

Meeting Agenda

19th International Symposium on NeuroVirology

Held jointly with the

2023 Conference on
HIV in the Nervous System



October 2-5, 2023
Le Centre Sheraton Montreal Hotel
Montreal, Quebec, Canada

ISNV Meetings Committee

Lynn Pulliam (Co-Chair)
Brian Wigdahl (Co-Chair)

Lena Al-Harhi
Bruce Brew

Avindra Nath
Michael Nonnemacher

Christopher Power
Valerie Wojna



Agenda for the 19th International Symposium on NeuroVirology and 2023 Conference on HIV in the Nervous System

This stimulating meeting, which will highlight new findings and accomplishments in some of the most important areas of research in neurovirology, will be held in Montreal Canada from October 2 to 5, 2023.

All times are Eastern Daylight Time (EDT)

**TOURISME /
MONTREAL**

Monday, October 2, 2023 (Afternoon start)

Meeting Registration

1:00PM Pick up your badge and agenda

Welcome and Opening Remarks

2:00PM – Bruce Brew, President, International Society for Neurovirology (ISNV)

2:15PM Christopher Power, Organizing Committee

Session: **COVID and the Brain**

Session Chairs: Bruce Brew and Igor Korolnik

2:15PM – Daniel S. Chertow, MD, MPH (Plenary)
2:45PM National Institutes of Health, Bethesda, MD

COVID-19 infection and persistence in the human body and brain

2:45PM – Robyn S. Klein, MD, PhD (Plenary)
3:15PM Washington University School of Medicine, St. Louis, MO

The neuroimmune system during virus-mediated cognitive sequelae

3:15PM – Siddappa Byrareddy, PhD
3:30PM University of Nebraska Medical Center, Omaha, NE

Omics approaches to understand tissue specific responses including CNS using hamster models of SARS-CoV-2

3:30PM – Jeffrey Schneider, PhD
3:45PM Rush University Medical Center, Chicago, IL

Human IgG glycan pattern and autoreactivity is associated with neuroinflammation in COVID-19

Opening reception

4:30PM – **Reception will begin at 4:30PM**

6:30PM

Guest Speaker at 5:00PM

Angela Campbell
Professor
Associate Provost (Equity & Academic Policies), McGill University, Montreal,
Canada

Discussion on the topic of Equity, Diversity and Inclusion

Tuesday, October 3, 2023

8:00AM – **Continental Breakfast**
9:00AM

Session: HIV and Aging
Session Chairs: Leah Rubin and Woong-Ki Kim

9:00AM-9:30AM Lesley Fellows, MD, CM, DPhil (Plenary)
McGill University, Montreal Quebec
Brain health in older people living with HIV in Canada: Results from the Positive Brain Health Now cohort

9:30AM – Maja Maric, PhD (Plenary)
10:00AM National Institute on Aging, NIH, Bethesda, MD
HAND, Aging and Alzheimer's Disease

10:00AM – Palsamy Periyasamy, PhD
10:15AM University of Nebraska Medical Center, Omaha, NE
The role of LncRNA TUG1 in HIV-1 Tat-induced astrocyte senescence: implications for NeuroHIV

10:15AM – Sanjay Maggirwar, PhD
10:30AM George Washington University School of Medicine and Health Sciences, Washington, DC
Clonal Hematopoiesis in monocytes contributes to HIV-associated neuroinflammation

10:30AM – **Coffee Break**
10:45AM

Session: NeuroHIV and Co-morbidities/Substance Abuse (Part 1)
Session Chair: Howard Fox

10:45AM – Chandravanu Dash, PhD (Plenary)
11:15AM Meharry Medical College, Nashville, TN
Cocaine and HIV- Lessons learned from a Molecular View

11:15AM – Dianne Langford, PhD
11:30AM Lewis Katz School of Medicine at Temple University, Philadelphia, PA
Detect, Predict, Prevent: Neurodegenerative Disease of Disrupted Waste Management

11:30AM – Christopher Power MD, FRCPC
11:45AM University of Alberta, Edmonton, Alberta
Caspase cleavage of gasdermin E causes neuronal pyroptosis in HIV-associated neurocognitive disorder

11:45AM – **LUNCH (on your own)**
1:30PM

Session: Mentorship Event

1:30PM – **Panel discussion on careers in and outside of academics (dessert served)**
2:30PM

Session: **Investigators-In-Training (Part 1)**

Session Chair: Jay Rappaport

- 2:45PM – Michelle Ash
3:00PM Rush University Medical Center, Chicago, IL
Viral dynamics of SIV rebound in the CNS following cART cessation
- 3:00PM – Michael Swingler
3:15PM Lewis Katz School of Medicine at Temple University, Philadelphia, PA
OPRM1 pre-mRNA Splicing and its Regulation by HIV-1 and Morphine in 3D Cerebral Organoid Models
- 3:15PM – Mackenzie Collins
3:30PM Drexel University College of Medicine, Philadelphia, PA
Evaluating defectiveness of integrated HIV-1 quasispecies in brain and spleen reservoirs using Nanopore sequencing
- 3:30PM – Eran Shorer
3:45PM The Johns Hopkins University School of Medicine, Baltimore, MD
Tryptophan-Kynurenine Metabolic Pathway and Daytime Dysfunction in Women Living With HIV

Session: **Global Neurovirology/Emerging Pathogens**

Session Chairs: Maria Nagel and Chris Power

- 3:45PM – Farrah J. Mateen, MD, PhD (Plenary)
4:15PM Harvard Medical School, Boston, MA
Emerging Neuroinvasive Pathogens of Epidemic Potential: Challenges and Opportunities
- 4:15PM – Laurent Chatel-Chaix, PhD (Plenary)
4:45PM National Institute of Scientific Research (INRS), Armand-Frappier Research Center, Laval, Quebec
A novel zebrafish infection model to study Zika virus neuropathogenesis and its determinants in vivo
- 5:00PM **Free Evening**

Wednesday, October 4, 2023

- 8:00AM – **Continental Breakfast**
9:00AM

Session: **HERVs**

Session Chairs: Steve Jacobson and Brian Wigdahl

- 9:00AM – Benoit Barbeau, PhD (Plenary)
9:30AM University of Quebec at Montreal, Montreal, Quebec
Human endogenous retroviruses and complications related to the placenta and the CNS
- 9:30AM – Jonathan Geiger, PhD
9:45AM UND School of Medicine and Health Sciences, Grand Forks, ND
HERV-K (HML-2) envelope protein induces mitochondrial depolarization and neurotoxicity via endolysosome iron dyshomeostasis

9:45AM – Kevon Sampson, MSc
10:00AM NIH/NINDS, Bethesda, MD
Delivery of shRNA by AAV9 Blocks HERV-K Env Expression and its Neurotoxicity

10:15AM – **Coffee Break**
10:30AM

Session: HIV Vaccine/Cure/Therapy/Reservoirs (Part 1)
Session Chair: Tricia Burdo

10:30AM – Nicolas Chomont, PhD (Plenary)
11:00AM University of Montreal, Montreal, Quebec
HIV reservoirs in tissues: tiny needles in huge haystacks

11:00AM – Melissa Churchill, PhD (Plenary)
11:30AM RMIT University, Melbourne, Australia
CNS viral reservoirs during ART-suppressed HIV infection

11:30AM – William Dampier, PhD
11:45AM Drexel University College of Medicine, Philadelphia, PA
Computational analysis of Cas proteins unlocks new potential in HIV-1-targeted gene therapy

11:45AM – Nazira El-Hage, PhD
12:00PM Florida International University, Miami, FL
SERPIN-Derived Small Peptide (SP16) as a Potential Therapeutic Agent against HIV-Induced Inflammatory Molecules and Viral Replication in Cells of the Central Nervous System

12:00PM – **LUNCH (on your own)**
1:30PM

Session: HIV Vaccine/Cure/Therapy/Reservoirs (Part 2)
Session Chairs: Bruce Brew and Kamel Khalili

1:30PM – Rafick-Pierre Sekaly, PhD (Plenary)
2:00PM Winship Cancer Institute, Emory University School of Medicine, Atlanta, GA
Systemic and cellular metabolism in defining the course of acute and chronic viral infections

2:00PM – Dereck Gilroy, PhD (Plenary)
2:30PM University College London, London, England
Is Resolution the End of Inflammation? Nope! There is more, lots more....

2:30PM – João I. Mamede, PhD
2:45PM Rush University Medical Center, Chicago, IL
HIV infection triggers the inflammatory cGAS-STING pathway in microglia

2:45PM – Yoelvis Garcia-Mesa, PhD
3:00PM Case Western Reserve University, Cleveland, OH
Astrocyte-induced HIV latency in microglia: immunomodulatory role of adenosine

3:00PM – **Afternoon Snack**
3:15PM

Session: Investigators-In-Training (Part 2)
Session Chair: Kelly Jordan-Sciutto

- 3:15PM – Vanessa Ruiz
3:30PM Albert Einstein College of Medicine, New York, NY
Characterizing migratory and inflammatory properties of different subsets of CD14+CD16+ monocytes and their role in HIV neuropathogenesis
- 3:30PM – Wendie Hasler
3:45PM University of North Dakota School of Medicine and Health Sciences, Grand Forks, ND
SARS-CoV-2 S1 induces endolysosome leakage in astrocytes
- 3:45PM – Zoey Wallis
4:00PM Boston College, Newton, MA
Accumulation of CNS macrophages within and traffic out with SIV infection, ART and ART interruption: implications for the CNS as viral reservoir.
- 4:00PM – Shivesh Ghura
4:15PM Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA
A commonly occurring haplotype B of PERK protein with modest but increased kinase activity results in an elevated endoplasmic reticulum stress response and reduced stress tolerance in neuroglia
- 4:15PM – Hang up posters
5:00PM

POSTER SESSION

- 5:00PM – **Presentation of all submitted abstracts accepted for the meeting**
7:00PM
Odd number posters will present the first hour
Even number posters will present the second hour

Thursday, October 5, 2023

- 8:00AM – **Continental Breakfast**
9:00AM

Session: **Exosomes – Biomarkers and Therapy**
Session Chair: Fatah Kashanchi

- 9:00AM – Norman Haughey, PhD (Plenary)
9:30AM The Johns Hopkins University School of Medicine, Baltimore, MD
Extracellular Vesicles: Virus-like particles that regulate neural function, neurological disease, and their potential use as therapeutic delivery systems
- 9:30AM – Santosh Kumar, PhD
9:45AM The University of Tennessee Health Science Center, Memphis, TN
Extracellular vesicles in HIV and drugs of abuse
- 9:45AM – Tory Johnson, PhD
10:00AM NIH/NINDS, Bethesda, MD
Development and application of an ELISA to quantify HIV Tat in exosomes from serum and CSF
- 10:00AM – **Coffee Break**
10:15AM

Special Session: **Donald and Audrey Gilden Lectureship**
Introduction: Chris Power

10:15AM – Kenneth L. Tyler, MD
11:15AM University of Colorado Denver, Anschutz Medical Campus, Denver, CO
Enterovirus D-68 Associated Acute Flaccid Myelitis: A New Polio?

11:30AM – **LUNCH (on your own)**
1:00PM

Session: **NeuroHIV and Co-morbidities/Substance Abuse (Part 2)**
Session Chair: Norm Haughey

1:00PM – Kurt Hauser, PhD (Plenary)
1:30PM Virginia Commonwealth University School of Medicine, Richmond, VA
Unraveling the pathophysiological interactions between NeuroHIV and opioid use disorder

1:30PM – Jennifer Kelschenbach, PhD
1:45PM Icahn School of Medicine at Mount Sinai, New York, NY
Morphine dependence accelerates HIV-associated neurocognitive impairment in EcoHIV infected mice

1:45PM – Dionna Williams, PhD
2:00PM The Johns Hopkins University School of Medicine, Baltimore, MD
Cocaine Regulates Antiretroviral Therapy CNS Access Through Pregnane-X Receptor-Mediated Drug Transporter and Metabolizing Enzyme Modulation at the Blood Brain Barrier

Session: **Special Topics in Neurovirology**
Session Chair: Ilker Sariyer

2:00PM - Pragney Deme, PhD
2:15PM The Johns Hopkins University School of Medicine, Baltimore, MD
Regulation of microglial phenotype by immunometabolic reprogramming in HIV-infected microglia colonized human forebrain organoids

2:15PM - Howard Fox, PhD
2:30PM University of Nebraska Medical Center, Omaha, NE
Drugs of Abuse Alter Cell-Type-Specific Pathogenic Pathways in SIV-Infected Nonhuman Primates

2:30PM - Ravi Mahalingam, PhD
2:45PM University of Colorado Denver, Anschutz Medical Campus, Denver, CO
Simian varicella virus infection in rhesus macaques promotes amyloid formation in multiple organs

2:45PM - Andrew Bubak, PhD
3:00PM University of Colorado Denver, Anschutz Medical Campus, Denver, CO
Non-infectious varicella zoster virus extracellular vesicles suppress the antiviral response and promote neuroinvasion

PIONEER AWARDS DINNER

6:00PM – Dinner
8:30PM Presentation of trainee awards
Announcement of the Pioneer in Neurovirology award

Closing remarks:
Bruce Brew, President ISNV
Lynn Pulliam, Co-Chair, ISNV Meetings Committee
Brian Wigdahl, Co-Chair, ISNV Meetings Committee

Plenary Speakers:



CAPT Daniel S. Chertow, MD, MPH, FCCM, FIDSA
United States Public Health Service
Head, Emerging Pathogens Section
Laboratory of Virology, NIAID
Critical Care Medicine Branch, NHLBI
Critical Care Medicine Department, NIH Clinical Center
National Institutes of Health, Bethesda, MD

COVID-19 infection and persistence in the human body and brain

Session: COVID and the Brain



Robyn S. Klein, MD, PhD
The Robert E. and Louise F. Dunn Professor of Medical Sciences
Director, Center for Neuroimmunology & Neuroinfectious Diseases
Professor, Departments of Medicine, Pathology & Immunology, Neurosciences
Washington University School of Medicine, St. Louis, MO

The neuroimmune system during virus-mediated cognitive sequela

Session: COVID and the Brain



Lesley K Fellows, MD CM, DPhil
Dept of Neurology & Neurosurgery
McGill University, Montreal, Quebec

Brain health in older people living with HIV in Canada: Results from the Positive Brain Health Now cohort

Session: HIV and Aging



Maja Maric, PhD
Program Director, Neurobiology of Aging and
Neurodegeneration Branch
Division of Neuroscience
National Institute on Aging, NIH
Bethesda, MD

HAND, Aging and Alzheimer's Disease

Session: HIV and Aging



Chandravanu Dash, PhD, MSc
Executive Director, Center for AIDS Health Disparities
Research (CAHDR)
Professor and Interim Chair, Department of
Microbiology, Immunology and Physiology
Professor, Department of Biochemistry, Cancer Biology,
Neuroscience and Pharmacology
Meharry Medical College, Nashville, TN

*Cocaine and HIV- Lessons learned from a Molecular
View*

Session: NeuroHIV and Co-morbidities/Substance
Abuse



Kurt F. Hauser, PhD
Wazeter Professor
Department of Pharmacology & Toxicology
Department of Anatomy & Neurobiology
Institute for Drug and Alcohol Studies
Virginia Commonwealth University School of Medicine
Richmond, VA

*Unraveling the pathophysiological interactions between
NeuroHIV and opioid use disorder*

Session: NeuroHIV and Co-morbidities/Substance
Abuse



Farrah Mateen, MD, PhD
Department of Neurology
Neurological Clinical Research Institute
Massachusetts General Hospital
Harvard Medical School, Boston, MA

Dance Mania: Outbreaks and Contagion, Brain Infections and Beyond

Session: Global Neurovirology/Emerging Pathogens



Laurent Chatel-Chaix, PhD
Associate Professor
National Institute of Scientific Research (INRS)
Armand-Frappier Research Center
Laval, Quebec

A novel zebrafish infection model to study Zika virus neuropathogenesis and its determinants in vivo
The neuroimmune system during virus-mediated cognitive sequela

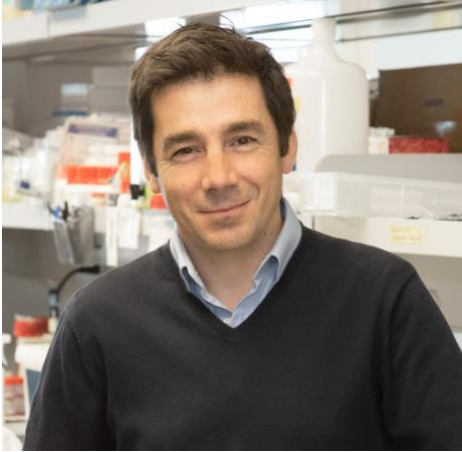
Session: Global Neurovirology/Emerging Pathogens



Benoit Barbeau, PhD
University of Quebec at Montreal, Montreal, Quebec

Human endogenous retroviruses and complications related to the placenta and the CNS

Session: HERVs



Nicolas Chomont, PhD
Associate Research Professor, Department of
Microbiology, Infectiology and Immunology
University of Montreal, Montreal, Quebec

*HIV reservoirs in tissues: tiny needles in huge
haystacks*

Session: HIV Vaccine/Cure/Therapy/Reservoirs



Melissa Churchill, PhD
Professor, STEM/Health and Biomedical Sciences
RMIT University
Bundoora West, Melbourne, Victoria, Australia

*CNS viral reservoirs during ART-suppressed HIV
infection*

Session: HIV Vaccine/Cure/Therapy/Reservoirs



Rafick-Pierre Sekaly, PhD
Professor and Vice-Chair of Translational Medicine,
Department of Pathology and Laboratory Medicine,
Winship Cancer Institute
Emory University School of Medicine, Atlanta, GA

*Systemic and cellular metabolism in defining the course
of acute and chronic viral infections*

Session: HIV Vaccine/Cure/Therapy/Reservoirs



Dereck Gilroy, PhD, FBPhS
Head, Department of Experimental & Translational
Medicine
University College London, London, England

Is Resolution the End of Inflammation? Nope! There is more, lots more....

Session: HIV Vaccine/Cure/Therapy/Reservoirs



Norman J. Haughey, PhD
Professor
Neurology and Psychiatry
Neuroimmunology and Neurological Infections
The Johns Hopkins University School of Medicine,
Baltimore, MD

Extracellular Vesicles: Virus-like particles that regulate neural function, neurological disease, and thier potential use as therapeutic delivery systems

Session: Exosomes – Biomarkers and Therapy



Kenneth L. Tyler, MD
Louise Baum Endowed Chair and Chairman of the
Department of Neurology
Professor of Medicine (Infectious Diseases) and
Immunology-Microbiology
University of Colorado, Anschutz Medical Campus,
Denver, CO

Enterovirus D-68 Associated Acute Flaccid Myelitis: A New Polio?

Donald and Audrey Gilden Lectureship

Thank you to our sponsors!

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Philadelphia, Pennsylvania**

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Temple University
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Disorders,
University of Alberta**

Excision BioTherapeutics, LLC

**Bruce Brew, Professor of Medicine
(Neurology) University of New South
Wales Sydney and Peter Duncan
Neurosciences Unit St Vincent's Centre
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