle, Claire Faulkner, Laura Yarram-Smith, Paul White, Kathreena M Kurian
- 11:35 **O9 Chronic hypoxia remodels the tumor microenvironment to support glioma stem cell growth**
James Nicholson, Howard Fine
- 11:50 **O10 Nanopore-based intra-operative classification of central nervous system tumours in the NHS**
Simon Deacon, Inswasti Cahyani, Nadine Holmes, Graeme Fox, Rory Munro, Satrio Wibowo, A Patel, Robert Goldspring, Sebastian Brandner, F Sahm, Stuart Smith, Matthew Loose, Simon Paine
- 12:05 **O11 The impact of Whole Genome Sequencing in paediatric tumours: CNS tumours in the 100,000 Genomes Project**
Catherine Taylor, Jessica Pickles, John Ciaran Hutchinson, Thomas Stone, Philippa May, Prabhu Arumugam, Alona Sosinsky, John Ambrose, Neil Sebire, Thomas S. Jacques

Flash Talks

- 12:20 **P7 Exploring the role of P16 and MTAP immunohistochemistry in predicting CDKN2A homozygous deletion in IDH-mutant astrocytomas and meningiomas**
Gabrielle Cruickshank, Kathryn Urankar
- 12:25 **P8 Investigating regional heterogeneity and progression-associated markers in oligodendrogliomas**
Thomas Millner, Hajar Mikaeili, Rossella Rispoli, Ayisha Shabbir, Sebastian Brandner
- 12:30 - 13:30 Lunch**
- 13:30 - 14:30 POSTER DISCUSSION**
- 14:30 - 16:10 THIRD SCIENTIFIC SESSION – Miscellaneous**
Chairs: Stephen Wharton, Zane Jaunmuktane
- 14:30 **O12 Characterising the contribution of cortical microvascular disease to dementia.**
Bridget Ashford, Harriet Brooke, Mark J. Dunning, Julie E. Simpson, Sheila E. Francis, Connor D. Richardson, Fiona E. Matthews, Carol Brayne, Stephen B. Wharton
- 14:45 **O13 Spectrum of Cerebrovascular Disease Pathology in the Corsellis Collection**
Abdur Raafay Iqbal, Connor Corrigan, Soraya Setiawan, Dan Jobson, Tuomo Polvikoski, Raj N Kalaria
- 15:00 **O14 High-dimensional characterisation of the cellular and molecular changes in the human brain after radiotherapy**
Thomas Millner, Pratistha Panday, Yunchen Xiao, James Boot, James Nicholson, Sara Bododi, Silvia Marino

15:15 **O15 Novel pathophysiological mechanisms in metachromatic leukodystrophy**
Daniel Erskine, Annabelle Eleana Hartanto, Zoe Catchpole, Tetsushi Kataura, Joe O'Neill, Pawel Palmowski, Andrew Porter, Kate S. Harris, Viktor Korolchuk

15:30 **O16 Microglial/macrophage activation in neonatal hypoxic-ischaemic encephalopathy**
Alice Barber, Zara Howard, Jeanette Norman, Pavan Marwaha, James AR Nicoll, Brigitte Vollmer, **Delphine Boche**

15:45 **O17 Neuroinflammatory responses in Gluten ataxia**
Mara-Luciana Floare, Julie E Simpson, Stephen B Wharton, Daniel Aeschlimann, Marios Hadjivassiliou

Flash Talks

16:00 **P39 Post-Mortem Validation of Translocator Protein (TSPO) as a PET Neuroinflammatory Biomarker in PSP**
Sasvi Wijesinghe, Maura Malpetti, Hannah Mason, Sanne Kaalund, Tim Fryer, Mehtap Bacioglu, Maria Grazia Spillantini, John O'Brien, James Rowe, Annelies Quaegebeur

16:05 **P38 The microglial phenotype associated with translocator protein (TSPO) in Alzheimer's disease**
Emma Garland, Henrike Anthony, Charlotte Rogien, Laura Kulagowska, Scott Thomas, Michel Bottlaender, James Nicoll, **Delphine Boche**

16:10 - 16:35 Coffee Break

16:35 - 17:35 PROFESSIONAL AFFAIRS MEETING

17:35 - 18:20 BUSINESS MEETING

19:30 - late SOCIETY DINNER AT THE VIEW

FRIDAY 2ND FEBRUARY 2024

08:00 Registration

09:00 - 10:25 FOURTH SCIENTIFIC SESSION – Neurodegeneration II

Chairs: Tammaryn Lashley, Daniel Erskine

09:00 O18 Understanding the Contribution of Basal Ganglia Pathology to Late-life Dementia.

Harriet Brooke, Thomas Chittenden, Saif Ahamed, Bridget Ashford, Julie Simpson, Sheila Francis, Fiona Matthews, Carol Brayne, Stephen Wharton

09:15 O19 Investigating mechanisms of CSF1R gene mutation related cerebral amyloid- β angiopathy

Fernanda Valerio, David Lynch, Tamas Revesz, Janice Holton, Henry Houlden, Zane Jaunmuktane

09:30 O20 Revisiting the pathological staging and grading of Parkinson's disease using antibodies targeting different epitope sites and conformational states of alpha-synuclein

Alan King Lun Liu, Livia Civitelli, Selene Seoyun Lee, Annie Ziyi Zhao, Melek Firat Altay, Hilal Lashuel, Laura Parkkinen

09:45 O21 Investigating tau-spliceosomal changes leading to the development of tauopathies

Barbara Frias, Justine Stanley, Tammaryn Lashley

10:00 O22 Spatial transcriptomic analysis of frontal cortex in PD reveals distinct glial phenotypes.

Hemanth Ramesh Nelvagal, Toby Curless, John Hardy, Raquel Real, Mina Ryten, Daria Gavriouchkina, Modesta Blunskyte, Zane Jaunmuktane

Flash Talk

10:15 P36 DNA damage, aSyn pathology and associated nuclear proteomic changes in Dementia with Lewy bodies

David Koss, Olivia Todd, Daniel Erskine, Johannes Attems, Fiona LeBeau, Tiago Outeiro

10:20 P35 Neuronal Senescence as a Contributory Mechanism to Dementia

Bridget Benson, Irina Vazquez-Villasenor, Connor D Richardson, Fiona E Matthews, Carol Brayne, Julie E Simpson, Stephen B Wharton

10:25 - 11:00 Coffee break

11:00 - 12:00 POSTER DISCUSSION

12:00 - 13:00 Lunch

13:00 - 14:40 CLINICAL UPDATE SESSION

Chairs: Simon Paine, Kathreena Kurian

13:00 Forensic neuropathology (adult)

Daniel Duplessis

13:40 **Forensic neuropathology (paediatric)**

Thomas S. Jacques

Case Reports

14:20 **C1 An exceptionally rare case of a diffuse midline glioma with concomitant H3.1 K27M and G34R mutations - a case study**

Zita Reisz, Rita Pereira, Smitha Nevis, Alan Mackay, Leena Bhaw, Yura Grabovska, Ross Laxton, Clark Barnaby, Cristina Bleil, Bassel Zebian, Fernando Carceller, Lynley Marshall, Andrew King, Istvan Bodi, Safa Al-Sarraj, Chris Jones, **Matthew Clarke**

14:30 **C2 Morphology/immunohistochemistry with surrogate molecular markers diagnose most brain tumours: highlights on the balance between microscopy and genetic diagnosis of brain tumours in the clinical practice.**

Albert Vamanu, Sophia Downes, Ross Laxton, Istvan Bodi, Zita Reisz, Safa Al-Sarraj

14:40 - 15:20 **DIAGNOSTIC SLIDE SESSION (INCORPORATING EQA)**

15:20 **PRIZE ANNOUNCEMENTS AND CLOSE OF THE MEETING**

Posters

P1 Challenging case of Pleomorphic Xanthoastrocytoma

Francesco Gill, Oleg Anichtchik, Azzam Ismail

P2 High-grade astrocytoma with piloid features: a novel CNS tumour type with a proposed intermediate prognosis

Albert Vamanu, Ross Laxton, Angela Swampillai, Omar Al-Salihi, Lucy Brazil, Meeta Durve, Jennifer Glendenning, Jose Pedro Lavrador, Francesco Vergani, Bassel Zebian, Leena Bhaw, Kelly Eaggleton, Chirag Limbachia, Barnaby Clark, Andrew King, Istvan Bodi, Safa Al-Sarraj, Zita Reisz

P3 Tumour-driven heterologous differentiation in paediatric brain tumours: melanotic elements identified in atypical teratoid rhabdoid tumours

Stephanie Caixeiro, Olumide Ogunbiyi, Jessica C Pickles, Darren Hargrave, Thomas J Stone, Thomas S Jacques

P4 How can the current method of grading oligodendrogliomas become less subjective using well defined histological and genetic criteria?

Charles Longson, Azzam Ismail

P5 Clinicopathological aspects of tumour-associated macrophages in human meningiomas

Rahmina Meta, Henrik Sahlin Pettersen, Sofie Eline Tollefsen, Borgny Ytterhus, Øyvind Salvesen, Wenche Sjursen, Sverre Helge Torp

P6 Microenvironmental changes in paediatric pilocytic astrocytoma highlight an enrichment for anti-inflammatory microglia over time

Thomas Stone, Jessica Pickles, Olumide Ogunbiyi, Shireena Yasin, Catherine Taylor, Jane Chalker, Carryl Dryden, Iwona Slodkowska, Emily Pang, Mark Kristiansen, Rachel Williams, Helena Tutill, Charlotte Williams, Gaganjit Madhan, Leysa Forrest, Tony Brooks, Mike Hubank, Debbie Hughes, Darren Hargrave, Thomas Jacques

P7 Exploring the role of P16 and MTAP immunohistochemistry in predicting CDKN2A homozygous deletion in IDH-mutant astrocytomas and meningiomas

Gabrielle Cruickshank, Kathryn Urankar

P8 Investigating regional heterogeneity and progression-associated markers in oligodendrogliomas

Thomas Millner, Hajar Mikaeili, Rossella Rispoli, Ayisha Shabbir, Sebastian Brandner

P9 Morphometry of medial prefrontal pyramidal neurons in frontotemporal and vascular-related dementias

Dan Jobson, Lauren Walker, Tuomo Polvikoski, Louise Allan, Raj Kalaria

P10 Nimodipine protects vascular and cognitive function in an animal model of cerebral small vessel disease

Zhiyuan Yang, Yiqing Xia, Frederic Lange, Katerina Cabolis, Marija Sajic, David Werring, Ilias Tachtsidis, Kenneth Smith

P11 Artificial intelligence in histopathological image analysis of brain tumours: a systematic review

Melanie Jensen, Zekai Qiang, Danyal Khan, Danail Stoyanov, Stephanie Baldeweg, Zane Jaunmuktane, Sebastian Brandner, Hani Marcus

P12 Novel quantitative digital pathology pipeline unveils distinct regional patterns of misfolded protein pathologies in Parkinson's disease

Toby Curless, Hemanth Nelvagal, Raquel Real, Lesley Wu, Alice Rockliffe, John Hardy, Huw Morris, Sebastian Brandner, Yau Mun Lim, Zane Jaunmuktane

P13 Pathological correlates of MRI-determined cortical thinning in temporal lobe epilepsy

Joanna Bartkiewicz, Yau Mun Lim, Fenglai Xiao, Maritchka Ryniejska, Matthias Koepf, Maria Thom

P14 The pattern of distribution of siRNA in the brain after intrathecal administration

Shehr-Bano Hussain, Christopher Brown, Jennifer Dewing, Roxana Carare

P15 Reduced A β amyloid deposits relate to inflammation & neuronal survival in multiple sclerosis cortex

Jonathan Pansieri, Marco Pisa, Alissa Gutnikova, Elliott Ridgeon, Richard Hickman, Margaret Esiri, Gabriele DeLuca

P16 Alterations in the HnRNP network upon TDP-43 mislocalisation

Ariana Gatt, Katherine Fodder, Yazeed Buhidma, Christina Toomey, Conceicao Bettencourt, Tammarn Lashley

P17 Assessment of KIAA1549-BRAF fusion in pilocytic astrocytoma using methylation array and RT-PCR

Fernanda Ruiz, Monika Dutt, Peravin Mariathan, Ashirwad Merve, Zane Jaunmuktane, Sebastian Brandner

P18 Whole genome sequencing: a single-assay approach in paediatric brain tumour diagnostics

Zita Reisz, Ross Laxton, Kelly Eggleton, Rebecca Ellmers, Priyal Hirani, Leena Bhaw, Smitha Nevis, Chirag Limbachia, Sammi Allouni, Helen Hanson, Fernando Carceller, Bassel Zebian, Andrew King, Istvan Bodi, Barnaby Clark, Safa Al-Sarraj

P19 A retrospective study of Paediatric Muscle biopsies in a UK tertiary care centre

Fernanda Ruiz, Shireena Yasin, Glenn Anderson, Atul Kumar, Thomas S Jacques, Ashirwad Merve

P20 A retrospective study of adult muscle biopsies in a UK tertiary care centre

Keiron Hakimnia, Stephanie Carrington, Janice Holton, **Ashirwad Merve**

P21 TDP-43 Proteinopathy is Associated with DNA and Histone De-Methylation

Farah Mahiddine, Heather Walker, Guillaume Hautbergue, Janine Kirby, Elizabeth Williams, Robin Highley

P22 Cryo-EM reveals a non-protein component in fibrils from Alzheimer's disease and other neurodegenerations

Leslie Bridges

P23 Cryo-EM evidence for a non-protein component in scrapie

Leslie Bridges

P24 Evaluation of CoAlation pathway proteins in the pathogenesis of Parkinson's Disease and Multiple system atrophy

Raniyah Majed, Tammarn Lashley, Kirsten Ebanks, Thomas Warner, Ivan Gout, **Rina Bandopadhyay**

P25 A Potential Role of FcγRIIb in Alpha-Synuclein Propagation

James Hennegan

P26 Is Muscarinic M2 Receptor on cerebral blood vessels a key player in Alzheimer's pathology?

Juliette Ainslie, Maureen Gatherer, Johannes Attems, Scott Counts, Roxana Carare

P27 Pollution and dementia: exploring the link

Louise Kelly, Christopher Brown, Mo Yang, Irina Belaia, Pasi Jalava, Paula Korhonen, Roxana O Carare

P28 The contribution of TDP-43 and α-synuclein pathology in Alzheimer's Disease with co-occurring epilepsy

Jaimee Kennedy, Federica Rocca, Istvan Bodi, Safa Al-Sarraj, Claire Troakes

P29 Investigating astrocytic changes in subtypes of frontotemporal lobar degeneration

Yazeed Buhidma, Sandrine Foti, Tammaryn Lashley

P30 Neuronal vulnerability to hnRNP K mislocalisation: Mapping different brain regions

Xinwa Jiang, Ariana Gatt, Tammaryn Lashley

P31 Mitophagy in Lewy body dementia

Searlait Thom, Jade I Hawksworth, Laura A Smith, Viktor Korolchuk, Daniel Erskine

P32 Investigating the effect of mixed pathologies on neuropathological distribution in dementia with Lewy bodies

Lauren Walker, Ahmad Khundakar, Kirsty McAleese, Johannes Attems

P33 DNA Methylation Analysis and Immunohistochemical Investigation of the BCL7B-containing BAF complex in Multiple System Atrophy

Naiomi Rambarack, Megha Murthy, Katherine Fodder, Yasuo Miki, Eduardo De Pablo Fernandez, Thomas Warner, Tammaryn Lashley, Conceição Bettencourt

P34 Apolipoprotein E abundance is increased in Down syndrome-Alzheimer's disease compared to early-onset Alzheimer's disease

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David Koss, Olivia Todd, Daniel Erskine, Johannes Attems, Fiona LeBeau, Tiago Outeiro

P37 A cause and protective treatment for acute and slowly progressive disability, neurodegeneration and grey matter atrophy – lessons from a new neuroinflammatory lesion

Erika Aguzzi, Roshni Desai, Zhiyuan Yang, Andrew Davies, Bernard Siow, Miranda Colman, Celine Geywitz, Lucas Schirmer, Paul Felts, F Laulund, Kenneth J Smith

P38 The microglial phenotype associated with translocator protein (TSPO) in Alzheimer's disease

Emma Garland, Henrike Anthony, Charlotte Rogien, Laura Kulagowska, Scott Thomas, Michel Bottlaender, James Nicoll, Delphine Boche

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P40 Temporal course of neuroinflammation following traumatic brain injury

Shannon Gilchrist, Kamar E. Ameen-Ali, Douglas S. Smith, William Stewart