



August 20



Sponsored by ECTRIMS

Day 1 | GSNI Pre-Congress Course

Morning Session – room 400A

Chairs: Roberto Furlan (*ESNI/ECTRIMS*) & V. Wee Yong (*ASNI*)

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| 8:30am-8:45am | Opening Remarks
<i>V. Wee Yong (Canada), Gianvito Martino (Italy) & Roberto Furlan (Italy)</i> |
| 8:45am-9:30am | How the brain controls peripheral immune responses in health and disease
<i>Asya Rolls (Technion, Israel Institute of Technology - Haifa, Israel – ESNI)</i> |
| 9:30am-10:15am | Clinical research in Neuroimmunology
<i>Fabienne Brilot (University of Sydney, Sydney, Australia – APSNI)</i> |
| 10:15am-10:45am | <i>Coffee Break – room 400B & Foyer</i> |

Morning session continues - room 400A

Chairs: Tika Benveniste (*ASNI*) & Qiang Liu (*APSNI*)

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|-----------------|--|
| 10:45am-11:30am | Neuroimmunology from MRI-neuropathology transcriptomics to human organoids
<i>Martina Absinta (Vita-Salute San Raffaele University, Milan, Italy – ESNI)</i> |
| 11:30am-12:15pm | Neuroimmunology of mood disorders
<i>Caroline Menard (Université Laval, Quebec City, Canada – ASNI)</i> |
| 12:15pm-1:15pm | <i>Lunch Break – room 400B & Foyer</i> |

Afternoon Session – room 400A

Chairs: Judith Greer (*APSNI*) & Lucas Schirmer (*ESNI/ECTRIMS*)

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|---------------|--|
| 1:15pm-2:00pm | Transcriptomic discoveries for Neuroimmunology
<i>Florent Ginhoux (Singapore Immunology Network (SiGN) Agency for Science, Technology and Research (A*STAR), Singapore, Singapore – APSNI)</i> |
| 2:00pm-2:45pm | Neurogenesis
<i>Amadi Ihunwo (University of the Witwatersrand, Johannesburg, South Africa – AfsNI)</i> |
| 2:45pm-3:15pm | <i>Coffee Break – room 400B & Foyer</i> |

Afternoon Session continues – room 400A

Chairs: Shalina Ousman (*ASNI*) & Roland Liblau (*ESNI/ECTRIMS*)

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|---------------|---|
| 3:15pm-4:00pm | Neuroimmunology of axonal regeneration
<i>Zhigang He (Harvard Medical School, Boston, USA – ASNI)</i> |
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4:00pm-4:45pm

Neuroimmunology of myelination and remyelination

Veronique Miron (University of Toronto/University of Edinburgh, Toronto, Canada/Edinburgh, UK – ASNI)

4:45pm-5:30pm

Microglia – a field at its crossroads

Rosa Paolicelli (University of Lausanne, Lausanne, Switzerland – ESNI)



August 21

Day 2 | ISNI Congress

Welcome & Introduction – room 400A

Chairs:

- 8:00am-8:15am **Welcome Remarks**
Luc Vallières (Canada) & LOC & ISNI President Francisco Quintana (USA)
- 8:15am-8:30am **Introduction: current challenges in Neuroimmunology**
Jack Antel (McGill University - Montreal, Canada)

Plenary Session – room 400A

Neuroimmune interactions in neural development, cognition, and homeostasis

Chairs: Oleg Butovsky (USA) & Serge Rivest (Canada)

- 8:30am-9:00am **Microglia functions from development to neurodegeneration**
*Florent Ginhoux (Singapore Immunology Network (SigN) Agency for Science, Technology and Research (A*STAR) - Singapore, Singapore)*
- 9:00am-9:30am **Immunoception: central representation and regulation of immunity**
Asya Rolls (Technion, Israel Institute of Technology - Haifa, Israel)
- 9:30am-10:00am **Unexpected interactions of the immune and nervous system - relevance for disease**
Frauke Zipp (University Mainz - Mainz, Germany)
- 10:00am-10:30am *Coffee Break – room 400B & Foyer*

Morning Breakout Sessions – room 301 & 303

Inflammation in neurodegenerative diseases – room 301

Chairs: Li Gan (USA) & Serge Rivest (Canada)

- 10:30am-10:48am **Gut neuroimmune interaction impacts brain synucleinopathy in Parkinson's disease models**
Soyon Hong (University College London - London, UK)
- 10:45am-11:06am **Decoding chronic inflammation in multiple sclerosis**
Martina Absinta (Vita-Salute San Raffaele University - Milan, Italy)
- 11:06am-11:24am **#137 The contribution of inflammatory astrocytes to BBB impairments in a brain-chip model of Parkinson's disease**
Aurélie de Rus Jacquet (Centre de Recherche du CHU de Québec-Université Laval – Québec, Canada)
- 11:24am-11:42am **#154 Meningeal Lymphatics dysfunction disturbs cortical E/I balance**
Kyungdeok Kim (Washington University in St. Louis - St. Louis (MO), USA)
- 11:42am-12:00pm **#51 A CD8 T cell signature in amyotrophic lateral sclerosis 4**
Laura Campisi (Washington University School of Medicine – St. Louis (MO) - USA)



Autoantibodies in neurological conditions – room 303

Chairs: Luc Vallières (Canada) & Roland Liblau (France)

- 10:30am-10:48am **The B cell immunology underlying autoantibody-mediated CNS diseases**
Sarosh Irani (Oxford University - Oxford, UK)
- 10:48am-11:06am **Autoimmune encephalitis and dementia – new disease concepts**
Harald Prüss (Universitätsmedizin Berlin - Berlin, Germany)
- 11:06am-11:24am **The cow conundrum – Novel insights into antibody-mediated disease mechanisms in multiple sclerosis**
Stefanie Kuerten (University of Bonn - Bonn, Germany)
- 11:24am-11:42am **#197 The emerging spectrum of foetal acetylcholine receptor antibody-related disorders (FARAD)**
Angela Vincent (Oxford, UK)
- 11:42am-12:00pm **#276 Anti-Ganglioside (Complex) Antibodies In Patients From The International Guillain-Barré Syndrome Outcome Study**
Robin C. M. Thomma (Rotterdam, the Netherlands)

Sponsored Lunch Break Symposium by EMD Serono



12:00pm-12:15pm *Get your lunch – room 400B & Foyer*

Evolving Concepts in Multiple Sclerosis Disease Progression: The impact of peripheral and centrally-driven neuroinflammation – room 400A

- 12:15pm-12:20pm **Welcome**
Dr. V. Wee Yong
- 12:20pm-12:30pm **Neuropathological mechanisms in peripherally and centrally-derived inflammation in MS**
Dr. V. Wee Yong
- 12:30pm-12:40pm **The evolving clinical course of MS and its impact on disability progression**
Dr. Jiwon Oh
- 12:40pm-12:50pm **Emerging fluid biomarkers of MS disease progression**
Dr. Raphael Schneider
- 12:50pm-1:00pm **Audience Q&A**
Dr. V. Wee Yong & Faculty

Afternoon Breakout Sessions – room 400A, 301 & 303

Non-MS autoimmune diseases – room 400A

Chairs: Stefanie Kuerten (Germany) & Raphael Schneider (Canada)

- 1:00pm-1:15pm **Waking up to the immunology of Narcolepsy type 1**
Roland Liblau (Université Toulouse III - Toulouse, France)



- 1:15pm-1:30pm **Mechanisms governing autoantibody-mediated pathology in autoimmune neurologic diseases.**
Kevin O'Connor (Yale School of Medicine - New Haven (CT), USA)
- 1:30pm-1:45pm **Immunopathology of NMOSD and MOGAD**
Kazuo Fujihara (Southern TOHOKU Research Institute for Neuroscience - Fukushima, Japan)
- 1:45pm-2:00pm **#42 Autoantibody effector functions in MOGAD**
Soumya S. Yandamuri (Yale School of Medicine, Yale University – New Haven (CT), USA)
- 2:00pm-2:15pm **#337 Regulation of Th17 and B cells by interferon-gamma in a novel Neuromyelitis Optica Disease Spectrum Disorder animal model.**
Gabriel Arellano (Northwestern University – Evanston (IL), USA)
- 2:15pm-2:30pm **#251 Pathogenic complement activation in myasthenia gravis depends on affinity matured autoantibodies with synergistic subunit specificities**
Sebastian Holdermann (University Hospital Basel and University of Basel - Basel, Switzerland)
- 2:30pm-2:45pm **#261 Single-cell phenotyping of B cells to investigate Rituximab response in patients with Myasthenia Gravis**
Jacopo Morroni (Fondazione Policlinico Universitario "A. Gemelli" IRCCS – Rome, Italy)
- 2:45pm-3:00pm **#3 The emerging role of autoreactive T cells in Guillain-Barré syndrome**
Lenka Súkeníková (ETH - Zurich, Switzerland)

Psychoneuroimmunology – room 301

Chairs: Jessica Deslauriers (Canada) & Frauke Zipp (Germany)

- 1:00pm-1:15pm **Immune-Brain Interactions in Depression**
Scott Russo (Icahn School of Medicine at Mount Sinai - New York (NY), USA)
- 1:15pm-1:30pm **Sex-specific brain and gut barrier alterations underlie stress vulnerability vs resilience in mice and human depression**
Caroline Menard (Université Laval - Quebec City, Canada)
- 1:30pm-1:45pm **Using circadian neuroimmunology to dissect molecular, cellular, and functional outcomes in health and disease**
Nader Ghasemlou (Queen's University - Kingston, Canada)
- 1:45pm-2:00pm **#300 The presence of antibodies against muscarinic acetylcholine receptors in people with first episode psychosis predicts a worse clinical outcome at 12 months follow-up**
Judith Greer (The University of Queensland – Brisbane, Australia)
- 2:00pm-2:15pm **#142 Interaction between a high fat diet and stress: effect on depression in relation to the gut microbiome-endocannabinoidome axis**
Giada Giorgini (Université Laval – Quebec, Canada)
- 2:15pm-2:30pm **#12 Behavioral as well as hippocampal transcriptomic and microglial responses differ across sexes in adult mouse offspring exposed to a dual genetic and environmental challenge**
Micaël Carrier (CHU de Québec-Université Laval - Québec, Canada / University of Victoria – Victoria, Canada)
- 2:30pm-2:45pm **#172 Psychological stress exacerbates immunoglobulin E-dependent chronic allergic skin inflammation via suppression of M2 macrophage-induced efferocytosis**
Soichiro Yoshikawa (Juntendo University Graduate School of Medicine – Tokyo, Japan)



2:45pm-3:00pm **#400 Neurovascular mitochondrial susceptibility impacts blood-brain barrier function and behavior**
Jorge Alvarez (University of Pennsylvania – Philadelphia (PA), USA)

Learning about Neuroimmunology through MS – Sponsored by ACTRIMS – room 303

Chairs: Jacqueline Quandt (Canada) & Burkhard Becher (Switzerland)

1:00pm-1:24pm **An unexpected role of B cells in neuromyelitis optica**
Thomas Korn (Technische Universität München - Munich, Germany)

1:24pm-1:48pm **Age-sensitive immune markers in multiple sclerosis: relation to biological sex and treatment response**
Catherine Larochelle (University of Montreal - Montreal, Canada)

1:48pm-2:12pm **Decoding and targeting cell type-specific signatures underlying progressive neuroinflammation**
Lucas Schirmer (University of Heidelberg - Mannheim, Germany)

2:12pm-2:36pm **The Impact of Aging on Glia and Neuroinflammation: Implications for MS and EAE**
Benjamin Segal (The Ohio State University – Columbus (OH), USA)

2:36pm-3:00pm **Microglia in multiple sclerosis – pathogenesis and imaging**
Laura Airas (University of Turku - Turku, Finland)

ISNI Keynote Lecture – room 400A

The Dale McFarlin Lecture

Chair: Jack Antel (Canada)

3:15pm-4:15pm **TBD**
Amit Bar-Or (University of Pennsylvania (UPenn), Philadelphia, USA)

Poster Session I – room 400B

4:15pm-6:15pm

Autoantibodies in neurological conditions

Immuno-neuro-oncology

Inflammation in neurodegenerative diseases

Non-MS autoimmune diseases

Psychoneuroimmunology

Biomarkers of neuroinflammation



August 22

Day 3 | ISNI Congress

Plenary Session – room 400A

Pathological mechanisms in autoimmune diseases affecting the nervous system

Chairs: Christopher Power (Canada) & Thomas Korn (Germany)

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| 8:00am-8:30am | EBV-Mediated Molecular Mimicry in Multiple Sclerosis
<i>William H. Robinson (Stanford University – Stanford (CA), USA)</i> |
| 8:30am-9:00am | B cells, BAFF and CNS inflammation
<i>Jen Gommerman (University of Toronto - Toronto, Canada)</i> |
| 9:00am-9:30am | Antibody Defined CNS Autoimmune Neurological Disorders: Discovery to Near Cure
<i>Sean Pittock (Mayo Clinic – Rochester (MN), USA)</i> |
| 9:30am-10:00am | New insights into how brain and periphery communicate
<i>Jonathan Kipnis (Washington University in St. Louis, School of Medicine – St. Louis (MO), USA)</i> |
| 10:00am-10:30am | Coffee Break – room 400B & Foyer |

Morning Breakout Sessions – room 301 & 303

Involvement of glial cells in neuroinflammation – room 301

Chairs: Nathalie Arbour (Canada) & Mikael Simons (Germany)

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|-----------------|---|
| 10:30am-10:48am | Regulatory glial cell-cell interactions
<i>Francisco Quintana (Harvard Medical School, Brigham and Women's Hospital - Boston (MA), USA)</i> |
| 10:48am-11:06am | Insights from a unique model to study de novo myelination
<i>Zhigang He (Harvard Medical School - Boston (MA), USA)</i> |
| 11:06am-11:24am | What is the role of reactive astrocytes in disease?
<i>Shane Liddelow (NYU Langone Health - New York (NY), USA)</i> |
| 11:24am-11:42am | #116 Interleukin-3 coordinates glial-peripheral immune crosstalk to incite multiple sclerosis
<i>Cameron S. McAlpine (Icahn School of Medicine at Mount Sinai – New York (NY), USA)</i> |
| 11:42am-12:00pm | #9 Fibulin-2 impedes oligodendrogenesis through engaging the Notch signaling pathway
<i>Samira Ghorbani (University of Calgary – Calgary, Canada)</i> |

Influence of sex on neuroinflammation – room 303

Chairs: Lisa Osborne (Canada) & Ari Waisman (Germany)

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|-----------------|---|
| 10:30am-10:48am | Sex differences in microglial metabolism and implications for neural development
<i>Staci Bilbo (Duke University - Durham (NC), USA)</i> |
| 10:48am-11:06am | Female sex exacerbates age-related changes in microglia
<i>Marina Lynch (Trinity College Dublin - Dublin, Ireland)</i> |
| 11:06am-11:24am | Adiposity interacts with female sex to promote T helper 1 inflammation and autoimmunity
<i>Shannon Dunn (University of Toronto - Toronto, Canada)</i> |



- 11:24am-11:42am **Biological sex as a determinant in inflammatory T cell responses in chronic CNS autoimmunity**
Manu Rangachari (Université Laval - Quebec, Canada)
- 11:42am-12:00pm **#305 Role of sex, gonadal hormones and dutasteride treatment on central and peripheral inflammation in a mouse model of Parkinson's disease.**
Amandine Isenbrandt (Université Laval – Quebec, Canada)
- 12:00pm-1:00pm *Lunch Break – room 400B & Foyer*

Afternoon Breakout Sessions – room 400A, 301, 303 & 302

Microglia in neural development, remodelling, and protection – room 400A

Chairs: Staci Bilbo (USA) & David Gosselin (Canada)

- 1:00pm-1:15pm **Diverse macrophages sense and govern brain environment**
Takahiro Masuda (Kyushu University - Fukuoka, Japan)
- 1:15pm-1:30pm **The many roles of microglia in the pathogenesis of neurodegeneration**
Rosa Paolicelli (University of Lausanne - Lausanne, Switzerland)
- 1:30pm-1:45pm **Roles of dark microglia during normal brain development**
Marie-Eve Tremblay (Canada)
- 1:45pm-2:00pm **Microglia are required for remyelination**
Jason Plemel (Canada)
- 2:00pm-2:15pm **#289 Avb8-Tgfb1 signaling in brain vascular and microglial development**
Gabriel L. McKinsey (University of California San Francisco – San Francisco (CA), USA)
- 2:15pm-2:30pm **#128 Stearoyl-CoA desaturase-1 impairs the regenerative and anti-inflammatory properties of microglia and T cells in the brain**
Jeroen F.J. Bogie (Hasselt University – Diepenbeek, Belgium)
- 2:30pm-2:45pm **#17 APOE4 Impairs Microglia Response to Neurodegeneration in Alzheimer's Disease**
Neta Rosenzweig (Brigham and Women's Hospital/ Harvard Medical School – Boston (MA), USA)
- 2:45pm-3:00pm **#83 Microglia coordinate cellular interactions during spinal cord repair in mice**
Faith H. Brennan (Queen's University - Kingston, Canada)

T cells in Neurological diseases – room 301

Chairs: Shannon Dunn (Canada) & Manu Rangachari (Canada)

- 1:00pm-1:15pm **Stranger Things about IL-12 and IL-23**
Burkhard Becher (University of Zurich - Zurich, Switzerland)
- 1:15pm-1:30pm **Th17 cells- to be, or not be, is the question before us**
Vijay Kuchroo (Harvard Medical School and Brigham and Women's Hospital - Boston (MA), USA)
- 1:30pm-1:45pm **The role of the non-canonical NFkB signalling in the regulation of autoimmunity**
Ari Waisman (University Medical Center of the Johannes Gutenberg University - Mainz, Germany)
- 1:45pm-2:00pm **#11 TCF1 is a determinant of homeostatic versus pathogenic Th17 cell state**
Ana C. Anderson (Brigham and Women's Hospital and Harvard Medical School – Boston (MA), USA)



- 2:00pm-2:15pm **#193 Tissue-resident memory T cells sustain the chronic phase of experimental autoimmune encephalomyelitis**
Frederick Masson (University Toulouse III – Toulouse, France)
- 2:15pm-2:30pm **#16 Brain endothelial antigen presentation detains CD8 T cells at the blood-brain barrier and contributes to its breakdown**
Javier Pareja (Theodor Kocher Institute, University of Bern – Bern, Switzerland)
- 2:30pm-2:45pm **#355 Impaired CNS Immunosurveillance by CCR7+ CD4 T cells during chronic neuroinflammation**
Elizaldi Sonny (University of California Davis – Davis (CA), USA)
- 2:45pm-3:00pm **#102 The transcription factor c-Maf promotes immunoregulation of CD8+ T cells in multiple sclerosis**
Norio Chihara (Kobe University Graduate School of Medicine – Kobe, Japan)

Biomarkers of neuroinflammation – room 302

Chairs: Catherine Larochelle (Canada) & Martina Absinta (Italy)

- 1:00pm-1:15pm **Compartment specific (endo)phenotyping of neuroinflammation**
Heinz Wiendl (University of Münster, Münster, Germany)
- 1:15pm-1:30pm **Biomarkers of relapsing course in MOG antibody-associated disease**
Fabienne Brilot (University of Sydney, Sydney, Australia)
- 1:30pm-1:45pm **What Information Does the Serum Biomarker Neurofilament Light Chain Offer in the Management of Multiple Sclerosis?**
Mark Freedman (University of Ottawa, Ottawa, Canada)
- 1:45pm-2:00pm **#59 CanProCo Study; Examining Prognostic Protein Biomarkers in Sera and Plasma from Multiple Sclerosis Patients**
Fiona Tea (CrCHUM – Montreal, Canada)
- 2:00pm-2:15pm **#286 Machine learning identifies a combination of immunological and clinical parameters as the best predictor of MS disease progression**
Stephanie Zandee (CRCHUM - Montreal, Canada)
- 2:15pm-2:30pm **#266 Biomarkers in autoimmune diseases of the central nervous system : the autoimmune encephalitis challenge**
Chloe Bost (Université Toulouse III – Toulouse, France)
- 2:30pm-2:45pm **#310 Interleukin-7 receptor alpha is increased on CD4+ effector T cells in clinically established multiple sclerosis**
Raphael Schneider (BARLO MS Centre – Toronto, Canada)
- 2:45pm-3:00pm **#319 Immunosenescence trajectories in diverse human populations: evaluation of immune age towards personalized therapies**
Hanane Touil (Columbia University – New York (NY), USA)

Learning about neuroimmunology through Parkinson's disease - Sponsored by ASAP – room 303

Chairs: John Lukens (USA) & Michael Heneka (Germany)

- 1:00pm-1:24pm **Parkinson's Disease-proteins regulate the transition from innate to adaptive immunity**
Michel Desjardins (University of Montreal - Montral, Canada)



- 1:24pm-1:48pm **Innate Immune Dysfunction in People with Parkinson's and Pre-clinical Models of disease**
Malu Tansey (College of Medicine University of Florida – Gainesville (FL), USA)
- 1:48pm-2:12pm **Unveiling the Enigma: Exploring Neuroinflammation's Impact on Parkinson's Disease**
Ted Dawson (Johns Hopkins University School of Medicine – Baltimore (MD), USA)
- 2:12pm-2:36pm **Microglia iron overload and ferroptosis cause neurodegeneration**
Timothy Hammond (Sanofi – Cambridge (MA) USA)
- 2:36pm-3:00pm **#344 Brain-to-gut trafficking of alpha-Synuclein by CD11c+ macrophages in Parkinson's Disease**
Rhonda L. McFleder (Germany)

ISNI Keynote Lecture – room 400A

The Rita Levi-Montalcini Neurobiology Lecture

Chair: Alexandre Prat (Canada)

- 3:15pm-4:15pm **Inflammation and Neurodegeneration in multiple sclerosis: A single and common pathway?**
Hans Lassmann (Medical University Wien, Vienna, Austria)

Poster Session II – room 400B

4:15pm-6:15pm

Biomarkers of neuroinflammation

Influence of sex on neuroinflammation

Involvement of glial cells in neuroinflammation

Microglia in neural development, remodelling, and protection

Neuroimmunology general I

T cells in Neurological diseases



August 23

Day 4 | ISNI Congress

Plenary Session – room 400A

Neuroinflammation in degenerative diseases

Chairs: Malu Tansey (USA) & Jean-Pierre Julien (Canada)

- 8:00am-8:30am **TBD**
Michael Heneka (University of Bonn - Bonn, Germany)
- 8:30am-9:00am **Neuroimmune modulation by AD risk genes**
Li Gan (Weill Cornell Medicine - New York (NY), USA)
- 9:00am-9:30am **Honing in on the molecular orchestrators of neuroprotective microglial responses in Alzheimer's disease**
John R. Lukens (University of Virginia - Charlottesville (VA), USA)
- 9:30am-10:00am **Brain-Immune ecosystem and immunotherapy to defeat dementia**
Michal Schwartz (Weizmann Institute of Science - Rehovot, Israel)
- 10:00am-10:30am *Coffee Break – room 400B & Foyer*

Morning Breakout Sessions – room 301 & 303

CNS barriers – room 301

Chairs: Britta Engelhardt (Switzerland) & Jorge Alvarez (USA)

- 10:30am-10:48am **Regulation of the blood-brain barrier in health and disease**
Richard Daneman (University of California - San Diego (CA), USA)
- 10:48am-11:06am **Ependymal cell dysregulation during neuroinflammatory events**
Jo Anne Stratton (McGill University - Montreal, Canada)
- 11:06am-11:24am **Brain endothelial cells under inflammatory challenge**
Alexandre Prat (Université de Montréal - Montreal, Canada)
- 11:24am-11:42am **#243 Cerebral microangiopathy is a key mediator of interferon-alpha neurotoxicity.**
Barney Viengkhou (The University of Sydney – Sydney, Australia)
- 11:42am-12:00pm **#127 CRTAM-Necl2 interaction at the glia limitans triggers astrogliosis and protection against EAE**
Bieke Broux (Hasselt University – Diepenbeek, Belgium)

Infection and neuroinflammation – room 303

Chairs: Louis Flamand (Canada) & William Robinson (USA)

- 10:30am-10:48am **Innate immune mechanisms in neurological disease: lessons from neuroHIV and COVID-19**
Christopher Power (University of Alberta - Edmonton, Canada)
- 10:48am-11:06am **Mononuclear Cell Triggers of Learning and Memory Impairment : Viral effects on Integrated Systems**



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

11:06am-11:24am

B cell dynamics during murine neurotropic coronavirus infection

Cornelia Bergmann (Cleveland Clinic Lerner College of Medicine of Case Western Reserve University - Cleveland (OH), USA)

11:24am-11:42am

#64 Trichinella spiralis promotes neuroimmune remodeling that ameliorates disease in a mouse model of multiple sclerosis

Naomi M. Fettig (University of British Columbia – Vancouver, Canada)

11:42am-12:00pm

#330 Sepsis, complement, and microglial synaptic pruning: findings in the mouse and human brain

Kate A. Giffin (University of Michigan – Ann Arbor (MI), USA)



12:00pm-1:00pm

Sponsored Lunch Break Symposium by Novartis

12:00pm-12:15pm

Get your lunch – room 400B & Foyer

Understanding the Unique Features of Anti-CD20 Monoclonal Antibodies for B-Cell Depletion in MS – room 400A

12:15pm-12:20pm

Welcome

Dr. Amit Bar-Or

Dr. Virginia Devonshire

Dr. Catherine Larochelle

Afternoon Breakout Sessions – room 400A, 301 & 303

From basic to translational and clinical Neuroimmunology: contributions from young scientists | Sponsored by JN1 – room 400A

Chairs: Veit Rothhammer (Germany), Aakanksha Dixit (Australia), Jeff Dong (Canada), Naomi Habib (Israel), Hedwich Kuipers (Canada), Olga Rojas (Canada) & Michal Wheeler (USA)

1:00pm-1:15pm

Introduction

1:15pm-1:30pm

The road not taken - cellular cascades in Alzheimer's and aging

Noami Habib (Israel)

1:30pm-1:45pm

Protective glia crosstalk in autoimmune CNS inflammation

Lena Löslein (Germany)

1:45pm-2:00pm

Impaired central tolerance characterises the early emergence of AQP4-specific B cells in neuromyelitis optica spectrum disorder

Sudarshini Ramanathan (Australia)

2:00pm-2:15pm

Immune regulation of stress

Chao Wang (Canada)

2:15pm-2:30pm

Understanding the role of B cells in neurodegeneration

Olga Rojas (Canada)

2:30pm-2:45pm

The neural circuits controlling sickness behavior

Jessica Osterhout (USA)



2:45pm-3:00pm **Discussion**

Peripheral Neuroimmunology – room 301

Chairs: Nader Ghasemlou (Canada) & Phillip Popovich (USA)

1:00pm-1:15pm **Nociceptor neuron recognition of microbes in host defense and immunity**
Isaac Chiu (Harvard Medical School, Boston, USA)

1:15pm-1:30pm **Pain neurons control cancer immunosurveillance**
Sebastien Talbot (Queen's University - Kingston, Canada)

1:30pm-1:45pm **Neuro-immune interactions in the gut**
Daniel Mucida (The Rockefeller University, New York, USA)

1:45pm-2:00pm **#13 Multimodal control of dendritic cell functions by nociceptors**
Pavel Hanč (Harvard Medical School – Boston (MA), USA)

B cells in Neuroinflammation

Chairs: Amit Bar-Or (USA) & Heinz Wiendl (Germany)

2:00pm-2:15pm **Plasmablasts in a model of CNS autoimmunity: from biology to therapy**
Luc Vallières (University of Laval, Quebec, Canada)

2:15pm-2:30pm **#345 T:B cell communication in ectopic lymphoid follicles in CNS autoimmunity**
Anneli Peters (LMU Hospital and BMC - Munich, Germany)

2:30pm-2:45pm **#44 T-bet+ Memory B Cells Induce Disease Relapses in Experimental Autoimmune Encephalomyelitis**
Rajiv Jain (University of Calgary, Hotchkiss Brain Institute – Calgary, Canada)

2:45pm-3:00pm **#55 B cell depletion with anti-CD20 promotes neuroprotection in a BAFF-dependent manner in mice**
Angela A. Wang (University of Toronto – Toronto, Canada)

Learning about Neuroimmunology through ALS - Sponsored by ALS Society of Quebec – room 303

Chairs: Christine Vande Velde (Canada) & Jean-Pierre Julien (Canada)

1:00pm-1:20pm **Microglia and macrophages for ALS progression**
S everine Boill ee (Sorbonne Universit /H pital de la Piti  Salp tri re, Paris, France)

1:20pm-1:40pm **Modulating myeloid cells in ALS by targeting $\alpha 5$ integrin**
Bahareh Ajami (Oregon Health & Science University, Portland, USA)

1:40pm-2:00pm **Targeting innate immune genes translation in ALS**
Jasna Kriz (Universit  Laval, Quebec City, Canada)

2:00pm-2:20pm **Peripheral and resident immune cells crosstalk in ALS**
Cristina Limatola (Sapienza University, Rome, Italy)

2:20pm-2:40pm **Role of endogenous retroviruses in Amyotrophic Lateral Sclerosis**
Avindra Nath (NINDS, Bethesda, USA)

2:40pm-3:00pm **Restoring glial functions at the neuromuscular synapse: a clinical target in ALS**
Richard Robitaille (Universit  de Montr al, Montreal, Canada)



ISNI Keynote Lecture – room 400A

The Immunology Lecture

Chair: Francisco Quintana (USA)

3:15pm-4:15pm

Checkpoints of CNS autoimmunity: from the perspective of an autoaggressive T cell

Alexander Flügel (Georg-August University, Göttingen, Germany)

Poster Session III – room 400B

4:15pm – 6:15pm

CNS barriers

CNS-infiltrating innate immune cells

Emerging therapies for neuroinflammatory conditions

Infection and neuroinflammation

Influence of diet and microbiota on neuroinflammation

Neuroimmunology general II

Novel approaches for neuroimmunologists



August 24

Day 5 | ISNI Congress

Plenary Session – room 400A

Neuroinflammation in neural injury and repair

Chairs: Susanna Rosi (USA) & V. Wee Yong (Canada)

- 8:00am-8:30am **Innate immune remodeling of damaged CNS barriers**
Dorian McGavern (NINDS, Bethesda, USA)
- 8:30am-9:00am **Innate immune mechanisms in remyelination**
Mikael Simons (Technical University of Munich, Munich, Germany)
- 9:00am-9:30am **Microglia regulation of myelin health across the lifespan**
Veronique Miron (University of Toronto/University of Edinburgh, Toronto, Canada/Edinburgh, UK)
- 9:30am-10:00am **Role of microglia and IL-6 signalling following brain injury**
Jana Vukovic (The University of Queensland, Brisbane, Australia)
- 10:00am-10:30am *Coffee Break – room 400B & Foyer*

Morning Breakout Sessions – room 301 & 303

Emerging therapies for neuroinflammatory conditions – room 301

Chairs: Benjamin Segal (USA) & Jack Antel (Canada)

- 10:30am-10:48am **Overcoming CNS fibrosis for neuroregeneration**
V. Wee Yong (University of Calgary, Calgary, Canada)
- 10:48am-11:06am **Xenon gas treatment to restore microglial functions in neurodegenerative diseases**
Oleg Butovsky (Brigham and Women's Hospital, Harvard Medical School, Boston, USA)
- 11:06am-11:24am **#340 Peptide-coupled RBCs as treatment for autoimmune diseases – dissecting the mechanisms of immune tolerance induction**
Vasileia Kalaitzaki (University of Zurich – Zürich, Switzerland)
- 11:24am-11:42am **#156 Targeting the Inflammasome in Inflammaging**
Brianna Cyr (University of Miami – Miami (FL), USA)
- 11:42am-12:00pm **#299 Nasal anti-CD3 mAb induces Tregs that dampen microglial activation and treat neuroinflammatory diseases including MS, AD and ALS**
Howard Weiner (Brigham and Women's Hospital, Harvard Medical School – Boston (MA), USA)

Influence of diet and microbiota on neuroinflammation – room 303

Chairs: Jen Gommerman (Canada) & Takashi Yamamura (Japan)

- 10:30am-10:45am **Microbial Contributions to Neurodevelopmental Disorders**
Kathy McCoy (University of Calgary, Calgary, Canada)
- 10:45am-11:00am **Bringing it all together: How do genes, diet and the microbiome contribute to MS?**
Sergio Baranzini (University of California, San Francisco, USA)



- 11:00am-11:15am **Specificity in the dietary fiber-microbiome-immune axis regulates susceptibility to neuroinflammation**
Lisa Osborne (University of British Columbia, Vancouver, Canada)
- 11:15am-11:30am **#121 Ketogenic diet promotes social stress resistance and modifies microglial morphology and ultrastructure in male mice**
Fernando González Ibáñez (Centre de Recherche CHU de Québec-Université Laval; University of Victoria – Quebec, Canada / Victoria, Canada)
- 11:30am-11:45am **#284 Identification of commensal gut microbiota signatures as predictors of clinical severity and disease progression in multiple sclerosis**
Theresa Montgomery (University of Vermont - Burlington (VT), USA)
- 11:45am-12:00am **#119 Regulation of the antiviral immune response by the sensory nervous system**
Anais Roger (Centre d'Immunologie de Marseille-Luminy (CIML) – Marseille, France)
- 12:00pm-1:00pm *Lunch Break – room 400B & Foyer*

Afternoon Breakout Sessions – room 400A, 301 & 303

CNS-infiltrating innate immune cells – room 400A

Chairs: Shalina Ousman (Canada) & Soheila Karimi (Canada)

- 1:00pm-1:15pm **Brain engrafted macrophages and brain injury**
Susanna Rosi (University of California at San Francisco/Altos Labs, San Francisco, USA)
- 1:15pm-1:30pm **Microglia regulate intraspinal and systemic neuro-immune cross-talk after spinal cord injury**
Phillip Popovich (The Ohio State University, Columbus, USA)
- 1:30pm-1:45pm **Cytokines produced by tissue-infiltrating innate immune cells as mediators of pain in chronic autoimmune diseases**
Steve Lacroix (Université Laval, Quebec City, Canada)
- 1:45pm-2:00pm **#124 Essential cytokines driving macrophage effector phenotypes in neuroinflammation**
Clara de la Rosa (University Hospital, Ludwig-Maximilians-Universität - München, Germany)
- 2:00pm-2:15pm **#140 Lipid metabolism directs the phenotype of foamy phagocytes in multiple sclerosis lesions**
Jerome JA Hendriks (Hasselt university – Hasselt, Belgium)
- 2:15pm-2:30pm **#56 Depletion of leptomeningeal neutrophils ameliorates age-dependent grey matter demyelination**
Michelle Zuo (University of Toronto – Toronto, Canada)

Immuno-neuro-oncology – room 301

Chairs: Alexandre Prat (Canada) & Francisco Quintana (USA)

- 1:00pm-1:15pm **Decoding function and phenotype of brain tumor infiltrating T cells**
Michael Platten (Heidelberg University, Heidelberg, Germany)
- 1:15pm-1:30pm **The Role of Astrocytes in Glioblastoma Pathogenicity**
Lior Mayo (Tel Aviv University, Tel Aviv, Israel)
- 1:30pm-1:45pm **Spatial diversity of T cell response in malignant CNS tumors**
Dieter Henrik Heiland (Germany)



- 1:45pm-2:00pm **Myeloid heterogeneity and functions in brain tumors**
Dolores Hambardzumyan (USA)
- 2:00pm-2:15pm **#285 Antiviral T cells populate glioblastoma and originate from pre-existing brain resident memory T cells**
Sierra Kleist (Dartmouth College – Lebanon (NH), USA)
- 2:00pm-2:15pm **#180 Analysis of factors that limit immunogenicity of intracranial melanomas**
Katarzyna Stasiak (University of Virginia – Charlottesville (VA), USA)

Novel approaches for neuroimmunologists – room 303

Chairs: Jasna Kriz (Canada) & Sergio Baranzini (USA)

- 1:00pm-1:15pm **Human microglia in health and disease**
Bart Eggen (University Medical Center Groningen, Groningen, the Netherlands)
- 1:15pm-1:30pm **Decoding the causal chain of glial activation in Alzheimer resolves the heterogeneity of the aging brain**
Philip L. De Jager (Columbia University Irving Medical Center, New York, USA)
- 1:30pm-1:45pm **#126 Multidimensional single-cell analysis of meningeal inflammation and cortical microglia in progressive multiple sclerosis**
Carla Rodriguez-Mogeda (Amsterdam UMC location VUmc - Amsterdam, The Netherlands)
- 1:45pm-2:00pm **#41 Classifying flow cytometry data using bayesian analysis helps to distinguish ALS patients from healthy controls**
Saskia Räuber (Heinrich Heine University of Düsseldorf - Düsseldorf, Germany)
- 2:00pm-2:15pm **#274 Development of a Human Microglia Engraftment Model for the Study of Neurodegenerative and Neuroinflammatory Diseases**
Ashley Munie Gardner (The Jackson Laboratory – Bar Harbour (ME), USA)
- 2:15pm-2:30pm **#322 Comparative analysis of methods to reduce activation signature gene expression in peripheral blood mononuclear cells**
Adam MacDonald (McGill University – Montreal, Canada)

ISNI Keynote Lecture – room 400A

The John Newsom-Davis Lecture

Chair: Angela Vincent (UK)

- 2:30pm-3:30pm **Axo-glial interactions in myelination and remyelination**
Catherine Lubetzki (Hôpital de la Salpêtrière, Paris, France)

Mid-Career Award – room 400A

- 3:30pm-4:15pm
Chair: Fabienne Brilot (Australia)
- 3:30pm-3:45pm **Introduction**
Fabienne Brilot
- 3:45pm-4:00pm **Keeping the balance: T cells, environment & disease**
Markus Kleinewietfeld (Hasselt University – Diepenbeek, Belgium)
- 4:00pm-4:15pm **The Dilemmas of Encephalitis**
Michael Wilson (University of California – San Francisco (CA), USA)

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4th GLOBAL SCHOOLS OF NEUROIMMUNOLOGY
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Closing Session – room 400A

4:15pm-4:45pm