



October 25-28, 2016
Omni King Edward Hotel
Toronto, Ontario, Canada



2016 Conference on
HIV In the
Central Nervous System

&

14th International
Symposium on
NeuroVirology

Local Scientific Planning Committee

Sean Rourke (Chair), Julian Falutz, Alan Jackson,
Rupert Kaul, Christopher Power

ISNV Meetings Committee

Lynn Pulliam (Co-Chair), Brian Wigdahl (Co-Chair),
Sulie Chang, Jennifer Gordon, Steven Jacobson,
Kamel Khalili, Avindra Nath, Michael Nonnemacher



And in conjunction with the
2016 Ontario HIV Treatment Network
HIV Endgame Conference

October 24-26, 2016

Tuesday, October 25th

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| 12:05 pm | NIMH/NIH Satellite Event (Windsor Ballroom, Lower Level)
<i>Optimizing Animal Models for Evolving HAND Phenotypes and CNS Reservoir Research</i> |
| 5:00 pm | Registration (Vanity Fair Foyer, Second Level) |
| 6:00 pm | Opening Reception (Palm Court, Second Level) |

Wednesday, October 26th

(in conjunction with the **2016 Ontario HIV Treatment Network HIV Endgame Conference**)

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| 7:00 am | Symposium Registration and Continental Breakfast (Vanity Fair Foyer and Pall Mall, Second Level) |
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Welcome and Opening Remarks (Vanity Fair Ballroom, Second Level)

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| 8:00 am | OHTN: Sean Rourke (Scientific and Executive Director, OHTN)
ISNV: Lynn Pulliam (Co-Chair, ISNV Meetings Committee)
Igor Koralinik (President, International Society for NeuroVirology) |
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Joint session 1: How aging and comorbidities affect the brain (Vanity Fair Ballroom, Second Level)

For people with HIV, how do aging and comorbidities affect their brains? What are the neuro-mechanisms? Are there strategies to protect the brain?

Moderators: Ron Rosenes and Scott Letendre

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| 8:15 am | Dennis Kolson (University of Pennsylvania, Philadelphia, PA, USA)
<i>Brain heme oxygenase-1 deficiency, oxidative stress and HIV-associated neurocognitive disorders: Potential therapeutic targeting</i> |
| 8:45 am | Alan Winston (Imperial College of London, London, UK)
<i>Title TBD</i> |
| 9:15 am | Priscilla Hsue (University of California, San Francisco, San Francisco, CA, USA)
<i>HIV, inflammation, and cardiovascular disease</i> |
| 9:45 am | Morning Break (Vanity Fair Foyer) |

Joint session 2: Head and HAND – Biomarkers, neuroimaging, and neuroinflammation (Vanity Fair Ballroom, Second Level)

An in-depth discussion of advances in neuro-diagnostics.

Moderators: Avindra Nath and Chris Power

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| 10:00 am | Tricia Burdo (Temple University, Philadelphia, PA, USA)
<i>Peripheral biomarkers of HIV-associated neurocognitive disorders</i> |
| 10:20 am | Bruce Brew (University of New South Wales, Sydney, NSW, Australia)
<i>HAND CSF biomarkers: Pitfalls and promises</i> |
| 10:40 am | Lucette Cysique (University of New South Wales, Sydney, NSW, Australia)
<i>How good is MRI at elucidating evolving HIV neuropathogenesis? Research and clinical implications</i> |
| 10:55 am | Discussion |

Concurrent Sessions

Joint session 3A: HIV and cognitive impairment (Vanity Fair Ballroom, Second Level)

Moderators: Kelly Jordan-Sciotto and Brian Wigdahl

- 11:15 am Andrew Levine (University of California, Los Angeles, Los Angeles, CA, USA)
Peripheral blood monocyte transcriptome at baseline implicates Wnt-signaling pathway in later neurocognitive change
- 11:30 am Valerie Wojna (University of Puerto Rico, San Juan, Puerto Rico)
Insulin receptor secretion is not associated with abnormal glucose metabolism in HIV-seropositive women
- 11:45 am Seung-Wan Yoo (Johns Hopkins University, Baltimore, MD, USA)
Evidence that dysfunctional endolysosomal biogenesis is associated with cognitive impairment in HIV-infected individuals; Agonists of TRPML1 may restore lysosomal function through luminal acidification
- 12:00 pm Charles Mactutus (University of South Carolina, Columbia, SC, USA)
Progressive deficits in sustained attention with advancing age in the HIV-1 transgenic (Tg) rat

12:15 pm Lunch Break & Networking (talks resume at 1:45 pm)

Joint session 3B: HAND clinical phenotypes – Stability / risk factors (Sovereign Ballroom, Lobby Level)

Moderator: Sean B. Rourke

- 11:15 am Scott Letendre (University of California, San Diego, San Diego, CA, USA)
Neurocognitive decline in the modern treatment era: Measurement, correlates, and future directions
- 11:30 am Benedetta Milanini (University of California, San Francisco, San Francisco, CA, USA)
HAND versus AD: New challenge in geriatric neuroHIV
- 11:45 am Lucette Cysique (The University of New South Wales, Sydney, Australia)
Title TBD
- 12:00 pm Eileen Martin (Rush University, Chicago, IL, USA)
Sex differences in HIV and neurocognition
- 12:15 pm James Becker (University of Pittsburgh, Pittsburgh, PA, USA)
Title TBD

Concurrent Tracks

ISNV Track: Viral Pathogenesis (Vanity Fair Ballroom, Second Level)

ISNV Session 1: CNS reservoirs and HIV eradication

Moderators: Kamel Khalili and Howard Gendelman

- 1:45 pm Kamel Khalili (Temple University, Philadelphia, PA, USA)
Update on gene editing and eradication of HIV
- 2:00 pm **Paradigm Builder Lectureship**
Jonathan Karn (Case Western Reserve University, Cleveland, OH, USA)
Control of HIV latency and transcription in microglial cells
Introduction by Kamel Khalili

OHTN Track: Implications of neurovirology discoveries for clinical care (Sovereign Ballroom, Lobby Level)

OHTN Session 1: HAND diagnostic issues – Healthcare practitioner perspectives

Why is it important? What are the implications for care?

Moderator: Julian Falutz

- 1:45 pm Jose Muñoz-Moreno (Fundació LLuita contra la SIDA, Barcelona, Spain)
Psychology / Neuropsychologic
- 2:00 pm Reuben Robbins (Columbia University, New York, NY, USA)
Neuropsychologic

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| <p>2:30 pm Eric Cohen (McGill University, Montreal, Québec, Canada)
<i>Are macrophages a reservoir of HIV-1?</i></p> <p>2:50 pm Howard Gendelman (University of Nebraska Medical Center, Omaha, NE, USA)
<i>Development of long-acting reservoir targeted anti-HIV slow release compounds for viral eradication</i></p> <p>3:15 pm Afternoon Break (Vanity Fair Foyer, Second Level)</p> | <p>2:15 pm Adriana Carvalhal (St. Michael's Hospital, Toronto, Ontario, Canada)
<i>Psychiatric</i></p> <p>2:30 pm Lesley Fellows (McGill University, Montreal, Québec, Canada)
<i>Neurological</i></p> <p>2:45 pm Discussion</p> |
| <p>ISNV Session 2: Extracellular vesicles in HIV neuropathogenesis
 Moderators: Shilpa Buch and Ilker Sariyer</p> | |
| <p>3:30 pm Fatah Kashanchi (George Mason University, Manassas, VA, USA)
<i>Exosomes from donor and recipient cells: Role of exosomes in HIV latency in cART treated cells</i></p> <p>4:00 pm Michal Toborek (University of Miami, Miami, FL, USA)
<i>Extracellular vesicles are amyloid carriers in HIV-infected brains</i></p> <p>4:45 pm Tribute to Dr. Donald Gilden (Windsor Ballroom, Lower Level)</p> <p>6:30 pm Junior Scientists/Women in NeuroVirology Event (Windsor Ballroom, Lower Level)</p> | <p>3:30 pm Ned Sacktor (Johns Hopkins University, Baltimore, MD, USA)
<i>Clinical management of HIV associated neurocognitive disorders</i></p> <p>3:50 pm David Moore (University of California, San Diego, San Diego, CA, USA)
<i>Exercise interventions</i></p> <p>4:10 pm David Vance (University of Alabama at Birmingham, Birmingham, AL, USA)
<i>Brain fitness interventions</i></p> <p>4:30 pm Jose Muñoz-Moreno (Fundació LLuita contra la SIDA, Barcelona, Spain)
<i>Psychological / CBT interventions</i></p> <p>OHTN Session 3: HIV and brain in 90 minutes - Key implications of new research for clinical practice
 <i>Highlights of key findings. The 10 things you need to know in practice. Talk to the researchers. A special session for clinicians who were not able to attend the full conference.</i>
 Moderator: John Gill</p> <p>5:00 pm Brief presentations</p> <p>5:30 pm Panel discussion
 Panelists: Bruce Brew, Lucette Cysique, Jose Muñoz-Moreno, Reuben Robbins, David Moore, David Vance, Ned Sacktor, Lesley Fellows, Scott Letendre, Adriana Carvalhal, Eileen Martin, James Becker, Julian Falutz, Victor Valcour, Chris Power</p> <p>6:30 pm OHTN Reception and Poster Session (location TBD)</p> |

Thursday, October 27th

7:30 am Registration and Continental Breakfast (Vanity Fair Foyer and Pall Mall, Second Level)

ISNV Session 3: Viral latency (Vanity Fair Ballroom, Second Level)

Moderators: Maria Nagel and Randall Cohrs

- 8:30 am **Audrey Gilden Lectureship**
Anne Gershon (Columbia University Medical Center, New York, NY, USA)
Prevention of varicella and zoster by immunization: is it worthwhile?
Introduction by Maria Nagel
- 9:00 am Benjamin Gelman (University of Texas Medical Branch, Galveston, TX, USA)
Whole body mapping shows a relatively small pool of latent HIV in the CNS not strongly related to pools in other body compartments
- 9:15 am Emma Wanicek (Burnet Institute, Melbourne, VIC, Australia)
Detection of HIV-1 DNA in brain tissue of virally suppressed patients supports the existence of a persistent CNS viral reservoir
- 9:30 am Rafal Kaminski (Temple University, Philadelphia, PA, USA)
Excision of HIV-1 DNA by gene editing: a proof-of-concept in vivo study

ISNV Session 4A: Neural injury and viral pathogenesis (Windsor Ballroom, Lower Level)

Moderators: Marcus Kaul and Dianne Langford

- 9:45 am Ken Tyler (University of Colorado School of Medicine, Aurora, CO, USA)
A new polio? Enterovirus D-68 and acute flaccid myelitis
- 10:15 am Santhi Gorantla (University of Nebraska Medical Center, Omaha, NE, USA)
Autophagy Facilitates Nanoformulated antiretroviral Drug Depots for Sustained Release and Enhanced Anti-Retroviral Activity
- 10:30 am Joe Steiner (National Institutes of Health, Bethesda, MD, USA)
Development of an inducible cell line screening for therapeutic antagonists to HIV Tat protein

ISNV Session 4B: Demyelinating disease pathogenesis (Vanity Fair Ballroom, Second Level)

Moderators: Walter Royal and Pasquale Ferrante

- 9:45 am Lloyd Kasper (Dartmouth Geisel School of Medicine, Lebanon, NH, USA)
In the garden of good and evil: The gut microbiome and CNS demyelinating disease
- 10:15 am Ninella Dolei (University of Sassari, Sassari, Italy)
JC polyomavirus expression and bell-shaped regulation of its SF2/ASF suppressor in multiple sclerosis patients under therapy with Natalizumab
- 10:30 am Herve Perron (Geneuro-Innovation, Lyon, France)
HERV-W envelope expression in microglia from Multiple Sclerosis patients: a lifelong role in neuroinflammation, demyelination and axonal lesion
- 10:45 am Pooja Jain (Drexel University, Philadelphia, PA, USA)
Antibody blockade of CLEC12A delays EAE onset and attenuates disease severity by impairing myeloid cell CNS infiltration and restoring positive immunity

11:00 am Morning Break

ISNV Session 5: Investigators-in-Training (Part I) (Vanity Fair Ballroom, Second Level)

Moderators: Jay Rappaport and Lena Al-Harathi

- 11:20 am Bianca Cotto (Temple University, Philadelphia, PA, USA)
Microglial activation and cocaine addiction

- 11:35 am Kevin Egan (Drexel University, Philadelphia, PA, USA)
Use of a lip scarification mouse model to study the pathology, immunology, and virology associated HSV-1 Infection of the periphery and corresponding trigeminal ganglia
- 11:50 am Robert Roscoe (University of South Carolina, Columbia, SC, USA)
Increased oral self-administration of methylphenidate and decreased dopamine release in the nucleus accumbens core region of HIV-1 transgenic rats
- 12:05 pm Courtney Veilleux (Rutgers University, Newark, NJ, USA)
Characterization of Zika virus infection in Human Astrocytes
- 12:20 pm Lunch Break and Networking (talks resume at 1:50 pm)

ISNV Session 6: Animal models in neurovirology (Vanity Fair Ballroom, Second Level)

Moderators: Joseph Mankowski and Jennifer Gordon

- 1:50 pm Guido Silvestri (Emory University School of Medicine, Atlanta, GA, USA)
Animal models for HIV cure research
- 2:20 pm Siddappa Byrareddy (University of Nebraska Medical Center, Omaha, NE, USA)
Macrophage-tropic Simian Immunodeficiency Virus Molecular Clone causes NeuroAIDS in Rhesus Macaques
- 2:35 pm Ravi Mahalingam (University of Colorado, Denver, Aurora, CO, USA)
Simian varicella virus reactivates in rhesus macaques after depletion of CD4 T cells
- 2:50 pm Won-Bin Young (University of Pittsburgh, Pittsburgh, PA, USA)
In vivo visualization of HIV transmission and viremia rebound in humanized mice

Women in Neuroscience Lectureship (Vanity Fair Ballroom, Second Level)

Moderators: Joan Berman and Mahendra Kumar

- 3:05 pm Shilpa Buch (University of Nebraska Medical Center, Omaha, NE, USA)
From NeuroAIDS to HAND: Trials, Tribulations and Hope
Introduction by Joan Berman
- 3:35 pm Afternoon Break (Vanity Fair Foyer)

ISNV Session 7: Investigators-in-Training (Part II) (Vanity Fair Ballroom, Second Level)

Moderators: Ruth Brack-Werner and Walter Royal

- 3:55 pm Kimberly Williams (University of Pennsylvania, Philadelphia, PA, USA)
Effects of flaxseed lignin, Secoisolaricresinol diglucose, on endogenous antioxidant pathway in HIV-infected macrophages
- 4:10 pm Raha Dastgheyb (Johns Hopkins University, Baltimore, MD, USA)
Astrocyte-shed extracellular vesicles regulate synchronous network burst activity
- 4:25 pm Dallas Jones (University of Colorado, Denver, Aurora, CO, USA)
Varicella zoster virus downregulates PD-L1 and MHC-1 in human brain vascular adventitial fibroblasts, perineurial cells and lung fibroblasts
- 4:40 pm Victoria Lutgen (Rush University, Chicago, IL, USA)
Development of a humanized astrocyte/human peripheral blood mononuclear cells NOD/scid-IL-2Rgc null mouse model to assess the role of astrocytes in HIV infection

ISNV Session 8: New NIH Office of AIDS Research Guidelines (Vanity Fair Ballroom, Second Level)

- 4:55 pm Woody Lin (National Institute on Drug Abuse, National Institutes of Health, Bethesda, MD, USA)
NIH OAR HIV/AIDS research priority guidelines
- 5:15 pm Eduardo Montalvo (Center for Scientific Review, National Institutes of Health, Bethesda, MD, USA)
Update from the Center for Scientific Review

5:35 pm Discussion

6:30 pm **Poster Session (Windsor Ballroom, Lower Level)**

Friday, October 28th

7:30 am Registration and Continental Breakfast (Vanity Fair Foyer and Pall Mall, Second Level)

ISNV Session 9: Systemic infections and the use of addictive substances (Vanity Fair Ballroom, Second Level)

Moderators: [Sulie Chang](#) and [Rosemarie Booze](#)

- 8:30 am Introductory Remarks
Rosemarie Booze (University of South Carolina, Columbia, SC, USA)
- 8:35 am Xuebin Qin (Temple University, Philadelphia, PA, USA)
The hCD59 transgenic rodent model of Intermedilysin-mediated cell ablation
- 9:05 am Jennifer Kelschenbach (Icahn School of Medicine at Mount Sinai, New York, NY, USA)
Chronic morphine administration exacerbates EcoHIV-induced neurocognitive impairments in mice
- 9:20 am Prasun Datta (Temple University, Philadelphia, PA, USA)
Macrophage OXPHOS regulation by HIV-1 Vpr and cocaine
- 9:35 am Svetlana Semenova (University of California San Diego, La Jolla, CA, USA)
HIV-1 TAT protein expression enhances methamphetamine behavioral sensitization and alters dopaminergic function in mice

ISNV Session 10: The rising threat of Zika virus (Vanity Fair Ballroom, Second Level)

Moderator: [Lynn Pulliam](#)

- 9:50 am J. David Beckham (University of Colorado School of Medicine, Aurora, USA)
New insights into flavivirus pathogenesis with the emergence of Zika virus
- 10:20 am Arnold Kriegstein (University of California, San Francisco, San Francisco, CA USA)
Zika virus in the developing brain: Cell tropism and drug inhibition
- 10:50 am Morning Break (Vanity Fair Foyer)

ISNV Session 11: Emerging viral pathogens (Vanity Fair Ballroom, Second Level)

Moderator: [Igor Koralnik](#)

- 11:05 am Bridgette Billieux (National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD, USA)
Neurological manifestations and sequelae in Ebola virus disease
- 11:35 am Avindra Nath (National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD, USA)
Endogenous retrovirus as a cause of Motor Neuron Disease
- 12:05 pm Lunch Break and Networking (talks resume at 1:35 pm)
- 12:05 pm **ISNV Board of Directors Meeting (Belgravia Room, Second Level)**

ISNV Session 12: Special topics in neurovirology (Vanity Fair Ballroom, Second Level)

Moderators: [Tricia Burdo](#) and [Mahmut Safak](#)

- 1:35 pm Madhavan Nair (Florida International University, Miami, FL, USA)
Getting into the brain: Potential of nanotechnology to manage neuro-AIDS and drug addictions

- 1:50 pm Sandra Skuja (Rīga Stradiņš University, Riga, Latvia)
Assessing the correlation between the grey and white matter damage and HHV-6 involvement in the frontal and temporal lobes of the brain of the elderly
- 2:05 pm Pankaj Seth (National Brain Research Centre, Manesar, India)
Novel molecular pathway of perturbation of ATP release in astrocytes contributes to neuronal death in HAND
- 2:20 pm Lisa Magnus (Johns Hopkins University, Baltimore, MD, USA)
A CNS IRIS-like phenotype in SIV-infected pigtailed macaques on cART

ISNV Session 13: NeuroAIDS NRSA (T32) Trainee Research (Vanity Fair Ballroom, Second Level)

Moderators: David Stoff, Jay Rappaport, and Brian Wigdahl

- 2:35 pm Introductory Remarks
David Stoff (National Institute of Mental Health, National Institutes of Health, Bethesda, MD, USA)
- 2:40 pm Research Training in NeuroVirology: Supporting Pathways to Success
Panel Discussion led by David Stoff and Deborah Colosi
- 3:05 pm Mike Veenstra (Albert Einstein College of Medicine, Bronx, NY, USA)
JAM-A and ALCAM Mediate Preferential Transmigration Across the BBB of HIV-infected HIV+CD14+CD16+ Monocytes: Continued Viral Seeding of the CNS and HAND
- 3:20 pm Shibani S. Mukerji (Dana-Farber Cancer Institute, Boston, MA, USA)
Cerebrospinal Fluid Viral Escape in ART-experienced HIV-1-Infected Adults
- 3:35 pm Neil Sullivan (Drexel University, Philadelphia, PA, USA)
Clinical and functional characterization of viral single nucleotide polymorphisms (SNPs) within the HIV-1 LTR associate with increased virus persistence in the Drexel Medicine CARES Cohort
- 3:50 pm Afternoon Break (Vanity Fair Foyer, Second Level)

Richard Johnson Lectureship (Vanity Fair Ballroom, Second Level)

- 4:10 pm Justin McArthur (Johns Hopkins University, Baltimore, MD, USA)
NeuroAIDS: remaining challenges in an era of virological control
Introduction by Avindra Nath

ISNV Session 14: Chronic immune activation (Vanity Fair Ballroom, Second Level)

Moderators: James Lokensgard and Tracy Fischer

- 4:40 pm Dorian McGavern (National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD, USA)
Mechanisms underlying non-cytopathic control of CNS viral infections
- 5:10 pm Norm Haughey (Johns Hopkins University, Baltimore, MD, USA)
Informatic interrogation of CSF proteomic profiles from HIV-infected subjects implicates acute phase and complement systems in shifting cognitive status
- 5:25 pm Jay Rappaport (Temple University, Philadelphia, PA, USA)
Investigating the kynurenine pathway in SIV/HIV infection: Potential target for immune modulation and treatment of comorbid conditions
- 5:40 pm Closing remarks (Vanity Fair Ballroom, Second Level)
- 7:00 pm **Pioneer Reception (Lobby Lounge, Lobby Level)**
- 8:00 pm **ISNV Pioneer in NeuroVirology Gala Dinner (Sovereign Ballroom, Lobby Level)**

Current as of October 23rd, 2016