125\textsuperscript{th} Meeting of the British Neuropathological Society

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

WEDNESDAY 31\textsuperscript{ST} 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, Mehta Murthy, Ignazio Piras, Patrizia Rizzu, Jack Humphrey, Matt
Hueltelman, Towfiq 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**
Robin Highley, Johnathan Cooper-Knock

*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
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

O9 Chronic hypoxia remodels the tumor microenvironment to support glioma stem cell growth

James Nicholson, Howard Fine

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, Robert Goldspring, Stuart Smith, Matthew Loose, Simon Paine

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

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

12:30 - 13:30 Lunch

13:30 - 14:30 POSTER DISCUSSION

14:00 - 16:10 THIRD SCIENTIFIC SESSION — Miscellaneous

Chair: Stephen Wharton, Zane Jaunmuktane

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

O13 Spectrum of Cerebrovascular Disease Pathology in the Corsellis Collection

Abdur Raafay Iqbal, Connor Corrigan, Soraya Setiawan, Dan Jobson, Tuomo Polvikoski, Raj N Kalaria

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

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

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 LaBeau, 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 Bham, Yura Grabovska, Ross Laxton, Clark Barnaby, Cristina Blei, 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 Eggleton, 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 Oggunbiyi, 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 Petterssen, 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 Oggunbiyi, 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 Koepp, 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 Aβ 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, Tammaryn Lashley*

P17 Assessment of KIAA1549-BRAF fusion in pilocytic astrocytoma using methylation array and RT-PCR
*Fernanda Ruiz, Monika Dutt, Peravin Mariathasan, 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, Tammaryn Lashley, Kirsten Ebanks, Thomas Warner, Ivan Gout, Rina Bandopadhyay*
P25 A Potential Role of FcyRIIb 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
Yazead 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
Cíliona 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

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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, Henrik 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