



# ISNI 2018 14<sup>th</sup> International Congress of Neuroimmunology

2<sup>nd</sup> GSNI Course  
Global Schools of Neuroimmunology ESNI - ASNI - APSNI

AUGUST 27<sup>TH</sup> - 31<sup>ST</sup>, 2018 | BRISBANE - AUSTRALIA



## Monday August 27- GSNI

### 08:30-12:15 Morning Session

#### Meeting room: AUDITORIUM

Chairs: V. Wee Yong, Gianvito Martino and Roberto Furlan

#### 08:30-08:45 **Opening Remarks**

*V. Wee Yong (Canada) and Gianvito Martino (Italy)*

#### 08:45-09:30 **Refresher on cellular and antibody-mediated immunology**

*Anne Brüstle (Australia) and Fabienne Brilot (Australia)*

#### 09:30-10:15 **Immunobiology of myeloid cells**

*Jenny Ting (USA)*

#### 10:15-10:45 *Coffee Break*

#### 10:45-11:30 **Immunobiology of neuronal cells**

*Cinthia Farina (Italy)*

#### 11:30-12:15 **Leukocyte trafficking into the CNS**

*Britta Engelhardt (Switzerland)*

#### 12:15-13:15 *Lunch Break*

### 13:15-17:30 Afternoon Session

#### Meeting room: AUDITORIUM

Chairs: Rana Karabudak and Shalina Ousman

#### 13:15-14:00 **Interactions between immune and CNS cells in neurological injury and repair**

*V. Wee Yong (Canada)*

#### 14:00-14:45 **Microbiome and neuroimmunological disorders**

*Sergio Baranzini (USA)*

#### 14:45-15:15 *Coffee Break*

#### 15:15-16:00 **Neuroimmunology of schizophrenia and depression**

*Belinda Lennox (UK)*

#### 16:00-16:45 **Tropical neuroimmunology: infections of the CNS**

*Richard Idro (Uganda)*



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16:45-17:30 **Clinical and translational neuroimmunology**  
*Stephen Reddel (Australia)*

## Tuesday August 28- ISNI

### 08:15–10:40 Auditorium | Plenary 1: Degeneration and Regeneration in the Nervous System

Chairs: Michal Schwartz and David Brown

08:15-08:40 **Welcome**

08:40-09:25 **Fighting Alzheimer's disease by harnessing the power of the immune system**  
*Michal Schwartz (the Weizmann Institute of Science, Rehovot – Israel)*

09:25-10:10 **Bench to bedside neuroimmunology: Successes and challenges of translational medicine**  
*V. Wee Yong (University of Calgary, Calgary – Canada)*

10:10-10:40 **Interrogation of the pathogenesis of progressive MS for therapeutic benefit**  
*Trevor Kilpatrick (University of Melbourne, Parkville – Australia)*

10:40-11:00 *Coffee Break*

### 11:00–13:20 P9 | Symposium 1: Neurodegenerative Disorders and Regeneration

Chairs: Pamela McCombe and Jean-Pierre Julien

11:00-11:30 **The link between Heat Shock Proteins, Innate Immunity and Neurodegeneration**  
*Sandra Amor (VU University Medical Centre, Amsterdam – Netherlands)*

11:30-12:00 **The innate immune genes in the center of neuroinflammatory and neurodegenerative disorders**  
*Shohreh Issazadeh-Navikas (University of Copenhagen, Copenhagen – Denmark)*

12:00-12:20 **The role of the peripheral immune system in amyotrophic lateral sclerosis**  
*Pamela McCombe (University of Queensland, Brisbane – Australia)*

#### ORAL PRESENTATIONS

12:20-12:35 **Systemic Inflammation Induces Changes in Microglial Disease Associated Proteins and Mitigates Amyloid Pathology in APP/PS1 Transgenic Mice**  
*Bente Finsen (Denmark)*



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- 12:35-12:50 **Therapeutic effect of PD-1/PD-L1 axis blockade in tau and amyloid-beta mouse models of Alzheimer's disease**  
Neta Rosenzweig (*Israel*)
- 12:50-13:05 **Alleviation of TDP-43 proteinopathy in mouse models by oral administration of a novel semi-synthetic withanolide targeting nuclear factor-kappaB signaling**  
Jean-Pierre Julien (*Canada*)
- 13:05-13:20 **Molecular signalling pathways underlying regulatory T cell (Treg)-enhanced oligodendrocyte differentiation**  
Marie Dittmer (*UK*)

## 11:00–13:20 P11 | Symposium 2: Microbiome

Chairs: Anne-Katrin Pröbstel and Ashutosh Mangalam

- 11:00-11:30 **Intestinal origins of multiple sclerosis: Experimental and clinical observations**  
Hartmut Wekerle (*Max Planck Institute of Neurobiology, Martinsried – Germany*)
- 11:30-12:00 **Alterations in gut flora giving clues to the pathogenesis of MS**  
Sachiko Miyake (*Juenteo University Graduate School of Medicine, Tokyo – Japan*)
- 12:00-12:20 **Cross-talk between the microbiome and the nervous system in neuroinflammation**  
Howard Weiner (*Harvard Medical School, Brigham and Women's Hospital, Boston (MA) – USA*)

## ORAL PRESENTATIONS

- 12:20-12:35 **Deciphering B cell-microbiota crosstalk in demyelinating neuroinflammation: IgA B cells as a critical regulator along the gut-brain axis**  
Anne-Katrin Pröbstel (*USA*)
- 12:35-12:50 **Linking diet, gut microbiota and autoimmune disease: Bacteria induced phytoestrogen metabolites impact immune function in MS/EAE**  
Ashutosh Mangalam (*USA*)
- 12:50-13:05 **Intermittent fasting confers protection in CNS autoimmunity by altering the gut microbiota**  
Laura Piccio (*USA*)
- 13:05-13:20 **Loss of IL-17A/F-mediated control of gut microbiota confers resistance to CNS autoimmunity**  
Tommy Regen (*Germany*)



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## 11:00–13:20 P6 | Symposium 3: The Peripheral Nervous System

Chairs: Sonia Berrih-Aknin and William Phillips

- 11:00-11:30 **Antibodies around the neuromuscular junction**  
Angela Vincent (*University of Oxford, Oxford – UK*)
- 11:30-12:00 **A new model of Chronic inflammatory demyelinating polyneuropathy (CIDP) in order to test new therapeutical approach**  
Jerome De Seze (*University Hospital of Strasbourg, Strasbourg – France*)
- 12:00-12:20 **Autoantibody responses to nodal and paranodal antigens in chronic inflammatory neuropathies: targets, pathogenesis and clinical relevance**  
Emily Mathey (*University of Sydney, Camperdown – Australia*)

### ORAL PRESENTATIONS

- 12:20-12:35 **NK cells as surrogate marker to predict efficacy of IVIg in Chronic Inflammatory Demyelinating Polyneuropathy**  
Anne Mausberg (*Germany*)
- 12:35-12:50 **Mechanisms of autoantibodies to neurofascins in demyelinating diseases**  
Kristina Patterson (*USA*)
- 12:50-13:05 **CX3CR1 Expression on Nerve Macrophages is Required for the Development of Autoimmune Peripheral Neuropathy**  
Ji Zhang (*Canada*)
- 13:05-13:20 **Distinct Sets of Anti-Glycolipid Antibodies Are Associated with Latent Factors in Guillain-Barré Syndrome by Exploratory Factor Analysis**  
Seiichi Omura (*Japan*)

## 11:00–13:20 Auditorium | Symposium 4: CNS Autoimmunity

Chairs: Judith Greer and Jack Antel

- 11:00-11:30 **Role of B cells in the induction and regulation of CNS autoimmunity**  
Vijay Kuchroo (*Harvard Medical School and Brigham & Women's Hospital, Boston (MA) – USA*)
- 11:30-12:00 **The communication between pathogenic T cells and phagocytes in neuroinflammation**  
Burkhard Becher (*University of Zürich, Zürich – Switzerland*)
- 12:00-12:20 **Control and regulation of Th17 cells in neuro inflammation**  
Anne Brüstle (*The Australian National University, Canberra – Australia*)



## ORAL PRESENTATIONS

- 12:20-12:35 **ICAM1+ neutrophils promote chronic inflammation via ASPRV1 in B cell-dependent autoimmune encephalomyelitis**  
Luc Vallieres (*Canada*)
- 12:35-12:50 **CNS endothelial IL-1 signaling drives neuroinflammation**  
Judith Hauptmann (*Germany*)
- 12:50-13:05 **Autoimmune encephalitis: Recovery of recombinant autoantibody signatures from intrathecal plasma cells and correlation with peripheral immune repertoire using next generation sequencing**  
Sumanta Barman (*Germany*)
- 13:05-13:20 **GTPase regulator associated with focal adhesion kinase (GRAF)-IgG Autoimmunity: Frequency, Clinical and Oncological Associations**  
Kevin O'Connor (*USA*)

13:20-14:00 *Lunch and Poster Viewing*

## 14:00–16:10 P9 | Workshop 1: Immunotherapeutics for Nervous System Disorders

Chairs: Suzanne Hodgkinson and Richard Ransohoff

- 14:00-14:30 **Control of inflammatory B cells within the central nervous system during autoimmunity**  
Thomas Korn (*Klinikum rechts der Isar, Munich – Germany*)
- 14:30-14:50 **Therapeutic decision making in paediatric Neuroimmunology of the CNS**  
Russell Dale (*University of Sydney, The Children's Hospital at Westmead, Westmead – Australia*)
- 14:50-15:10 **Research on neuropathies and discuss how translational research can improve patient outcomes**  
Stephen Reddel (*University of Sydney, Concord – Australia*)

## ORAL PRESENTATIONS

- 15:10-15:25 **Hinge-deleted IgG4 blocker therapy for acetylcholine receptor myasthenia gravis - in vitro data of competition efficacy**  
Marina Mané Damas (*Netherlands*)
- 15:25-15:40 **Fast direct neuronal signaling via the IL-4 receptor - therapeutic strategies in neuroinflammation**  
Christina Vogelaar (*Germany*)





15:40-15:55 **Successful response to plasmapheresis is mediated by phenotypic change of Th1 cells in multiple sclerosis**  
Kimitoshi Kimura (*Japan*)

15:55-16:10 **Low dose Rituximab in the treatment of myasthenia gravis**  
Fiona Chan (*Australia*)

### 14:00–16:15 P6 | Workshop 2: Visualizing the Brain

Chairs: Rana Karabudak and Friedemann Paul

14:00-14:30 **Molecular imaging of the mechanisms driving disability worsening in Multiple Sclerosis using Positron Emission Tomography.**  
Bruno Stankoff (*Sorbonne Universités, Paris – France*)

14:30-15:00 **Novel imaging tools to investigate multiple sclerosis and neuromyelitis optica - current research and clinical applications**  
Friedemann Paul (*Charité – Universitätsmedizin Berlin, Berlin – Germany*)

### ORAL PRESENTATIONS

15:00-15:15 **Quantifying compact myelin debris dynamics using Spectral Confocal Reflectance Microscopy**  
David Gonsalvez (*Australia*)

15:15-15:30 **Two-photon live imaging of astrocyte – T-cell interactions in autoimmune neuroinflammation**  
Stefan Bittner (*Germany*)

15:30-15:45 **Latent MRI lesion: could it explain some MRI-negative Autoimmune Encephalitis?**  
Maria Tappatà (*Italy*)

15:45-16:00 **Investigating the role of astrocytes for the survival of axons in chronic inflammatory lesions – an in vivo two-photon imaging approach**  
Volker Siffrin (*Germany*)

16:00-16:15 **Differences in the characteristics of white matter hyperintensity between MS and CSVD**  
Zaiqiang Zhang (*China*)



### 14:00–16:00 P7 | Workshop 3: Neurodegenerative Disorders

Chairs: Shohreh Issazadeh-Navikas and Trevor Kilpatrick

#### ORAL PRESENTATIONS

- 14:00-14:15 **The relationship of calcium and paraneoplastic Yo antibody-mediated neurodegeneration**  
Manja Schubert (*Norway*)
- 14:15-14:30 **The role of Eomesodermin-expressing T-helper cells in neurodegenerative diseases**  
Tomomi Kanazawa (*Japan*)
- 14:30-14:45 **Tau protein induced neuroinflammation in preclinical model of Alzheimer disease**  
Peter Filipcik (*Slovakia*)
- 14:45-15:00 **Effect of Fumarates on Human iPS Derived Neural Progenitor Cells and Human Primary Neurons.**  
Maryam Nakahaei-Nejad (*Canada*)
- 15:00-15:15 **Macrophages Promote Synaptic Recovery and Neuronal Survival Partly Through Fractalkine Signaling After Noise-Induced Hearing Loss**  
Tejbeer Kaur (*USA*)
- 15:15-15:30 **Regenerative Potential of Fumarate Treatment and its Impact on Nrf2-downstream Signaling in Mouse Dorsal Root Ganglia**  
Alina Blusch (*Germany*)
- 15:30-15:45 **Response to immunosuppressive therapy in cerebral amyloid angiopathy-related inflammation**  
Benjamin Trewin (*Australia*)
- 15:45-16:00 **JAK1 Regulates ER Stress-Induced Gene Expression in Astrocytes**  
Savannah Sims (*USA*)

### 14:00–16:15 P11 | Workshop 4: Antibodies and B cells in Neuroimmunological Disease

Chairs: Joanne Reed and Sarosh Irani

- 14:00-14:30 **Targeting the NMDA receptor as an immunotherapeutic approach to promote cognitive function**  
Deborah Young (*University of Auckland, Auckland – New Zealand*)



## ORAL PRESENTATIONS

- 14:30-14:45 **Uncovering targeted therapies with single cell analysis of autoantibody-producing B-cells**  
Joanne Reed (*Australia*)
- 14:45-15:00 **Circulating B cells generate antigen-specific antibodies in CNS autoantibody-mediated conditions**  
Sarosh Irani (*UK*)
- 15:00-15:15 **Germinal Centre Reactions Contribute to N-Methyl-D-Aspartate Receptor (NMDAR) Antibody Production in NMDAR-Antibody Encephalitis**  
Adam Al-Diwani (*UK*)
- 15:15-15:30 **Condition-dependent generation of aquaporin-4 antibodies from circulating B cells in neuromyelitis optica**  
Mateusz Makuch (*UK*)
- 15:30-15:45 **LGI1-specific B- and T-cell interactions in patients with LGI1-antibody encephalitis**  
Melanie Ramberger (*UK*)
- 15:45-16:00 **Human MOG autoantibody binding is influenced by antigen conformation**  
Fiona Tea (*Australia*)
- 16:00-16:15 **Peripheral CD11c+CxCR5- B Cells expressing the transcription factor Tbet discriminate active from quiescent disease in neuromyelitis optica spectrum disorder**  
Jeffrey Bennett (*USA*)

## 14:00–16:15 Auditorium | Workshop 5: Focus on T cells in Neuroimmune Disorders

Chairs: Anne Brüstle and Vijay Kuchroo

## ORAL PRESENTATIONS

- 14:00-14:15 **CNS-resident conventional dendritic cells process and present antigen to encephalitogenic T cells**  
Sarah Mundt (*Switzerland*)
- 14:15-14:30 **Regulatory T cells use heparanase to access IL-2 from the extracellular matrix at sites of autoimmune neuroinflammation**  
Hedwich Kuipers (*Canada*)





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- 14:30-14:45 **Elevated total T cells and cytotoxic T cells in the blood of patients with Complex Regional Pain Syndrome**  
Paul Austin (*Australia*)
- 14:45-15:00 **CD4+ and CD8+ autoreactive T cells in narcolepsy patients target self-antigens of hypocretin-producing neurons**  
Daniela Latorre (*Switzerland*)
- 15:00-15:15 **Evidence from human: characterization of effector/memory CD8 T cells and Th1 cells in neuromyelitis optica spectrum disorders**  
Ziyan Shi (*China*)
- 15:15-15:30 **Circulating follicular helper T cells exhibit reduced ICOS expression and impaired function in narcolepsy type 1 patients**  
Xuan-Hung Nguyen (*France*) presented by Roland Liblau
- 15:30-15:45 **IL-15 enhances pro inflammatory T cell responses in multiple sclerosis and experimental autoimmune encephalomyelitis**  
Cyril Laurent (*Canada*)
- 15:45-16:00 **A Th17 cell specific migration defect provides protection from EAE in DOCK8 deficient mice**  
Alicia Wilson (*Australia*)
- 16:00-16:15 **Detection and Characterization of Novel Myelin-reactive CD8+ T cell Populations in Multiple Sclerosis**  
Joseph Sabatino (*USA*)

## **16:30-17:30 Auditorium | KEYNOTE LECTURE: The Newsom-Davis Lecture**

Chairs: Angela Vincent and Trevor Owens

- 16:30-17:30 **THERAPEUTIC PLASTICITY OF NEURAL STEM CELLS**  
Gianvito Martino (*Vita Salute San Raffaele University, Milan – Italy*)

## **17:30-20:00 P10 | Poster Session and Mini-Oral Presentations**

### **Mini-Oral Presentations**

#### **Group 1: Russell Dale and Iain Campbell**

#98 | Short fatty acid chains suppress demyelination in vivo and in vitro (*Daisuke Noto, Japan*)



#128 | Investigating the relationship between Alzheimer's disease cognitive decline and microglial phenotype (*Amy Shepherd, Australia*)

#172 | TSPO Expression in Multiple Sclerosis Reflects Microglial, Macrophage, Astrocyte and B-cell Activity but not Microglial Phenotype (*Jodie Stephenson, UK*)

#195 | The phosphoproteome is grossly altered in astrocytes and microglia in vitro and in the brain in response to interferon-alpha (*Barney Viengkhou, Australia*)

#265 | Microglia proliferation after stroke is CSF-1 dependent (*Marco Bacigaluppi, Italy*)

#308 | Identification of the astrocytic cytokine midkine as a potential modulator of amyloid plaque-associated microglial cells in the neocortex of Alzheimer's disease cases (*Camilla Thyngesen, Denmark*)

#320 | The Design and Implementation of therapy care ATASI (Alat Terapi Otot dan Sendi) in Improving the Immune Response through Psychotherapy Automatic Qualification for Patients Post Stroke (*Singgih Bekti Worsito, Indonesia*)

#366 | Fingolimod promotes oligodendrocyte maturation and myelination in vitro and in vivo (*Guang-Xian Zhang, USA*)

#373 | Aryl hydrocarbon receptor nuclear translocator-2 (ARNT2) expression characterizes processes of oligodendrocyte proliferation and differentiation in models of multiple sclerosis (*Jacqueline Quandt, Canada*)

#378 | Microglial immunophenotype markers are expressed on activated microglia in the normal aged post-mortem human cortex (*Molly Swanson, Australia*)

## **Group 2: Natalie Payne and Marc Ruitenber**

#27 | Characterization of the molecular fingerprint of early inflammatory hotspots in cytotoxic T cell-mediated Rasmussen encephalitis (*Anna Tröscher, Austria*)

#36 | Innate immune response in traumatic Spinal Cord Injury (SCI), a beneficial regulatory role for MIS416 (*Masoud Hassanpour, Australia*)

#37 | Anti-inflammatory effect of IL-9 in multiple sclerosis as achieved by modulation of macrophage activation (*Elisabetta Volpe, Italy*)

#67 | Neuroinflammation and neural activation in the ventral hippocampus of rats with behavioural changes following nerve injury (*Nathan Fiore, Australia*)

#126 | The effect of an acute systemic inflammatory insult on the chronic effects of single and repeated mild traumatic brain injury (*Frances Corrigan, Australia*)

#166 | Claudin-5 and Claudin-24 Cytotoxicity in Experimental Traumatic Brain Injury (*Dmitriy Labunskiy, USA*)



#171 | Dissecting the role of Pattern Recognition Receptors in Experimental Autoimmune Encephalomyelitis (*Filipa Marques Ferreira, Switzerland*)

#191 | The potassium channel KCNK2 is a regulator of immune cell trafficking and inflammatory responses in idiopathic inflammatory myopathies (*Stefanie Bock, Germany*)

#199 | The function of inflammasomes in CNS demyelination (*Yvonne Dombrowski, UK*)

#298 | Assessing the efficacy of a combination of ion channel inhibitors in a rat model of repeated mild traumatic brain injury (*Yilin Mao, Australia*)

#314 | PD-1 and its ligand on myeloid CNS cells during different stages of EAE. A pathway more widespread than previously thought. (*Tommaso Croese, Italy*)

### **Group 3: Tonia Woodberry and David Brown**

#208 | BloodSTAR – Australia's Immunoglobulin Management System....and a world first! (*Jo Cameron, Australia*)

#225 | INCREASED SEROLOGICAL CATEGORISATION OF PATIENTS USING AN EXTENDED MYOSITIS ANTIBODIES IMMUNOBLOT METHOD (*Christine Bundell, Australia*)

#257 | Myelin Oligodendrocyte Glycoprotein Antibodies (MOG-IgG) Positive Neuromyelitis Optica Spectrum Disorder (NMO-SD): A Single Institution Experience (*Rana Karabudak, Turkey*)

#299 | ALTERED NUMBER AND FUNCTIONALITY OF REGULATORY B CELLS IN MYASTHENIA GRAVIS PATIENTS (*Sonia Berrih-Aknin, France*)

#317 | Human MOG antibody binding differs between cell surface MOG and recombinant soluble MOG antigen (*Joseph Angelo Lopez, Australia*)

#321 | Profiling of cytokine conditions which generate subclass-specific CASPR2-antibodies in patients with CASPR2-antibody mediated neurological syndromes. (*James Varley, UK*)

#330 | Steroid-responsive anti-phospholipid antibody related (non-thromboembolic) chorea. (*Ariadna Fontes-Villalba, Australia*)

#341 | Expression of Galectin-3 on human B cells identifies a less pathogenic subpopulation (*Evelyn Peelen, Canada*)

#406 | Investigating the diversity and immunoreactivity of recombinant anti-MOG antibodies associated with central nervous system demyelinating diseases (*Alicia Zou, Australia*)



## Poster Presentations

#22 | Glia-to-axon transfer of ribosomes after nerve injury (*Christina Francisca Vogelaar, Germany*)

#23 | A comparative study of treatment for ocular myasthenia gravis (*Tetsuya Kanai, Japan*)

#26 | The effect of thymectomy in non-thymomatous late-onset myasthenia gravis: different outcome according to thymic histology (*Akiyuki Uzawa, Japan*)

#30 | Cell activation, death and motility of human Th17 cells are finely regulated by specific transcription factors. (*Alessia Capone, Italy*)

#39 | HUMAN INDUCED PLURIPOTENT STEM CELL DERIVED MICROGLIA-LIKE CELLS (*Rosa Bonaccorso, Italy*)

#41 | Differential macrophage representation in the central and peripheral nervous system following demyelination: influence of microglia and implications for remyelination (*Jason Plemel, Canada*)

#45 | Delaying pharmacological inhibition of spinal soluble tumor necrosis factor alpha (sTNFa) signaling diminishes the development of autonomic dysreflexia after complete high thoracic spinal cord injury (*Eugene Mironets, USA*)

#50 | Three Japanese cases of fingolimod-associated progressive multifocal leukoencephalopathy (*Kazuya Takahashi, Japan*)

#65 | The role of the let-7 microRNAs as activators of Toll-like receptor 7 in microglia (*Alice Buonfiglioli, Germany*)

#68 | Prion-like propagation of alpha-synuclein is regulated by src family kinase signaling pathway in neurons. (*YuRee Choi, Korea*)

#77 | Shared microbiome features across multiple sclerosis and its animal model (*Shirong Liu, USA*)

#78 | Ameliorative effect of modified Yukmijhwang-tang on sleep disturbance in the rat (*Minsook Ye, Korea*)

#82 | Localization of Cerebellar Degeneration-Related Proteins in anti-Yo Mediated Paraneoplastic Cerebellar Degeneration (*Ida Herdlevær, Norway*)

#84 | Using super resolution microscopy to localize the paraneoplastic Yo antigens (CDR2 and CDR2L) in human cancer cells (*Torbjørn Kråkenes, Norway*)

#88 | A sporadic case of motor neuron disease with antibodies related to autoimmune disorders (*Masashi Watanabe, Japan*)

#96 | Spinal cord injury prolongs cutaneous wound inflammation and delays wound closure (*Jessica Marbourg, USA*)



#113 | Anti-plexin D1 antibody is a novel biomarker for immunotherapy-responsive neuropathic pain (*Takayuki Fujii, Japan*)

#117 | Activation of the neurotrophin receptor TrkB in astrocytes supports acute and chronic CNS injury (*Cinthia Farina, Italy*)

#123 | Glycolysis and monocarboxylate transporter-4 promotes infiltration of leukocytes in a model of multiple sclerosis (*Deepak Kaushik, Canada*)

#145 | Effects of human mesenchymal stem/stromal cells on chemokines and microglia/macrophages after spinal cord injury in mice (*Kazumichi Yagura, Japan*)

#147 | The effect of thymectomy in ocular myasthenia gravis (*Yukiko Ozawa, Japan*)

#159 | A NOVEL ROLE FOR STING IN NEUROINFLAMMATION AFTER TRAUMATIC BRAIN INJURY (*Amar Abdullah, Australia*)

#162 | Antidepressant Activity of Anti-Cytokine Treatment: A Systematic Review and Meta-analysis of Clinical Trials of Chronic Inflammatory Conditions (*Golam Khandaker, UK*)

#173 | EXTL2 enzyme function, proteoglycan deposition, and their regulation of inflammation and remyelination in a murine model of acute demyelination (*Annie Pu, Canada*)

#176 | Depletion of microglia improves spatial learning and promotes hippocampal neurogenesis following traumatic brain injury (*Emily Willis, Australia*)

#179 | Spinal delivery of regulatory T-cells reduces mechanical pain hypersensitivity and astrogliosis, and increases myelination in experimental autoimmune encephalomyelitis, an animal model of MS. (*Brooke Keating, Australia*)

#183 | Can MR permeability and contrast enhanced (CE)-FLAIR demonstrate AQP4 channel dysfunction in NMOSD ? (*Rana Karabudak, Turkey*)

#202 | Antidepressant Effects of Acupuncture by Regulations of Neurotrophic Factors (*Teruhisa Yamamoto, Japan*)

#203 | Basic Research for Development of New Treatment of Depression with Acupuncture and Kampo Medicine (*Jun Kawanokuchi, Japan*)

#207 | PLACENTAL-DERIVED STEM-CELLS AS A POTENTIAL TREATMENT FOR NEWBORN HYPOXIC-ISCHEMIC BRAIN INJURY (*Elliot Teo, Australia*)

#213 | The characterisation of human-induced microglia in Alzheimer's disease (*Hazel Quek, Australia*)

#215 | fMRI intensity is a potential surrogate marker for the cognitive response and orientation state of the middle frontal gyrus (MFG) in subjects exposed to hypobaric hypoxia: A preliminary results (*Fathinul Fikri Ahmad Saad, USA*)





- #220 | Gender-dependent and -independent inflammatory patterns in resident microglia and infiltrated macrophages after neonatal asphyxia (*Elena Di Martino, Sweden*)
- #228 | Different sub-sets of autoimmune encephalitis are associated with distinct EEG patterns (*Robb Wesselingh, Australia*)
- #235 | How the microbiome and MAIT cells are involved in Multiple Sclerosis? (*Luca Battistini, Italy*)
- #237 | Anti-A Donor Screening and the Risk of Haemolytic Anaemia with High-Dose Intravenous Immunoglobulin Treatment: A hospital-based cohort study in the US. (*Annmarie Pendleton, Australia*)
- #243 | Increased [11C]TMSX binding to A2A receptors around MS plaques and the normal appearing white matter in secondary progressive multiple sclerosis is explained by astrocytic A2A expression (*Anna Vuorimaa, Finland*)
- #251 | Association of anti-nervous system antibodies with neuroinflammation in systemic lupus erythematosus (*Anne-Katrin Pröbstel, USA*)
- #260 | Microglial Transcriptome Analysis Shows a Pre-Symptomatic Downregulation of MAPK Signalling in the EAE Model of Multiple Sclerosis (*Justin Read, Canada*)
- #267 | T and B lymphocyte subsets of anti myelin oligodendrocyte glycoprotein-related disorder and anti-aquaporin 4 antibody-positive neuromyelitis optica spectrum disorder. (*Satoru Tanaka, Japan*)
- #279 | DEVELOPING A 3D MICROFLUIDIC MODEL OF THE HUMAN BLOOD-BRAIN BARRIER (*Lotta Oikari, Australia*)
- #289 | Characterisation of human induced microglia-like cells in a 3D cell culture system (*Ginell Ranpura, Australia*)
- #290 | Anti-Muscarinic Acetylcholine Receptor Antibodies in Schizophrenia (*Alexander Ryan, Australia*)
- #296 | Microglial and astrocytic response is associated with cell death and decreased cellular proliferation in the intrauterine growth restricted newborn brain (*Julie Wixey, Australia*)
- #300 | A disease easily misdiagnosed as a neuroimmunological disorder : meningeal amyloidosis (*Miwa Nomura, Japan*)
- #303 | ROLE OF MIR-150 IN AUTOIMMUNE MYASTHENIA GRAVIS (*Sonia Berrih-Aknin, France*)
- #324 | Alpha7 acetylcholine receptor autoantibodies detected with a new radioimmunoassay are rare in sera of patients diagnosed with schizophrenia or bipolar disorder (*Carolyn Hoffmann, Netherlands*)
- #332 | IMPLICATION OF INTERLEUKIN-23 IN THE INFLAMMATORY EVENT OCCURRING IN MYASTHENIA GRAVIS THYMUS (*Sonia Berrih-Aknin, France*)



- #340 | Neuroprotective role of  $17\beta$  estradiol against amyloid beta neurotoxicity in synaptosomes of aging female rats (*Pardeep Kumar, India*)
- #350 | Transgenic IL-6 and IL-10 modify the expression of microglial phagocytic receptors involved in myelin recognition during aging (*Paula Sanchez-Molina, Spain*)
- #354 | Characterising inflammatory processes and recurrence in chronic subdural haematoma (*Susan Giorgi-Coll, UK*)
- #374 | GCSF for treatment of stroke-induced immunodepression (*Karoline Moeller, Germany*)
- #390 | Understanding haematopoietic stem/progenitor cell responses after spinal cord injury (*Woncheol Jung, Australia*)
- #391 | THE POTENTIAL THERAPEUTIC TARGET OF MIR-155 WITHIN MYELOID CELLS IN EXPERIMENTAL AUTOIMMUNE ENCEPHALOMYELITIS (*Victoria Lyons, Australia*)
- #393 | EB12 (+) B cell in neuromyelitis optica spectrum disorder with AQP4-IgG: association with the relapse and IL-6 (*Sung Min Kim, Korea*)
- #398 | Light treatment prevents retinal neuroinflammation by modulation of local noradrenergic system (*Andrea Stofkova, Czech Republic*)
- #400 | Adiponectin is associated with improvement of sleep symptoms during antidepressant treatment (*Po-hsiu Kuo, Taiwan*)
- #401 | A serum biomarker panel in human traumatic brain injury. (*Faiez Al Nimer, Sweden*)
- #403 | THE KYNURENINE PATHWAY OF TRYPTOPHAN METABOLISM MODULATES MOUSE NEURAL STEM CELL PROLIFERATION (*Michael Lovelace, Australia*)
- #407 | Neutrophil gelatinase-associated lipocalin mediates neuroinflammation after stroke (*Wen-Hai Chou, Taiwan*)
- #413 | Serine 727 phosphorylation of STAT1 modulates a type I interferon driven neuroinflammatory disease (*Pattama Songkhunawej, Australia*)
- #457 | Characterisation of Novel Anti-Neuronal Antibodies in Multiple Sclerosis (*Faisal Barnawi*)
- #458 | Fulminant thymomatous AMPAR-antibody limbic encephalitis with hypertonic coma, bruxism, an isoelectric electroencephalogram and temporal cortical atrophy, with recovery (*Nicolás Urriola, Australia*)
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## WEDNESDAY AUGUST 29- ISNI

### 08:30-10:30 Auditorium | Plenary 2: Glia and Microglia

Chairs: Jana Vukovic and Iain Campbell

08:30-09:10 **Trm-like cell signaling to microglia prevents recovery from differentially neuropathogenic flaviviruses**

Robyn Klein (*Washington University School of Medicine, St. Louis (MO) – USA*)

09:10-09:50 **Neuroinflammation: Are OPCs the forgotten inflammatory glia?**

Richard Ransohoff (*Third Rock Ventures, Boston (MA) – USA*)

09:50-10:30 **What do reactive astrocytes do?**

Shane Liddelow (*NYU Langone Medical Center, New York City (NY) – USA*)

10.30-11:00 *Coffee Break*

### 11:00-13:20 P9 | Symposium 5: Microglia and Macrophages

Chairs: Anne La Flamme and Alexandre Prat

11:00-11:30 **Microglial gap junction as a novel therapeutic target in neurodegenerative disorders**

Akio Suzumura (*Nagoya University, Nagoya – Japan*)

11:30-12:00 **Inflammatory mediators in microglia role in CNS homeostasis**

Ari Waisman (*University Medical Center of the Johannes Gutenberg University, Mainz - Germany*)

12:00-12:20 **Bench to bedside to brain: targeting resident and infiltrating myeloid cells during multiple sclerosis**

Anne La Flamme (*Malaghan Institute of Medical Research, Wellington – New Zealand*)

### ORAL PRESENTATIONS

12:20-12:35 **Fatal demyelinating disease is induced by monocyte-derived macrophages in the absence of tissue-imprinting cues**

Melanie Pieber (*Sweden*)

12:35-12:50 **Microglial network organization: a context-dependent interplay between self-renewal, clonal expansion and resolution**

Tuan Leng Tay (*Germany*)



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12:50-13:05 **Neonatal microglia transfers ameliorate EAE**

Anouk Benmamar-Badel (*Denmark*)

13:05-13:20 **Distinct microglia phenotypes in the CNS of mice with targeted production of interleukin-6 or interferon-alpha**

Phillip West (*Australia*)

## 11:00-13:20 Auditorium | Symposium 6: Multiple Sclerosis (sponsored by ACTRIMS)

Chairs: Cinthia Farina and Luca Battistini

11:00-11:30 **What Children Can Teach us About MS**

Amit Bar-Or (*University of Pennsylvania (Upenn), Philadelphia (PA) - USA*)

11:30-12:00 **Therapeutic decision making in paediatric Neuroimmunology of the CNS**

Jorge Correale (*Institute for Neurological Research Dr Raul Carrea, FLENI, Buenos Aires - Argentina*)

12:00-12:20 **Defective T cell control of Epstein-Barr virus infection in multiple sclerosis: implications for immunotherapy**

Michael Pender (*University of Queensland, Brisbane – Australia*)

### ORAL PRESENTATIONS

12:20-12:35 **Molecular-based diagnosis of Multiple Sclerosis and its progressive stage**

Bibiana Bielekova (*USA*)

12:35-12:50 **CD70 expression defines a subset of pro-inflammatory and CNS pathogenic TH1/TH17 lymphocytes**

Tessa Dhaeze (*Canada*)

12:50-13:05 **Increases in Eomes-expressing Th cells in secondary progressive multiple sclerosis reveal patients at risk of increased disability**

Ben Raveney (*UK*)

13:05-13:20 **Diagnosis and staging of multiple sclerosis using a combined 'omics approach**

Daniel Anthony (*UK*)

## 11:00-13:20 P11 | Symposium 7: Nervous System Injury & Immunity

Chairs: Kaylene Young and Marc Ruitenber

11:00-11:30 **Microglia are essential for coordinating repair and recovery after spinal cord injury**

Phillip Popovich (*The Ohio State University, Columbus (OH) - USA*)



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11:30-11:50 **Can we use activity to promote oligodendrocyte generation in people with MS?**  
Kaylene Young (*University of Tasmania, Hobart - Australia*)

11:50-12:20 **TARGETING POST-TRAUMATIC INFLAMMATION IN ACUTE SPINAL CORD INJURY:  
FROM BENCH TO BEDSIDE**  
Marc Ruitenber (*The University of Queensland, St. Lucia – Australia*)

## ORAL PRESENTATIONS

12:20-12:35 **Age-induced immune alterations contribute to the worse outcome of stroke in  
the elderly**  
Giorgia Serena Gullotta (*Italy*)

12:35-12:50 **Microglia limit inflammatory pathology and promote functional recovery after  
contusive spinal cord injury in mice**  
Faith Brennan (*USA*)

12:50-13:05 **The role of Th17 lymphocytes in Drug Refractory Epilepsy**  
Catherine Larochelle (*Canada*)

13:05-13:20 **TRPV4 Perform Mechanosensing and its Activation Augment Blood-Spinal Cord  
Barrier Disruption and Supplement Inflammation in Experimental Model(s) of  
Spinal Cord Injury**  
Hemant Kumar (*Korea*)

## 11:00-13:20 P6 | Symposium 8: Animal Models in Neuroimmunology

Chairs: Gila Moalem-Taylor and Iain Comerford

11:00-11:30 **From animal models to mechanisms that control multiple sclerosis**  
David Baker (*Queen Mary University of London, London – UK*)

11:30-12:00 **Astrocytic Cx30 deficiency improves chronic but not acute phases of experimental  
autoimmune encephalomyelitis through induction of neuroprotective microglia**  
Jun-ichi Kira (*Kyushu University, Fukuoka - Japan*)

## ORAL PRESENTATIONS

12:00-12:15 **Pre-clinical testing of therapeutic strategies using a novel mouse model for  
Paraneoplastic Neurological Disorder**  
Lidia Yshii (*France*)

12:15-12:30 **A passive transfer animal model of CASPR2 antibodies**  
Maria Pia Giannoccaro (*UK*)





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12:30-12:45 **Fate-mapping of GM-CSF expression reveals the pathogenic signature of T helper cells in neuro- inflammation**  
Juliana Komuczki (*Switzerland*)

12:45-13:00 **Neuronal TNFR1 signaling plays an acute disease-promoting role in experimental MS models in vivo**  
Irina Papazian (*Greece*)

13:00-13:15 **The Immune Checkpoint Protein PDL1 is an Essential Downstream Effector of the Interferon-Drug Response in a Mouse Model of Multiple Sclerosis.**  
Daniel Harari (*Israel*)

13:20-14:00 *Lunch Break and Poster Viewing*

**14:00-15:00 Auditorium | KEYNOTE LECTURE: The Immunology Lecture**

Chairs: Judith Greer and V. Wee Yong

14:00-15:00 **Exploring the contribution of rare variants to systemic autoimmunity**  
Carola Vinuesa (*ANU College of Health and Medicine, Acton – Australia*)

**15:15-17:00 P6 | Workshop 6: CNS Infection**

Chairs: Georges Grau and Markus Hofer

15:15-15:45 **The pathogenesis, clinical features and outcomes of cerebral malaria in African Children**  
Richard Idro (*Makerere University, Kampala – Uganda*)

15:45-16:15 **Host pathogen interaction in Japanese Encephalitis Virus infection: from bench to bedside**  
Anirban Basu (*National Brain Research Centre, Haryana – India*)

ORAL PRESENTATIONS

16:15-16:30 **The TLR adaptor molecules MyD88 and TRIF are essential in CNS resident cells to mount immune response during CNS viral infection**  
Luca Ghita (*Germany*)

16:30-16:45 **Influx of IL-1beta secreting dendritic cells and T cell activation in mice CNS-TB**  
Khanyisile Kgoadi (*South Africa*)

16:45-17:00 **Recent asymptomatic HTLV-1 carrier number in Kagoshima, Southern Japan**  
Eiji Matsuura (*Japan*)



## 15:15-16:55 P7 | Workshop 7: Metabolism

Chairs: Nicola Woodrooffe and Michael Jackson

15:15-15:40 **Translation of approaches that target the immune system and impairments in energy metabolism in epilepsy.**

Karin Borges (*University of Queensland, Brisbane – Australia*)

### ORAL PRESENTATIONS

15:40-15:55 **The role of harakiri, a mitochondrial apoptosis mediator, in maintaining membrane stability, muscle inflammation and weakness in myositis.**

Kanneboyina Nagarju (*USA*)

15:55-16:10 **Analysing the relationship between inflammation and metabolism in cell culture models of traumatic brain injury**

Monica Killen (*UK*)

16:10-16:25 **Role of metformin in diabetic aging female rat brain: a future therapy for neurodegenerative diseases**

Pardeep Kumar (*India*)

16:25-16:40 **Autoantibodies to calcium channels in Type 1 diabetes mediate oxidative stress in pancreatic beta cells**

Michael Jackson (*Australia*)

16:40-16:55 **Metabolism and immunometabolism in amyotrophic lateral sclerosis.**

Pamela McCombe (*Australia*)

## 15:15-16:55 P9 | Workshop 8: Innate Mediators of Inflammation

Chairs: Mastura Monif and Zsolt Illés

15:15-15:35 **Resetting the Tumour Microenvironment to Improve Glioblastoma Immunotherapy**

Roberta Mazzieri (*University of Queensland, Brisbane – Australia*)

15:35-15:55 **CCR2-directed recruitment of IL-17-expressing T cell subsets to the inflamed central nervous system**

Iain Comerford (*University of Adelaide, Adelaide – Australia*)

### ORAL PRESENTATIONS

15:55-16:10 **Elucidating the role of cystatin C in astrocytes in multiple sclerosis.**

Alexandra Palmer (*Canada*)

16:10-16:25 **Vitamin D impairs myelin phagocytosis and apoptotic clearance by down-regulating MerTK expression in macrophage/microglia**

Jelani Clarke (*Canada*)



16:25-16:40 **STING mediates a protective effect on T cell mediated demyelinating pathology**  
Marlene Thorsen Mørch (*Denmark*)

16:40-16:55 **A pathogenic role for the inflammasome component ASC in Parkinson's disease**  
Eduardo Albornoz (*Australia*)

**15:15-17:05 P11 | Workshop 9: Advances in Progenitors and Stem cells Research**

Chairs: Natalie Payne and Gianvito Martino

15:15-15:35 **Developing SAFE and immune-tolerated CELLS for delivery of biologics to treat Multiple Sclerosis**  
Natalie Payne (*Monash University, Clayton – Australia*)

ORAL PRESENTATIONS

15:35-15:50 **MUSCLE SATELLITE CELLS ARE FUNCTIONALLY IMPAIRED IN MYASTHENIA GRAVIS: CONSEQUENCES ON MUSCLE REGENERATION**  
Sonia Berrih-Aknin (*France*)

15:50-16:05 **Beta 3 adrenergic receptor (B3AR)-expressing mesenchymal stem cells promote lymphopoiesis upon induction of experimental autoimmune encephalomyelitis**  
Antonio Uccelli (*Italy*)

16:05-16:20 **Analysis of Immune Reconstitution by Multicolour Flow Cytometry in Multiple Sclerosis and Non-Autoimmune Patients Following Autologous Haematopoietic Stem Cell Transplantation**  
Jennifer Massey (*Australia*)

16:20-16:35 **Blockade of BMP-2/4 induces regenerative therapy in experimental autoimmune encephalomyelitis**  
Arnon Karni (*Israel*)

16:35-16:50 **Developing a human 3D brain cell model to investigate the role of microglia in neurodegenerative disease.**  
Anthony White (*Australia*)

16:50-17:05 **Can microglia originate from hematopoietic stem cells?**  
Santhi Gorantla (*USA*)



**15:15-17:00 Auditorium | Workshop 10: Diagnosing and Identifying New Treatment Targets in MS and other Disorders**

Chairs: Bibiana Bielekova and Scott Zamvil

ORAL PRESENTATIONS

- 15:15-15:30 **New Multiple Sclerosis Disease Severity Scale Predicts Future Accumulation of Disability**  
Bibiana Bielekova (*USA*)
- 15:30-15:45 **Clinically manifest inflammation in primary progressive multiple sclerosis: a treatment target**  
Tomas Kalincik (*Australia*)
- 15:45-16:00 **Cerebrospinal fluid polymorphonuclear leukocytes in diagnosis of inflammatory CNS disease**  
Hiroshi Kuroda (*Japan*)
- 16:00-16:15 **Potential surrogate markers of central nervous system inflammation in cerebrospinal fluid in the diagnosis of autoimmune encephalitis.**  
Jocelyn Jiang (*Australia*)
- 16:15-16:30 **Effects of Cladribine Tablets on CD4+ T cell subsets in the ORACLE-MS study: Results from an analysis of lymphocyte surface markers.**  
Ursula Boschert (*USA*)
- 16:30-16:45 **T cell activation in patients with myelin oligodendrocyte glycoprotein antibody-associated demyelination**  
Sudarshini Ramanathan (*Australia*)
- 16:45-17:00 **ZMIZ1 and IRF8, risk genes for multiple sclerosis and other latitude-dependent autoimmune diseases, regulate mononuclear phagocytic cell differentiation in response to vitamin D**  
Grant Parnell (*Australia*)
- 17:30-18:30 **ISNI GENERAL ASSEMBLY**

**ISNI PARTY!**

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## Thursday August 30- ISNI

### 08:30-10:30 Auditorium | Plenary 3: Neuroinflammatory Disorders

Chairs: Pamela McCombe and Todd Hardy

08:30-09:15 **Autoimmunity in the CNS: from mouse models to human diseases and vice versa**  
Roland Liblau (*Université Toulouse III, Toulouse – France*)

09:15-10:00 **Autoantibodies and treatments in autoimmune neuropathies**  
Susumu Kusunoki (*Kindai University Faculty of Medicine, Osaka – Japan*)

10:00-10:30 **Motor neurodegeneration: neuroinflammatory concepts and therapeutic development**  
Matthew Kiernan (*University of Sydney, Camperdown – Australia*)

10:30-11:00 *Coffee Break*

### 11:00-13:20 P6 | Symposia 9: Infection and the Nervous System

Chairs: Nicholas King and Richard Idro

11:00-11:30 **Congenital Zika virus infection in macaque monkeys**  
David O'Connor (*University of Wisconsin-Madison, Madison (WI) – USA*)

11:30-12:00 **Recent progress of therapeutic strategy for HTLV-1-associated myelopathy (HAM/TSP)**  
Yoshihisa Yamano (*St. Marianna University Graduate School of Medicine, Kanagawa – Japan*)

12:00-12:20 **Manipulating the myeloid lineage to modulate CNS inflammation**  
Nicholas King (*University of Sydney, Camperdown – Australia*)

#### ORAL PRESENTATIONS

12.20-12.35 **Neurons lead the antiviral immunity upon HSV-1 CNS infection**  
Andreas Pavlou (*Germany*)

12:35-12:50 **NEURO-IMMUNE CROSS TALK CONTRIBUTES TO INFLUENZA VIRUS PATHOGENESIS**  
Alice McGovern (*Australia*)

12:50-13:05 **Modulation of brain endothelial cell extracellular vesicles by Plasmodium falciparum: relevance to cerebral malaria**  
Georges Grau (*Australia*)





13:05-13:20 **Multiple sclerosis and bovine spongiform encephalopathy share neuroimmunological features.**  
Alan Ebringer (*UK*)

### 11:00-13:20 Auditorium | Symposia 10: Investigating Targets of Antibody-associated Disorders

Chair: Stefan Blum

11:00-11:30 **Autoimmune GFAP Meningoencephalomyelitis**  
Vanda Lennon (*Mayo Clinic, Rochester (MN) – USA*)

11:30-11:55 **Autoantibody epitope recognition...what can we learn.**  
Fabienne Brilot (*University of Sydney, Westmead – Australia*)

11:55-12:20 **Challenges of routine usage of neuronal cell surface antibodies – a clinician's perspective**  
Stefan Blum (*Mater Centre for Neuroscience, Brisbane – Australia*)

12:20-12:35 **Animal models to demonstrate pathogenicity of CNS antibodies**  
Angela Vincent (*University of Oxford, Oxford – UK*)

#### ORAL PRESENTATIONS

12:35-12:50 **Primary astrocyte cultures highlight novel antigens in neuromyelitis optica**  
Antonio Berretta (*UK*)

12:50-13:05 **EXTENDING GANGLIOSIDE ANTIBODY TESTING IN THE DIAGNOSTIC LABORATORY – What is there to gain?**  
Christine Bundell (*Australia*)

13:05-13:20 **Blood Brain Barrier Permeability for Pro-inflammatory Cytokines and Antibodies to Neural Surface and Intracellular Antigens in Paraneoplastic Encephalitis**  
Dmitriy Labunskiy (*USA*)

### 11:00-13:20 P11 | Symposia 11: Genetic Basis of Neuroinflammation

Chairs: Fiona McKay and Sergio Baranzini

11:00-11:30 **Significance of the inflammasome and its genetics in the CNS**  
Jenny Ting (*UNC School of Medicine, Chapel Hill (NC) – USA*)

11:30-11:50 **An immune transcriptional regulatory network approach to elucidate the Multiple Sclerosis complex disease trait.**  
Margaret Jordan (*James Cook University, Townsville – Australia*)



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## ORAL PRESENTATIONS

- 11:50-12:05 **Increasing the power to detect multiple sclerosis-associated DNA methylation changes by studying multiple cell types simultaneously**  
Ewoud Ewing (*Sweden*)
- 12:05-12:20 **Effects of NFKBIA gene mutations on outcomes of treatments that affect the NF-kappaB signalling pathway in blood cells from patients with Multiple Sclerosis**  
Jun Yan (*Australia*)
- 12:20-12:35 **Molecular signature of brain lesion evolution and fate in progressive MS**  
Maria Louise Elkjær (*Denmark*)
- 12:35-12:50 **Evidence from genome wide association studies that reduced control of Epstein Barr Virus infection drives MS risk: novel therapeutic targets**  
David Booth (*Australia*)
- 12:50-13:05 **Single-cell genomics provides insight into cell type-specific mechanisms in multiple sclerosis**  
Lucas Schirmer (*USA*)
- 13:05-13:20 **Strawberry notch homolog 2 is a repressor of a subset of IL-6 responsive genes in the murine CNS**  
Taylor Syme (*Australia*)

## 11:00-13:20 P9 | Symposia 12: Neuroimmune Psychiatry

Chairs: Belinda Lennox and Roberto Furlan

- 11:00-11:30 **Autoimmune psychosis – fact or fiction?**  
Belinda Lennox (*University of Oxford, Oxford - UK*)
- 11:30-12:00 **“Systemic” autoinflammatory disease manifesting as psychiatric disease**  
David Brown (*University of Sydney, Sydney - Australia*)

## ORAL PRESENTATIONS

- 11:50-12:05 **Prevalence of neuronal and systemic autoantibodies in sera of patients with psychotic disorders and mental disorders without psychosis**  
Carolin Hoffmann (*Netherlands*)
- 12:05-12:20 **The prevalence and treatment outcomes of anti-neuronal antibody positive patients admitted with first episode of psychosis**  
James Scott (*Australia*)



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- 12:20-12:35 **Colitis induced anxiety is mediated through a corticotropin-releasing factor receptor 1 suppression of central anandamide signaling**  
Haley Vecchiarelli (*Canada*)
- 12:35-12:50 **Altered microglial phenotype in Neuroligin-4 deficient mice as a model of Autism Spectrum Disorder**  
Dilansu Güneykaya (*Germany*)
- 12:50-13:05 **Immune profiling in the peripheral blood of patients with affective and non-affective disorders**  
Roberto Furlan
- 13:05-13:20 **Autoreactive T cells against the dopamine-2 receptor in movement and psychiatric disorders**  
Deepti Pilli (*Australia*)

13:20-14:05 *Lunch Break and Poster Viewing*

## 14:05-16:05 Auditorium | Workshop 11: Multiple Sclerosis

Chairs: Shalina Ousman Howard Weiner

- 14:05-14:30 **Old autoantigen, new tricks: In vitro and in vivo analysis of potential pathogenic mechanisms of anti-PLP autoantibodies in multiple sclerosis**  
Judith Greer (*University of Queensland, Brisbane – Australia*)

### ORAL PRESENTATIONS

- 14:30-14:45 **Functional characterization of myeloid derived suppressor cells in multiple sclerosis**  
Claudia Cantoni (*USA*)
- 14:45-15:00 **Mechanism of Disease: The Contribution of Dysfunctional RNA Binding Proteins and Stress Granule Formation to the Pathogenesis of Neurodegeneration in MS**  
Michael Levin (*Canada*)
- 15:00-15:15 **Enhanced neutrophil activation in people with relapsing-remitting multiple sclerosis is detectable by FACS but not plasma measures.**  
Tonia Woodberry (*Australia*)
- 15:15-15:30 **Profiling peripheral blood mononuclear cell function in progressive multiple sclerosis using spectral flow cytometry.**  
Carl Beyers (*New Zealand*)



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15:30-15:45 **Natalizumab Treatment of Multiple Sclerosis Leads to Diminished Microglial Activation in the Normal Appearing White Matter**  
Laura Airas (*Finland*)

15:45-16:05 **The best recent examples of translation in MS research**  
Alexandre Prat (*Université de Montréal, Montreal – Canada*)

**14:05-16:00 P9 | Workshop 12: Neuroimmune Antibody Assays: where are we at?**

Chairs: Christine Bundell and Patrick Waters

14:05-14:25 **TBD**  
Antonio Uccelli (*DINOGLMI, Genoa – Italy*)

14:25-14:45 **Laboratory diagnostics in neuroimmunology: results from the italian association of neuroimmunology EQUAS.**  
Matteo Gastaldi (*University of Pavia, Pavia – Italy*)

14:45-15:00 **How an UFO becomes identified - Development of new diagnostic parameters in autoimmune neurological disorders**  
Kai Fechner (*Euroimmun AG, Lübeck – Germany*)

15:00-15:15 **Testing in Autoimmune neurologic disease: challenges in a mixed referral base reference lab**  
Daman Langguth (*Sullivan Nicolaides Pathology, Brisbane – Australia*)

ORAL PRESENTATIONS

15:15-15:30 **MOG-IgG1 Antibodies in Children**  
Patrick Waters (*UK*)

15:30-15:45 **Antibodies to MOG and AQP4 in Chinese Patients with Recurrent Optic Neuritis**  
Jiawei Wang (*China*)

15:45-16:00 **Anti-glycine receptor antibody related disease: A case series and literature review**  
Andrew Swayne (*Australia*)

**14:05-16:05 P6 | Workshop 13: Interactions between Periphery and CNS**

Chairs: Britta Engelhardt and Roland Liblau

ORAL PRESENTATIONS

14:05-14:20 **KCNK2 shapes the morphology and function of brain endothelial cells and thereby regulates immune-cell trafficking into the CNS**  
Stephanie Bock (*Germany*)



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- 14:20-14:35 **BBB integrity is enhanced by the TH17-Associated Cytokine, IL-26: Implications for MS**  
Evelyn Peelen (*Canada*)
- 14:35-14:50 **Platelets Mediate Protective Neuroinflammation and Promote Neuronal Plasticity and Repair Following Traumatic Brain Injury**  
Eugene Ponomarev (*Hong Kong*)
- 14:50-15:05 **Immune-dependent regulation of efflux transporters at the choroid plexus during chronic neurodegeneration**  
Afroditi Tsitsou-Kampeli (*Israel*)
- 15:05-15:20 **Regional and functional heterogeneity of antigen presenting cells in the mouse brain and meninges**  
Samantha Dando (*Australia*)
- 15:20-15:35 **Dual role of ALCAM in neuroinflammation and blood–brain barrier homeostasis**  
Marc-André Lécuyer (*Canada*)
- 15:35-15:50 **Oncostatin M (OSM) and the inflamed blood brain barrier: good, bad or both?**  
Evelien Houben (*Belgium*)
- 15:50-16:05 **MCAM on Blood-Brain Barrier Endothelium Contributes to Neuroinflammation by Promoting T Lymphocyte Recruitment**  
Marc Charabati (*Canada*)

## 14:05-16:05 P11 | Workshop 14: Microglia and Macrophage

Chairs: Shannon Beasley and Akio Suzumura

### ORAL PRESENTATIONS

- 14:05-14:20 **Macrophage CD40 and CD40-TRAF signaling molecules play an essential role in EAE development.**  
Suzanne Aarts (*Netherlands*)
- 14:20-14:35 **Exacerbation of Acute Traumatic Brain Injury by Pro-Inflammatory Macrophage-derived Extracellular Vesicles**  
Abi Yates (*UK*)
- 14:35-14:50 **Dissociation of mRNA and Protein Networks in Activated Microglia Reveal SRSF3 as Master Regulator of Innate Immune Gene Translation**  
Jasna Kriz (*Canada*)





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- 14:50-15:05 **Implications of type-1 interferon signalling in microglial mediated neuroinflammation in Alzheimer's disease**  
Zachery Moore (*Australia*)
- 15:05-15:20 **Microglial phosphatidylinositol 3kinase (PI3K) pathway involved in long term potentiation is epigenetically regulated**  
Thameen Dheen (*Singapore*)
- 15:20-15:35 **CNS-derived APRIL triggers an anti-inflammatory response from astrocytes in multiple sclerosis**  
Laurie Baert (*France*)
- 15:35-15:50 **Microglia regulate spatial learning outcomes following traumatic brain injury**  
Jana Vukovic (*Australia*)
- 15:50-16:05 **Innate signaling in central nervous system recruits myeloid suppressor cells**  
Mohammad Hossein (Reza) Khorrooshi (*Denmark*)
- 14:05-16:05 P7 | Workshop 15: Clinical and Laboratory Aspects of Neuroimmunological Diseases**  
Chairs: Sudarshini Ramanathan and Tomas Kalincik
- 14:05-14:20 **Polyautoimmunity, infections and cancer in late onset myasthenia gravis**  
Ernestina Santos (*Portugal*)
- 14:20-14:35 **Strengthening Access Criteria for Immunoglobulin in Australia**  
Jennifer Roberts (*Australia*)
- 14:35-14:50 **The National Immunoglobulin Governance Program – partnering with clinicians to meet patient needs**  
Jo Cameron (*Australia*)
- 14:50-15:05 **Identifying Physiological Predictors of the SoluMedrol-Resistant Multiple Sclerosis Relapse and its Clinical Repercussions**  
Dolly Roy (*USA*)
- 15:05-15:20 **Peripheral Blood Monocytes in Patients with Hereditary Diffuse Leukoencephalopathy with Spheroids**  
Mio Hamatani (*Japan*)
- 15:20-15:35 **Cladribine Tablets produce selective and discontinuous reduction of B and T lymphocytes and natural killer cells in patients with early and relapsing multiple sclerosis (ORACLE-MS, CLARITY & CLARITY Ext)**  
Ursula Boschert (*USA*)



15:35-15:50 **Chronic relapsing inflammatory optic neuropathy (CRION): a manifestation of myelin oligodendrocyte glycoprotein antibodies**  
Sung Min Kim (*Korea*)

15:50-16:05 **TNF alpha inhibitor therapy associated bilateral thalamic demyelination: a Case Report**  
Karen Robinson (*Australia*)

**16:15-17:15 KEYNOTE Lecture: The Rita Levi-Montalcini Neurobiology Lecture**  
Chairs: Michal Schwartz and Amit Bar-Or

16:30-17:30 **Regulating Neurogenic Stem Cells in the Brain to Promote Learning and Restore Cognition**  
Perry Bartlett (*University of Queensland, Brisbane – Australia*)

**17:15-20:00 Poster Session and Mini-Oral Session**

## Mini-Oral Presentations

### Group 1: Anne La Flamme and Christine Bundell

#20 | TLR3 agonism re-establishes CNS immune competence during  $\alpha$ 4-integrin deficiency – Implications for natalizumab-associated PML (*Olaf Stuve, USA*)

#43 | Clozapine reduces EAE by inhibiting infiltration into the CNS through decreased CCL2 expression and cAMP activation (*Katharina Robichon, Australia*)

#58 | Natural and induced immunization against CCL20 ameliorate experimental autoimmune encephalitis and may confer protection against multiple sclerosis (*Arnon Karni, Israel*)

#72 | Can neuroinflammation have a beneficial effect on experimental stroke? (*Kirsten Guse, Switzerland*)

#133 | Correlation of cognitive decline and immunophenotype in spontaneously hypertensive mice (*Nadine Didwischus, Germany*)

#141 | Protection against relapses of disease in a mouse model of multiple sclerosis by a parasite-derived 68-mer peptide (*Aakanksha Dixit, Australia*)

#234 | Functional impact of apoE on abcg2-specific therapeutic substrates of neuroimmunological disease (*Lisa Schrewe, Switzerland*)

#369 | Cystatin C mediates sex dimorphism in experimental allergic encephalomyelitis (*Vahid Hoghooghi, Canada*)



### **Group 2: Fabienne Brilot and Stephen Reddel**

#28 | Regulatory T cells modulate B-cell calcium fluctuations (*Cornelia Würthwein, Germany*)

#80 | A randomised controlled clinical trial of narrowband UVB phototherapy for Clinically Isolated Syndrome: the PhoCIS study (*Prue Hart, Australia*)

#92 | Evaluation of the Long-term Treatment Effect of Teriflunomide on Cognitive Outcomes and Association With Brain Volume Change: Data From TEMSO and Its Extension Study (*Jeannette Lechner-Scott, Australia*)

#138 | Disease type in a spontaneous transgenic mouse model for multiple sclerosis is dictated by the gender of the immune cells (*Tessa Dhaeze, Canada*)

#139 | Characterization of MS brain lesions using flow cytometry and histochemistry (*Tessa Dhaeze, Canada*)

#154 | Selective modulation of trans-endothelial migration of lymphocyte subsets in multiple sclerosis patients under fingolimod treatment (*Georges Grau, Australia*)

#174 | Longitudinal assessment of lymphocyte Subsets in Lymphopenic and Non-lymphopenic Relapsing-Remitting Multiple Sclerosis (RRMS) patients treated with Dimethyl Fumarate (*Maryam Nakhaei-Nejad, Canada*)

#287 | Restoration of Regulatory B Cell Deficiency Following Alemtuzumab Therapy in Patients with relapsing Multiple Sclerosis (*Yeseul Kim, Korea*)

#310 | Disease-modifying treatments delay conversion to secondary progressive multiple sclerosis (*Tomas Kalincik, Australia*)

#315 | The real-life analysis of the occurrence of persistent, transient and fluctuating positive titers of neutralizing anti-drug antibodies in multiple sclerosis patients treated with interferon beta (*Nicky Dunn, Sweden*)

#348 | Cellular adhesion molecules are differentially regulated on MS patient's Treg during disease modifying therapy and disease progression (*Stephanie Zandee, Canada*)

### **Group 3: Pamela McCombe and Iain Comerford**

#89 | Are B cells attracted by T follicular helper (TFH) cells in experimental central nervous system (CNS) autoimmunity? (*Maike Hartlehnert, Germany*)

#205 | The adult haematopoietic stem cell CpG island methylome is almost entirely recapitulated in progeny cells: Implications for multiple sclerosis (*Lawrence Ong, Australia*)

#206 | Harnessing autoimmunity with superior dominant peptide to enhance the binding stability manipulate antigen-specific Tregs that restrict the disease-related antigens and promote tissue repair capacity. (*Youwei Lin, Japan*)



#240 | Evidence from human study: Identification of effector/memory CD8 T cells in disease progression of GBS/CIDP (*Dingke Wen, China*)

#248 | Cytokines and autoimmunity to the RNA binding protein hnRNP A1 contribute to the formation of persistent stress granules in neurons (*Hannah Salapa, Canada*)

#256 | Inflammatory proteins MRP8 & MRP14 display neurotoxic activity in a neuronal-like cell line (*Nikki McLean, Canada*)

#261 | Effector/memory CD8+ T cells synergize with co-stimulation competent macrophages to trigger autoimmune peripheral neuropathy (*Ji Zhang, Canada*)

#263 | Dissecting the CD8 T cell reactivity in Narcolepsy (*Natasja Wulff Pedersen, Denmark*)

#285 | Amygdala-enlarged epilepsy and autoimmune epilepsy with anti-LGI-1 antibody share T cell immunological features. (*Yuichiro Hashi, Japan*)

#359 | Antigen-independent stable contact between CD4 Th17 cells and oligodendrocytes in neuroinflammation (*Catherine Larochelle, Canada*)

## Poster Presentations

#25 | Evaluation of Immunomodulator Effect with Lymphopenia and Other Side Effects in Relapsing-Remitting Multiple Sclerosis Patients Using Fingolimod: Clinical Data Preliminary Results (*Sible Güler, Turkey*)

#28 | Regulatory T cells modulate B-cell calcium fluctuations (*Cornelia Würthwein, Germany*)

#46 | Effectiveness of immunoadsorption plasmapheresis for Bickerstaff's brainstem encephalitis (*Mayumi Furuya, Japan*)

#56 | Longitudinally extensive transverse myelitis with AQP4 antibody following influenza vaccination (*Jeonghee Cho, Korea*)

#59 | Serum Astrocyte related protein level was elevated and associated with clinical state in neuromyelitis optica spectrum disorders (*Hye Lim Lee, Korea*)

#62 | Anti-IL-6 receptor antibody decreases pain sensitivity and microglial activation in mice with experimental autoimmune encephalomyelitis (*Kenichi Serizawa, Japan*)

#63 | Angiotensin AT2-receptor stimulation in the central nervous system induces IL-10 and plays a protective role in neuromyelitis optica spectrum disorder (*Mohammad H. Khorrooshi, Denmark*)

#90 | Contribution of T cell Cavbeta3 to EAE (*Kira Pichi, Germany*)

#91 | Effect of high-dose and low-dose vitamin D treatment on peripheral blood immune cells: immunological data from the EVIDIMS trial (*Priscilla Koduah, Germany*)



#93 | Impact of Long-term Teriflunomide Treatment on Lymphocyte Counts and Infections in Pooled TEMSO and TOWER Studies (*Richard MacDonell, Australia*)

#97 | Inflammatory mediators associated with chronic neuroinflammation in multiple sclerosis have distinct effects on neuronal damage and regeneration in an in-vitro human neuronal stem cell-derived CNS-lik (*Lil Meyer-Arndt, Germany*)

#101 | Implication of phosphodiesterase during experimental autoimmune neuritis; effects of several specific phosphodiesterase inhibitors (*Toshiki Fujioka, Japan*)

#109 | Aggravation and remission in patients with myasthenia gravis (*Kyong Jin Shin, Korea*)

#119 | Aging-exacerbated myelin and axonal injury is associated with microglial GP91phox-mediated oxidative stress: alleviation by indapamide (*Nathan Michaels, Canada*)

#134 | Elevated CSF TRAIL Level Distinguishes Viral Meningoencephalitis from Autoimmune Encephalitis at Early Phase (*Young-Sook Kim, Korea*)

#135 | Biomarkers for monitoring natalizumab therapy in multiple sclerosis (*Gerd Haga Bringeland, Norway*)

#136 | Revealing underlying differences in NAWM from primary and secondary progressive MS (*Nicola Woodroffe, UK*)

#143 | CORM-2 loaded solid lipid nanoparticle enhances anti-allodynic effect of CORM-2 via sustained carbon monoxide delivery. (*Hari Prasad Joshi, Korea*)

#144 | A Rare Form of Pediatric Onset NMOSD with Obstructive Hydrocephalus (*Ayşe Altintas, Turkey*)

#150 | A new ex vivo electrophysiological neuro-muscular evaluation - In case of Guillain-Barré syndrome (*Masahiko Kishi, Japan*)

#152 | Case Report of Bortezomib use in Treatment Refractory anti-N-Methyl-D-Aspartate Receptor (NMDAR) Encephalitis (*Roshan Dhanapalaratnam, Australia*)

#167 | High levels of Epstein Barr virus capsid antigen (EBV VCA) IgG and nuclear antigen (EBNA-1) IgG are associated with multiple sclerosis disease activity (*Cris Constantinescu, UK*)

#170 | A potential role for autoantibodies against glutamate transporters in development of disease progression in multiple sclerosis (*Shannon Beasley, Australia*)

#181 | Intrathecal inflammatory markers in acute optic neuritis (*Mads Olesen, Denmark*)

#184 | Development of hindlimb paresis following Dengue and Zika virus infections in adult immunocompetent mice (*Fabian Szepanowski, Germany*)

#185 | Glyphosate-based herbicide, rather than pure glyphosate, affects peripheral nervous system myelination (*Fabian Szepanowski, Germany*)





- #186 | Treatment of ocular myasthenia gravis in Japan (*Tomoko Narita, Japan*)
- #190 | Chronically altered immune status in the brain of lupus prone mice (*Atsushi Nomura, Japan*)
- #194 | Disturbed auditory frequency discrimination and reduced burst activity in the thalamus following focal and general demyelination (*Venu Narayanan, Germany*)
- #197 | Implementing a drug-screening platform with mouse and human neurons for multiple sclerosis (MS): reprogrammed cells as a tool to identify therapeutic compounds and assess disease specific dysfunctions (*Linda Ottoboni, Italy*)
- #198 | Establishing an in vitro human stem cell based culture model to study neuroprotection, neuroregeneration and neuronal resilience in Multiple Sclerosis (*Janis Kerkerling, Germany*)
- #212 | Intrathecal IL-35 therapy decreases pain behaviours in EAE, and is associated with decreased neuroinflammation and increased myelination of the CNS (*Samuel Duffy, Australia*)
- #216 | Stem cells from dental pulp inhibit encephalitogenic T cell responses and suppress disease in an animal model of multiple sclerosis (*Kerrie Foyle, Australia*)
- #223 | Consequences of oligodendrocyte injury on clearance and trafficking of mitochondrial products: potential to induce a secondary immune response. (*Florian Pernin, Canada*)
- #224 | Serum GFAP associates with neurofilament light and disease severity in late multiple sclerosis (*Heidi Högel, Finland*)
- #231 | Interleukin-36alpha is elevated in the serum and cerebrospinal fluid of patients with neuromyelitis optica spectrum disorder and correlates with disease activity (*Tao Jin, China*)
- #232 | The therapeutic effect of PD1, PDL1 in experimental autoimmune encephalomyelitis by tolerance dendritic cell (*Tao Jin, China*)
- #233 | Anti-inflammatory effect of a novel remyelinating agent, RxR agonist Bexarotene promotes the induction of human iTregs, and reduces Th17 differentiation in vitro (*Christof Gaunt, Australia*)
- #238 | The GTF2I rs117026326 polymorphism is associated with neuromyelitis optica spectrum disorder but not with multiple sclerosis in a northern Han Chinese population (*Tao Jin, China*)
- #239 | EBV-specific CD8+ T cells in MS patients treated with Interferon beta-1a (44mcg) (*Luca Battistini, Italy*)
- #258 | NeurEx: App-based documentation of neurological exam eliminates noise in current disability scales and provides a new scale with enhanced sensitivity. (*Bibiana Bielekova, USA*)
- #264 | Prevalence and clinical features of central autoimmune conditions in a British teaching hospital (*Hina Khan, UK*)



- #266 | Long-Term Efficacy of Fingolimod in Young Adult Patients with Relapsing Multiple Sclerosis (*Tanuja Chitnis, USA*)
- #271 | Clinical and therapeutic predictors of relapse in NMOSD (*Tomas Kalincik, Australia*)
- #274 | Immunotherapy to prevent long-term disability in multiple sclerosis: a longitudinal observational study over 15 years (*Tomas Kalincik, Australia*)
- #280 | Paraneoplastic NMOSD preceding immune-escape of EG junction adenocarcinoma (*Norio Chihara, Japan*)
- #284 | Serological profile of Japanese ocular myasthenia gravis patients (*Akiko Nagaishi, Japan*)
- #286 | Case Report: Contactin-1 IgG4 associated Chronic Inflammatory Demyelinating Polyneuropathy with rapidly progressive symptoms and early sensory ataxia (*Siew Kar Chen, Australia*)
- #288 | Validation of New In-House Live Cell-Based Assay for MOG-IgG (*Yeseul Kim, Korea*)
- #294 | Activated Leukocyte Cell Adhesion Molecule regulates B cell migration across Central Nervous System Barriers (*Evelyn Peelen, Canada*)
- #295 | Pembrolizumab associated N-Methyl-D-aspartate receptor antibody positive encephalitis (*Elizabeth Shiner, Australia*)
- #297 | Neuroimaging and clinical deterioration in Metachromatic leukodystrophy (*Sunho Lee, Korea*)
- #304 | Muscle specific kinase protects mdx mouse muscles against eccentric contraction-induced loss of strength (*William Phillips, Australia*)
- #307 | T cell mediated experimental CNS autoimmunity induced by PLP in SJL mice is modulated by evobrutinib (M2951) a novel Bruton's tyrosine kinase inhibitor (*Ursula Boschert, USA*)
- #316 | New onset multiple sclerosis in the context of adalimumab therapy for ankylosing spondylitis (*George Kerin, Australia*)
- #322 | MAGNIMS score validation in interferon- $\beta$  and pooled MSBase cohort (*Tomas Kalincik, Australia*)
- #323 | Quality of life in patients with myasthenia gravis in South Korea (*Juhyeon Kim, Korea*)
- #337 | The Therapeutic Impact of Orally Administered Cannabinoid Oil Extracts In An Experimental Autoimmune Encephalomyelitis (EAE) Animal Model of Multiple Sclerosis (MS) and MS – Induced Neuropathic Pain (*Tina Khorshid Ahmad, Canada*)
- #355 | Corneal Confocal Microscopy as surrogate marker for differentiating inflammatory from non-inflammatory neuropathies (*Mark Stettner, Germany*)
- #356 | The role of IL-37 in blood brain barrier regulation (*Stephanie Zandee, Canada*)



#363 | PD-L1 and PD-L2 expression is increased in CNS infiltrating neutrophils in experimental autoimmune encephalomyelitis (*Tommaso Croese, Italy*)

#365 | Characterization of the immunophenotype of clinically isolated syndrome patient who convert or not to multiple sclerosis (*Chieh-Hsin Lee, Canada*)

#368 | NEUROPSYCHOLOGICAL DETERIORATION AS A MARKER OF NEURODEGENERATION AND SERUM LEVELS OF BRAIN DERIVED NEUROTROPHIC FACTOR IN MULTIPLE SCLEROSIS (*Vasilena Petrova, Bulgaria*)

#370 | CORRELATION BETWEEN FATIGUE SEVERITY IN PATIENTS WITH MULTIPLE SCLEROSIS AND DEPRESSION- THE ROLE OF BRAIN DERIVED NEUROTROPHIC FACTOR (*Vasilena Petrova, Bulgaria*)

#379 | Exploring the link between Immune Abnormalities and Autism Spectrum Disorder in a Maternal Immune Activation Model (*Sharon Hollins, Australia*)

#392 | Polymorphisms of CYP3A5 affect serum levels and maintenance doses of tacrolimus in myasthenia gravis patients (*Naoki Kawaguchi, Japan*)

#395 | Alterations in naive T-cell homeostasis in patients with relapsing-remitting multiple sclerosis (*David Haegert, Canada*)

#396 | Generation of macrophages that are profoundly pro-remyelinating through unexpected activation cues (*Manoj Mishra, Canada*)

#399 | Cryptococcal meningoencephalitis associated with NMDA receptor antibodies in CSF (*Michael Roizman, Australia*)

#402 | LAQUINIMOD AS A REGULATOR OF KYNURENINE PATHWAY IN MULTIPLE SCLEROSIS (*Michael D. Lovelace, Australia*)

#404 | HLA associations in anti-NMDA receptor encephalitis (*Yong-Won Shin, Korea*)

#417 | Active immunization of IgH[MOG] mice with a class II-restricted peptide induces rapid and lethal EAE. (*Prenitha Mercy Ignatius Arokia Doss, Canada*)

#448 | The contribution of monocytes and the purinergic receptor, P2X7, in MS relapse. (*Mastura Monif, Australia*)

## Friday August 31- ISNI

### 08:30-10:30 Auditorium | Plenary 4: Demyelinating Disorders and MS

Chairs: Vanda Lennon and Jun-ichi Kira

08:30-09:15 **Aquaporin-4-specific T cells and gut microbiota in neuromyelitis optica**  
Scott Zamvil (*University of California, San Francisco, San Francisco (CA) – USA*)



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09:15-10:00 **Specialized brain barriers establish the immune privilege of the CNS**  
Britta Engelhardt (*University of Bern, Bern – Switzerland*)

10:00-10:30 **Neuromyelitis optica spectrum disorders**  
Simon Broadley (*Griffith University, Nathan – Australia*)

## 10:30-11:30 Auditorium | The Dale McFarlin Lecture

Chairs: Fabienne Brilot and Cedric Raine

08:30-09:30 **Lessons from translational research in multiple sclerosis - getting close(r) to understanding it**  
Roland Martin (*University Hospital Zürich, Zürich – Switzerland*)

## 11:40-13.15 Auditorium | Workshop 16: Therapeutic Options in MS / NMOSD

Chairs: Prue Hart and Heinz Wiendl

11:40-12:00 **Racing towards a cure for demyelinating diseases**  
Jeannette Lechner-Scott (*University of Newcastle, Newcastle – Australia*)

### ORAL PRESENTATIONS

12:00-12:15 **Tocilizumab, an Anti-IL-6 Receptor Monoclonal Antibody, Suppresses Relapse and Affects both Innate and Acquired Immune Systems in Neuromyelitis Optica**  
Takako Matsuoka (*Japan*)

12:15-12:30 **Platelets drive neuroinflammation and platelet targeting is an effective anti-inflammatory and neuroprotective therapeutic approach.**  
Jacqueline Orian (*Australia*)

12:30-12:45 **Anti-inflammatory immune responses by oral administration of iNKT cell ligand OCH in healthy human subjects and multiple sclerosis : Results of investigator-initiated, first-in-human phase 1 study**  
Wakiro Sato (*Japan*)

12:45-13:00 **Activation of the hydroxycarboxylic acid receptor-2 by monomethyl fumarate triggers different pathways in different cell types**  
Nicole Kerlere de Rosbo (*Italy*)

13:00-13:15 **Elevated Serum and CSF Neurofilament Light Chain levels in patients with aggressive MS normalise following treatment with Bone Marrow Transplant and are predictive of MRI outcomes**  
Simon Thebault (*Canada*)



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## 11:40-13:10 P6 | Modeling Features of MS in Animals

Chairs: Sandra Amor and Trevor Owens

- 11:40-11:55 **Biochemically-altered myelin triggers autoimmune demyelination**  
Andrew Capriello (*Canada*)
- 11:55-12:10 **Engineering microglia cells for the delivery of therapeutic molecules in the CNS of EAE mice**  
Alessia Capotondo (*Italy*)
- 12:10-12:25 **Development of autoimmune-mediated inflammation and demyelination in class II HLA transgenic NOD-Rag gamma mice reconstituted with human CD34<sup>+</sup> blood stem cells**  
Aakanksha Dixit (*Australia*)
- 12:25-12:40 **A novel secondary progressive multiple sclerosis model by oligodendroglia-specific inducible conditional knockout of connexin47**  
Ryo Yamasaki (*Japan*)
- 12:40-12:55 **Evaluation of dimethylfumarate in treatment of focal DTH and MOG EAE using PET imaging**  
Suzanne Vainio (*Finland*)
- 12:55-13:10 **Deletion of Neuronal PAS Domain Protein 4 expression is protective against clinical disease in models of multiple sclerosis**  
Jacqueline Quandt (*Canada*)

13:10-14:00 *Lunch Break*

## 14:00-15:30 Auditorium | Plenary 5: Cross-Talk Between the Gut and the Nervous System

Chairs: Sachiko Miyake and Sergio Baranzini

- 14:00-14:45 **Environmental control of astrocyte pathogenic activities in CNS inflammation**  
Francisco Quintana (*Brigham and Women's Hospital, Harvard Medical School, Boston (MA) – USA*)
- 14:45-15:30 **Gut microbiota and ways to cure of MS**  
Takashi Yamamura (*National Institute of Neuroscience, Tokyo – Japan*)





### **15:35-16:35 The MS Panel – What causes MS and how do we cure MS?**

**Panels:** Bridget Bagert, Bibiana Bielekova, David Baker, Gavin Giovannoni, Pamela McCombe, Howard Weiner and Heinz Wiendl

**Co-hosts:** Lisa Melton and Amit Bar-Or

### **16:35-17:00 Conference Close**