

12th

International Symposium on NeuroVirology



Held jointly
with the

Conference on HIV in the Nervous System

October 29 - November 2, 2013
Washington D.C., USA

Local Organizing Committee

Walter Royal, III (Chair)
Avindra Nath
Katherine Conant

Norman Haughey
Steven Jacobson

Fatah Kashanchi
Justin McArthur



isnv.org

PRESIDENTIAL MESSAGE

Dear Symposium and Conference Participants:



I would like to welcome you to the 12th International Symposium on NeuroVirology and the 2013 Conference on HIV in the Nervous System in the capital city of Washington in the District of Columbia. I am certain that you will find the meeting a rewarding experience both personally and professionally. The meeting features a dynamic list of named lectureships, plenary speakers, platform sessions, workshops, and a poster session. This year, the conference offers several unique sessions. Taking advantage of the venue in Washington, DC, we will hold a session devoted to the development of diagnostics and therapeutics featuring speakers from major federal government agencies, including the CDC, FDA, and NIH. Named lectureships will feature accomplished leaders in the field. As in previous years, there will be a Pioneer Award Reception and Gala Dinner where the name of the recipient will be announced. Dr. Dana Gabuzda will present the Women in Neuroscience lecture, which will be

followed by a reception later that evening. The Bill Narayan lecture will be given by Dr. Howard Gendelman, the Audrey Steinman Gilden lecture by Dr. Howard Lipton, the Paradigm Builder lecture by Dr. Steve Jacobson, and the Neurological Infections lecture by Dr. Theodore Nash. A special tribute to Dr. Kuan-Teh Jeang and his contributions to the field of virology will be presented by Dr. Malcolm Martin. Additionally, each platform session will have a plenary speaker who is an accomplished leader in their respective field. Special sessions for trainees will include the Investigators-in-Training platform session, a luncheon with experienced mentors, and a Neuro-AIDS trainees workshop.

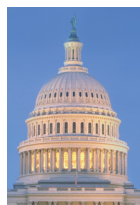
Recent years have seen a dramatic change in how we obtain our information. ISNV has embraced the digital media and now has a Twitter account, a Wikipedia page, and a companion app for the meeting. The Society is moving towards a paperless conference. Attendees will now be able to blog or tweet live from the sessions. These conversations will augment the supplied content with live commentary and debate, facilitating networking and generating leads and collaborations. However, a room filled with a captive audience is still a speaker's best venue to share their knowledge and observations. Often, the question and answer portion of the presentation has the greatest worth. Feeling the room dynamics, watching the body language of the attendees, and hearing feedback in the hotel corridors after the session makes for a rewarding experience. ISNV has strived hard to keep one major session, offer one poster session, and keep accommodations within the same venue to provide the best opportunity for interactions among the leaders in the field, including those entering the field of neurovirology and everyone in between.

A handwritten signature in black ink, appearing to read "Avindra Nath". The signature is fluid and cursive.

Avindra Nath, M.D.
Bethesda, Maryland, USA

AGENDA

12TH INTERNATIONAL SYMPOSIUM ON NEUROVIROLOGY & 2013 CONFERENCE ON HIV IN THE NERVOUS SYSTEM



The 12th International Symposium on NeuroVirology and 2013 Conference on HIV in the Nervous System will be held jointly at the Capital Hilton in Washington, D.C., USA. The overall goal of these concurrent events will be to provide investigators working in the field of neurovirology and related areas with leading edge information so that important gaps in knowledge can continue to be identified. Armed with this information, attendees of both events will work toward formulating questions and experimental directions that will enhance the development of new preventative and therapeutic strategies effective against neurologic diseases associated with prions, HIV, and other viral and non-viral pathogens.

Shading indicates presentations associated specifically with the 2013 Conference on HIV in the Nervous System. For more information about both meetings, visit the ISNV web site (www.isnv.org/dc13/).

All Symposium and Conference events will take place in the Capital Hilton. The main sessions, Lectureship presentations, and Investigator-in-Training sessions will be held in the Presidential Ballroom. Continental breakfasts and coffee breaks will be hosted in Foyer 1. Other events will take place as indicated on the agenda.

Tuesday, October 29, 2013

Eradication of HIV-CNS Reservoirs: Current Strategies and Future Priorities

(an independent event sponsored by the National Institute of Mental Health, National Institutes of Health, and held in conjunction with the Symposium and Conference)

Federal A/B

12:30 pm – 1:40 pm

Overview

- | | | |
|----------|---|---|
| 12:30 pm | Jeymohan Joseph
Division of AIDS Research,
NIMH, NIH | <i>Welcoming Remarks and Meeting Goals</i> |
| 12:40 pm | Steve Deeks
University of California,
San Francisco | <i>HIV Cure and CNS</i> |
| 1:00 pm | David Margolis
University of North Carolina,
Chapel Hill, NC | <i>Translational Challenges in Targeting Latent HIV Infection</i> |
| 1:20 pm | Avindra Nath
Section of Infections of the
Nervous System, NINDS,
NIH | <i>Challenges in the Eradication of HIV from the Brain</i> |

1:40 pm – 3:00 pm

In Vitro Models

- | | | |
|---------|--|---|
| 1:40 pm | Ronald Swanstrom
University of North Carolina,
Chapel Hill, NC | <i>HIV Persistence in CNS and Myeloid Cells</i> |
| 2:00 pm | Mario Stevenson
University of Miami,
Miami, FL | <i>In Vitro Model Systems to Study HIV Persistence in Macrophages</i> |

2:20 pm	Jonathan Karn Case Western Reserve University, Cleveland, OH	<i>Microglial Model Systems for Assessment of HIV-1 Latency</i>
2:40 pm	Ruth Brack-Werner German Research Center for Environmental Health, Munich, Germany	<i>A Novel Model for Proviral HIV-1 Latency in Neural Cells Reveals Similarities Between HIV-1 Latency in the Brain and in the Immune System</i>
3:00 pm – 3:20 pm	Break	
3:20 pm – 4:00 pm	In Vivo Models	
3:20 pm	Janice Clements Johns Hopkins University, Baltimore, MD	<i>An SIV Model to Identify and Eradicate Latent Viral Reservoirs in both T cells and Macrophages</i>
3:40 pm	Victor Garcia-Martinez University of North Carolina, Chapel Hill, NC	<i>Mouse Model Systems to Study HIV Latency in the Myeloid Compartment</i>
4:00 pm – 4:20 pm	Novel Technologies for HIV-CNS Eradication	
4:00 pm	Kamel Khalili Temple University School of Medicine, Philadelphia, PA	<i>RNA Assisted Gene Surgery for Removal of Integrated HIV DNA from the Host Genome in the Brain</i>
4:20 pm – 5:00 pm	Discussion	
	Co-Chairs: Mario Stevenson Avindra Nath	<i>The Future Research Needs and Priorities for HIV CNS Eradication Research</i>
5:00 pm – 8:00 pm	Registration for the 12th International Symposium on NeuroVirology <i>Foyer 1</i>	
7:00 pm – 9:00 pm	Opening Reception <i>Foyer 2 and South American A/B</i>	

Wednesday, October 30, 2013

7:00 am – 8:00 am	Continental Breakfast
8:00 am – 8:30 am	Welcoming Remarks Avindra Nath National Institutes of Health, Bethesda, MD, USA Igor Koralnik Harvard Medical School, Boston, MA, USA

Jeymohan Joseph
National Institutes of Health,
Bethesda, MD, USA

Walter Royal, III
University of Maryland
Medical Center, Baltimore,
MD, USA

Brian Wigdahl
Drexel University College of
Medicine, Philadelphia, PA,
USA

8:30 am – 9:45 am

Session I

Brain as a reservoir for HIV

Session Chairs: Lena Al-Harhi, Bruce Brew

8:30 am Serena Spudich (Plenary)
Yale University, New Haven,
CT, USA

*Early HIV-1 invasion of the central nervous system:
Implications for HIV-1 reservoirs*

9:00 am Sergei Spitsin
Children's Hospital of
Philadelphia, Philadelphia,
PA, USA

*The haptoglobin-hemoglobin scavenger receptor CD163
enhances HIV infection in macrophages*

9:15 am Pooja Jain
Drexel University College of
Medicine, Philadelphia, PA,
USA

*DC-SIGN as potential target for early intervention and
transmission of HIV-1*

9:30 am Breanna Caruso
National Institutes of Health,
Bethesda, MD, USA

*Digital Droplet PCR for precise quantification of human T-
lymphotropic virus 1*

9:45 am – 10:05 am

Coffee Break

10:05 am – 10:35 am

Special Lecture

2013 Women in Neuroscience Lectureship

Introduction by Johnny He

Dana Gabuzda
Dana Farber Cancer Institute,
Boston, MA, USA

Inflammaging and altered metabolic pathways in NeuroHIV

10:35 am – 11:50 am

Session II

Neuroimaging and surrogate markers in HAND

Session Chairs: Lynn Pulliam, Brian Wigdahl

10:35 am Linda Chang (Plenary)
University of Hawaii,
Honolulu, HI, USA

Genetic contributions to brain imaging measures in HAND

11:05 am Asha Kallianpur
Cleveland Clinic, Cleveland,
OH, USA

*Brain transferrin receptor (TFR) RNA expression is
associated with neurocognitive impairment in HIV/AIDS*

11:20 am Victor Valcour
University of California, San
Francisco, San Francisco,
CA, USA

*Brain white matter lesions link to CVD risk but not HIV
factors in HIV over age 60*

11:35 am	Beau Ances Washington University in St. Louis, St. Louis, MO, USA	<i>HIV and aging: New graph theoretical models of rs-fcMRI neuropathophysiology</i>
11:50 am – 1:20 pm	Lunch Break / Networking	
11:50 am – 1:20 pm	Special Activity	Junior Scientist/Mentor Luncheon <i>Congressional/Senate</i>
1:20 pm – 2:50 pm	Session III	Therapeutics and diagnostics in neurovirology Session Chairs: Joseph Steiner, Susan Morgello
1:20 pm	Patrick Harrington (Plenary) Food and Drug Administration, Silver Spring, MD, USA	<i>Drug development in neurovirology: FDA virology perspective</i>
1:50 pm	Laura Jaeger (Plenary) Food and Drug Administration, Silver Spring, MD, USA	<i>Regulatory 101: How to develop a diagnostic test for clinical microbiology samples</i>
2:20 pm	Barbara Slusher (Plenary) Johns Hopkins University, Baltimore, MD, USA	<i>The changing ecosystem of drug discovery: rising role of academia</i>
2:50 pm – 3:20 pm	Special Lecture Malcolm Martin National Institutes of Health, Bethesda, MD, USA	Tribute to Dr. Kuan-Teh Jeang <i>SHIVs, monkeys, and anti-HIV neutralizing antibodies</i>
3:20 pm – 3:45 pm	Coffee Break	
3:45 pm – 5:00 pm	Session IV	Viral latency, molecular pathogenesis, and malignancy Session Chairs: Peter Kennedy, Rick Meeker
3:45 pm	Peter Crino (Plenary) Temple University School of Medicine, Philadelphia, PA, USA	<i>Viral causes of brain malformations</i>
4:15 pm	Donald Gilden University of Colorado Anschutz Medical Campus, Aurora, CO, USA	<i>Varicella zoster virus is a major cause of giant cell arteritis</i>
4:30 pm	Pawel Ciborowski University of Nebraska Medical Center, Omaha, NE, USA	<i>Targeted quantitative proteomics (SWATH-MS) reveals novel insights for reprogramming of transcription regulator proteins in HIV-1-infected macrophages</i>
4:45 pm	Lauren O'Donnell Duquesne University, Pittsburgh, PA, USA	<i>Protective and cytotoxic roles for proinflammatory cytokines in neonatal CNS infections</i>

5:00 pm – 7:05 pm	Special Activity	CNS Immunity in HIV Infection and Alcohol Abuse <i>Presidential Ballroom</i> Session Chairs: Abraham Bautista, Yuri Persidsky
5:00 pm	Abraham Bautista National Institutes of Health, Bethesda, MD, USA	<i>Introduction</i>
5:05 pm	Natalie Zahr Stanford University, Stanford, CA, USA	<i>Neuroimaging of HIV and alcoholism: Perspectives from blood markers</i>
5:25 pm	R. Adron Harris University of Texas, Austin, TX, USA	<i>Neuroimmune signaling: Role in alcohol consumption and dependence</i>
5:45 pm	Raghava Potula Temple University School of Medicine, Philadelphia, PA, USA	<i>P2X4 receptor: A mediator of alcohol - induced effects on microglia cells</i>
6:05 pm	Norman Haughey Johns Hopkins University, Baltimore, MD, USA	<i>Alcohol use and post traumatic stress disorder in the HIV-infected population. Learning to forget</i>
6:25 pm	Sulie Chang Seton Hall University, South Orange, NJ, USA	<i>The bidirectional effects of ethanol concentration and HIV-1 during binge alcohol exposure</i>
6:45 pm	Yuri Persidsky Temple University School of Medicine, Philadelphia, PA, USA	<i>Summary and Discussion</i>
7:30 pm – 9:00 pm	Special Activity	Women in Neuroscience Reception <i>South American A/B</i>

Thursday, October 31, 2013

7:00 am – 8:00 am	Continental Breakfast	
8:00 am – 9:15 am	Session V	Chronic immune reactivation and leukocyte trafficking Session Chairs: Dianne Langford, Pasquale Ferrante
8:00 am	Luis Montaner (Plenary) The Wistar Institute, Philadelphia, PA, USA	<i>Case for innate activation after therapy-mediated immune reconstitution as a strategy to decrease HIV reservoirs</i>
8:30 am	Karin Peterson Rocky Mountain Laboratories, National Institutes of Health, Hamilton, MT, USA	<i>Innate immune induced neuronal death during bunyavirus infection is mediated by SARM</i>

8:45 am	Ilker Sariyer Temple University School of Medicine, Philadelphia, PA, USA	<i>Molecular regulation of JCV gene expression by immune mediators in glial cells</i>
9:00 am	Michal Toborek University of Miami School of Medicine, Miami, FL, USA	<i>The role of the blood brain barrier in amyloid beta uptake by HIV-1-infected brain</i>
9:15 am – 9:45 am	Special Lecture	2013 Paradigm Builder Lectureship Introduction by Fatah Kashanchi Steven Jacobson National Institutes of Health, Bethesda, MD, USA <i>Lessons from rare diseases and common viral infections of the nervous system</i>
9:45 am – 10:05 am	Coffee Break	
10:05 am – 11:20 am	Special Activity	Investigators-in-Training (Part I) Session Chairs: Jay Rappaport, Ruth Brack-Werner
10:05 am	Clayton Winkler Rocky Mountain Laboratories, National Institutes of Health, Hamilton, MT, USA	<i>Leukocyte CNS infiltration precedes neurological disease following La Crosse virus infection</i>
10:20 am	Dionna Williams Albert Einstein College of Medicine, Bronx, NY, USA	<i>JAM-A and ALCAM are critical to the transmigration across the BBB of CD14+ CD16+ monocytes isolated from HIV seropositive individuals: Implications for NeuroAIDS</i>
10:35 am	Mohit Sehgal Drexel University College of Medicine, Philadelphia, PA, USA	<i>Myocyte enhancer factor-2 (MEF-2) plays critical role in HTLV-1 infection and transformation of CD4+ T cells</i>
10:50 am	Alex Gill University of Pennsylvania, Philadelphia, PA, USA	<i>Brain heme oxygenase-1 deficiency in HIV-infection: Role in macrophage-mediated neurodegeneration</i>
11:05 am	Raissa Menéndez-Delmestre University of Puerto Rico, San Juan, Puerto Rico	<i>Secretion of soluble insulin receptor by human neuronal cells correlates with CSF cytokine levels in HIV-seropositive women with HAND</i>
11:20 am – 12:50 pm	Workshop I <i>Federal A/B</i>	Consequences of Substance Abuse Addiction in NeuroAIDS Session Chairs: Roger Sorensen, Shilpa Buch
11:20 am	T. Celeste Napier Rush Medical College, Chicago, IL, USA	<i>Neuropathogenic overlap of psychostimulant abuse and HIV- 1 proteins: From single neurons to the brain</i>
11:35 am	Scott Hemby Wake Forest School of Medicine, Winston-Salem, NC, USA	<i>Models of HIV and intravenous drug abuse: Behavioral and neurobiological outcomes</i>

11:50 am	Alessia Bachis Georgetown University, Washington, D.C., USA	<i>Morphine reduces gp120-mediated cell death in vitro by altering the processing of proBDNF</i>
11:55 am	Dianne Langford Temple University School of Medicine, Philadelphia, PA, USA	<i>TNF-α dependent degradation of RXR-γ: Implications for substance abuse disorder in HIV</i>
12:00 pm	Lindsay Festa Drexel University College of Medicine, Philadelphia, PA, USA	<i>Proinflammatory cytokines and gp120 may contribute to synaptic injury through upregulation of neuronal ferritin heavy chain in HIV patients</i>
12:05 pm	Michael Nonnemacher Drexel University College of Medicine, Philadelphia, PA, USA	<i>Cocaine alters immunomodulatory profiles within HIV-1-infected African American individuals in the DREXELMED HIV/AIDS Genetic Analysis Cohort</i>
12:10 pm	Eileen Martin Rush University Medical Center, Chicago, IL, USA	<i>Effects of HIV serostatus and comorbid drug dependence on neurocognition</i>
12:15 pm	Panel Discussion	Panelists: Olimpia Meucci, Rosemarie Booze, Shilpa Buch
11:20 am – 12:50 pm	Workshop II <i>South American A/B</i>	Demyelinating disease pathogenesis and polyomaviruses Session Chairs: Kamel Khalili, Robert Fujinami
11:20 am	Fred Lublin (Plenary) Mount Sinai Hospital, New York, NY, USA	<i>Multiple sclerosis & polyoma viruses: Where are we and what are the challenges?</i>
11:45 am	Patrizia Casaccia (Plenary) Mount Sinai Hospital, New York, NY, USA	<i>Translational approaches to demyelinating disorders</i>
12:10 pm	Pasquale Ferrante University of Milan, Milan, Italy	<i>Lack of correlation between JC virus urinary shedding and seropositivity in multiple sclerosis patients treated with natalizumab</i>
12:20 pm	Hassan Wollebo Temple University School of Medicine, Philadelphia, PA, USA	<i>Epigenetic regulation of JC virus</i>
12:30 pm	Jussi Oskari Virtanen National Institutes of Health, Bethesda, MD, USA	<i>Virus-induced cellular targets for intrathecal autoimmunity in multiple sclerosis</i>
12:40 pm	Igor Korálnik Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA, USA	<i>Hyperfusion in progressive multifocal leukoencephalopathy is associated with disease progression and absence of immune reconstitution inflammatory syndrome</i>
12:50 pm – 2:20 pm	Lunch Break / Networking	

12:50 pm – 6:00 pm	Poster Set-up <i>Congressional/Senate</i>	
1:00 pm – 2:00 pm	ISNV Board of Directors Meeting <i>Massachusetts Room</i>	
2:20 pm – 3:35 pm	Session VI	Immunopathogenesis of viral infections
		Session Chairs: Sulie Chang, Robert Fujinami
2:20 pm	Richard Whitley (Plenary) University of Alabama at Birmingham, Birmingham, AL, USA	<i>Pathogenesis of viral infections of the central nervous system</i>
2:50 pm	Sivabalan Manivannan Johns Hopkins University, Baltimore, MD, USA	<i>Glutamine antagonist, DON, protects mice from acute fatal encephalomyelitis by inhibiting T-cell growth and proliferation</i>
3:05 pm	Jasmin Herz National Institutes of Health, Bethesda, MD, USA	<i>Therapeutic clearance of the virally infected nervous system is mediated by noncytopathic T cell interactions with resident microglia</i>
3:20 pm	Cristian Achim University of California, San Diego, San Diego, CA, USA	<i>High frequency of HIV-related neurologic complications in a Romanian cohort of children and young adults infected with subtype F</i>
3:35 pm – 3:55 pm	Coffee Break	
3:55 pm – 4:25 pm	Special Lecture	2013 Neurological Infections Lectureship
		Introduction by Avindra Nath
	Theodore Nash National Institutes of Health, Bethesda, MD, USA	<i>Inflammation and pathogenesis of disease in neurocysticercosis</i>
4:25 pm – 5:40 pm	Session VII	Neurorestoration following virus-associated injury
		Session Chairs: Rosemarie Booze, Marcus Kaul
4:25 pm	Robyn Klein (Plenary) Washington University at St. Louis, St. Louis, MO, USA	<i>West Nile virus and post-infectious cognitive dysfunction</i>
4:55 pm	Maxim Cheeran University of Minnesota, Minneapolis, MN, USA	<i>M2 macrophages stimulate neural stem/progenitor cell proliferation via a Wnt 5a dependent pathway: Implications for herpes simplex encephalitis</i>
5:10 pm	Anjana Yadav University of Pennsylvania, Philadelphia, PA, USA	<i>Statins are a promising candidate adjunctive therapy for prevention or treatment of HIV-1 associated neurocognitive disorders (HAND)</i>
5:25 pm	Joe Mankowski Johns Hopkins University, Baltimore, MD, USA	<i>Neuroprotective maraviroc monotherapy in SIV-infected macaques: Reduced replicating and latent SIV in the brain</i>
6:30 pm – 9:30 pm	Poster Session / Reception <i>Congressional/Senate</i>	

Friday, November 1, 2013

7:00 am – 8:00 am **Continental Breakfast**

8:00 am – 9:15 am **Session VIII**

Emerging CNS infections and detection

Session Chairs: Tracy Fischer-Smith, Dennis Kolson

8:00 am Scott Dowell (Plenary)
Centers for Disease Control
and Prevention, Atlanta, GA,
USA

Nodding Syndrome

8:30 am Avindra Nath
National Institutes of Health,
Bethesda, MD, USA

*Recycling HIV antiretrovirals for inhibition of human
endogenous retrovirus*

8:45 am Carlo Amorin Daep
Public Health Research
Institute, Rutgers University,
Newark, NJ, USA

*Mechanism of dengue infection and CNS dysfunction in the
human central nervous system*

9:00 am Susan Weiss
University of Pennsylvania,
Philadelphia, PA

*Activation of the OAS–RNase L pathway by murine
coronavirus is organ specific and muted in the CNS*

9:15 am – 9:45 am **Special Lecture**

2013 Audrey Steinman Gilden Lectureship

Introduction by Donald Gilden

Howard Lipton
University of Illinois at
Chicago, Chicago, IL, USA

Direct evidence of CNS virus infection in MS

9:45 am – 10:05 am **Coffee Break**

10:05 am – 10:50 am **Special Activity**

Investigators-in-Training (Part II)

Session Chairs: Susan Weiss, Walter Royal, III

10:05 am Tijana Knezevic
Temple University School of
Medicine, Philadelphia, PA,
USA

*Involvement of BAG3 in AIDS-related comorbidity; HIV-1
induced cardiomyopathy*

10:20 am Archana Gupta
University of California, San
Francisco, San Francisco,
CA, USA

*IFN activated monocyte-derived exosomes mediate transfer of
miRNAs to astrocytes: Implications for neurocognitive
impairment in HIV/HCV-infection*

10:35 am Jessica Rotschafer
University of Minnesota
Veterinary Medical Center,
St Paul, MN, USA

*Persistent CD8 T-cells hinder neurogenesis during chronic
herpes simplex encephalitis and render neural
stem/progenitor cells refractory to growth stimuli*

10:50 am -12:05 pm	Session IX	Misfolding diseases and non-inflammatory viral mechanisms
		Session Chairs: Mahendra Kumar, Shilpa Buch
10:50 am	Steve DeArmond (Plenary) University of California, San Francisco, San Francisco, CA, USA	<i>Prion disease and prion-Alzheimer's Disease: More than a coincidental occurrence</i>
11:20 am	Micheline McCarthy University of Miami, Miami, FL, USA	<i>Apolipoprotein E influences innate immune responses of maturing human neuroepithelial progenitor cells exposed to HIV-1</i>
11:35 am	Alina Popescu Hategan National Institutes of Health, Bethesda, MD, USA	<i>HIV-Tat protein enhances amyloid beta aggregation</i>
11:50 am	Prasun Datta Temple University School of Medicine, Philadelphia, PA, USA	<i>Role of exosomes from HIV-1 infected cells in neurodegeneration</i>
12:05 pm – 1:35 pm	Lunch Break / Networking	
1:35 pm – 2:50 pm	Workshop III <i>Presidential Ballroom</i>	NeuroAIDS NRSA (T32) Trainee Workshop
		Session Chairs: Jay Rappaport, Brian Wigdahl
1:35 pm	David Stoff National Institutes of Health, Bethesda, MD, USA	<i>NIH research grant process for new NeuroAIDS investigators</i>
2:35 pm	Lindsey Gerngross Temple University School of Medicine, Philadelphia, PA, USA	<i>Targeting the CD163+CD16+ monocyte subset for the prevention and treatment of HIV-associated neurocognitive disorders (HAND)</i>
2:45 pm	Jennifer Campbell Boston College, Chestnut Hill, MA, USA	<i>Tysabri treatment suppresses virus traffic to the brain and gut early, and stabilizes CNS injury late in infection</i>
2:55 pm	Colleen Kovacsics University of Pennsylvania, Philadelphia, PA, USA	<i>Immune activators reduce heme oxygenase-1 expression in primary astrocytes: Possible role in HIV neurodegeneration</i>
3:05 pm	Gokul Swaminathan Drexel University College of Medicine, Philadelphia, PA, USA	<i>A novel role for Toll-Like Receptor-3 in sensing HIV-1 infection: potential implications in viral replication, immune activation, and HIV-1 associated neuropathogenesis</i>
3:15 pm – 3:30 pm	Coffee Break	
3:30 pm – 4:00 pm	Special Lecture	2013 Bill Narayan Lectureship
		Introduction by Steven Jacobson
	Howard Gendelman University of Nebraska Medical Center, Omaha, NE, USA	<i>Neuronanomedicine</i>

4:00 pm – 5:15 pm	Session X	Animal models and behavior
		Session Chairs: Jennifer Gordon, Joseph Mankowski
4:00 pm	Chris Zink (Plenary) Johns Hopkins University, Baltimore, MD, USA	<i>The SIV macaque model: Proof of concept for HIV eradication</i>
4:30 pm	Claudia Avalos Johns Hopkins University, Baltimore, MD, USA	<i>Characterization of monocytes and microglia of SIV-infected pigtailed macaques</i>
4:45 pm	Siddappa Byrareddy Emory University School of Medicine, Atlanta, GA, USA	<i>Macrophage/microglia lineage-related R5-tropic simian-human immunodeficiency viruses as tools to induce and study HAND</i>
5:00 pm	Tricia Burdo Boston College, Chestnut Hill, MA, USA	<i>The role of resident and infiltrating macrophages in dorsal root ganglia pathology and intraepidermal nerve fiber loss using a rhesus macaque model of AIDS-associated peripheral neuropathy</i>
7:00 pm – 8:00 pm	Pioneer Reception Congressional/Senate	
8:00 pm – 11:00 pm	ISNV Pioneer in NeuroVirology Gala Dinner Congressional/Senate	

Saturday, November 2, 2013

8:00 am – 9:00 am	Continental Breakfast	
9:00 am – 10:15 am	Session XI	HIV and co-morbidity
		Session Chairs: Valerie Wojna, Yamil Gerena
9:00 am	Suad Kapetanovic (Plenary) National Institutes of Health, Bethesda, MD, USA	<i>New-onset psychiatric symptoms in HIV-seropositive patient with undetectable viral load: Co-morbidity or symptoms of neuroHIV?</i>
9:30 am	Pankaj Seth National Brain Research Centre, Manesar, Gurgaon District, Haryana, India	<i>Molecular mechanisms for alterations in human neural precursor cell proliferation by HIV-1 Tat and morphine</i>
9:45 am	Ajay Bharti University of California San Diego, San Diego, CA, USA	<i>Malaria co-infection among HIV-infected Individuals in Nigeria: Impact on cognition and role of biomarkers</i>
10:00 am	Antonina Dolei University of Sassari, Sassari, Italy	<i>Activation of endogenous retroviruses of the HERV-W family by Epstein Barr virus in vitro and in vivo: a dual virus model as the missing link with multiple sclerosis</i>
10:15 am – 10:35 am	Coffee Break	

10:35 am – 11:50 am

Session XII

Molecular neurovirology

Session Chairs: Fatah Kashanchi, Jeymohan Joseph

10:35 am

Hirofumi Sawa (Plenary)
Hokkaido University,
Sapporo, Hokkaido
Prefecture, Japan

*Investigation of the mechanism of virion formation and its
application in neurovirology research*

11:05 am

Randall Cohrs
University of Colorado
Anschutz Medical Campus,
Aurora, CO, USA

*3D normal human neural progenitor tissue-like assemblies: A
model of persistent VZV infection*

11:20 am

Wenhui Hu
Temple University School of
Medicine, Philadelphia, PA,
USA

*A novel host restriction factor NIBP suppresses HIV-1
transcription/reactivation*

11:35 am

Fred Krebs
Drexel University College of
Medicine, Philadelphia, PA,
USA

*Extracellular HIV-1 viral protein R affects astrocytic
glyceraldehyde 3-phosphate dehydrogenase activity and
neuronal survival*

11:50 am

Closing Remarks

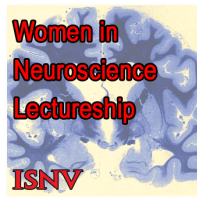
ABOUT THE PIONEER AWARD AND LECTURESHIPS



The **Pioneer in NeuroVirology Award** is presented in recognition of outstanding individual achievement in the field of neurovirology. Each International Symposium on NeuroVirology honors a worthy recipient of this award. Pioneers in NeuroVirology have been recognized by the International Society for NeuroVirology since 1999. This year, the eleventh Pioneer in NeuroVirology will be recognized by the Society.



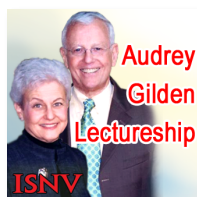
The **Neurological Infections Lectureship** features prominent investigators who study viral and non-viral pathogens that infect and damage the human peripheral and central nervous systems. Established at the 7th International Symposium on NeuroVirology held in Philadelphia, PA, USA, this will be the sixth Neurological Infections Lectureship.



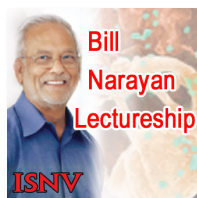
The **Women in Neuroscience Lectureship** is sponsored by the Women in NeuroVirology (WIN) Committee, which is part of the governance of the International Society for NeuroVirology. The purpose of the Lectureship is to emphasize and celebrate the major contributions of outstanding women toward the advancement of biomedical science and, in particular, neurovirology and related disciplines. Initiated in 2006 at the 7th International Symposium on NeuroVirology, this will be the sixth Women in Neuroscience Lectureship to feature a prominent woman in the field of neuroscience.



The **Paradigm Builder Lectureship** has been developed to recognize established investigators working the area of neurovirology or a related discipline for their scientific achievements. Specifically, the Lectureship has been developed to highlight the establishment of well-defined scientific frameworks within which theories, laws, generalizations, and supporting experiments are formulated and planned. Initiated in 2006 at the 7th International Symposium on NeuroVirology, this will be the sixth Paradigm Builder Lectureship to feature a leading investigator in the field of neurovirology.



The **Audrey Steinman Gilden Lectureship** recognizes investigators whose cutting-edge research achievements have made important contributions to understanding the molecular pathogenesis of neurotropic virus infection. The lectureship was established by Dr. Don Gilden, who has contributed significantly to the disciplines of neuroscience and neurovirology through his groundbreaking work on lymphocytic choriomeningitis virus, varicella zoster virus, and multiple sclerosis. A 2007 recipient of the ISNV Pioneer in NeuroVirology award, Dr. Gilden established this lectureship in honor of his wife, Audrey. This will be the second Audrey Gilden Lectureship to feature a leading investigator in the field of neurovirology.

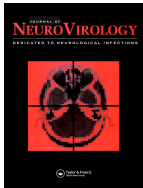


The **Bill Narayan Lectureship** was instituted to recognize investigators who have significantly advanced the field of neurovirology through research involving animal models of viral neuropathogenesis. Established in 2009 at the 9th International Symposium on NeuroVirology held in Miami, FL, USA, the Lectureship is dedicated to the outstanding scientific contributions of Dr. Opendra "Bill" Narayan. Dr. Narayan studied the pathogenesis of lentiviruses before the emergence of HIV, and his studies predicted the neuropathogenesis of HIV, the inability of antibodies to control lentiviruses, antigenic variation within the infected host, and the difficulty in protecting the host with vaccine strategies. Following the identification of HIV as the cause of AIDS, Dr. Narayan made major scientific contributions through his studies of neuropathogenesis, immunopathogenesis, and vaccine development in the SIV-infected macaque model. This year marks the fourth Bill Narayan Lectureship.

ABOUT THE SPONSORS

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The **Journal of NeuroVirology** (www.jneurovirol.com) is the official journal of the ISNV. This bi-monthly journal provides a unique platform for the publication of high-quality basic science and clinical studies on the molecular biology and pathogenesis of viral infections of the nervous system, and for reporting on the development of novel therapeutic strategies using neurotropic viral vectors. The Journal also emphasizes publication of non-viral infections that affect the central nervous system. The Journal publishes original research articles, reviews, case reports, coverage of various scientific meetings, along with supplements and special issues on selected subjects.



The **Department of Microbiology and Immunology** (www.drexelmed.edu/microimmuno) in the **Drexel University College of Medicine** (Philadelphia, PA, USA) is involved on an annual basis in the education of more than 265 medical students, 60 graduate students, and more than 20 post-graduate scientists in training. Utilizing basic, translational, and clinical research strategies and cutting edge technologies, the faculty (totaling more than 90) are actively engaged in research and education in the areas of virology, malarial, bacterial, and fungal pathogenesis; emerging infectious disease and biodefense; opportunistic infections; drug discovery and development; immunology and vaccine science; molecular and human genetics; biomarkers and diagnostics; neuro-infectious disease; and cancer biology.



The **Institute for Molecular Medicine and Infectious Disease** (www.drexelmed.edu/immid) in the **Drexel University College of Medicine** (Philadelphia, PA, USA) is a collaborative inter-campus enterprise focused on research, diagnosis, treatment, prevention, and clinical management of infectious, inflammatory, oncogenic, metabolic and genetic disorders. The Institute facilitates the development and expansion of 14 Research Centers of Excellence (RCEs) and the training and development of graduate students, postdoctoral fellows, residents, and junior faculty within an organized framework to guide the development of inter-campus, inter-college, and inter-unit research initiatives across the University as well as with other academic, industrial, and governmental organizations at the regional, national, and international levels.



The **Office of the Vice Dean for Research** in the **Drexel University College of Medicine** (Philadelphia, PA, USA) serves to support clinical and basic research activities, works with departments and interdisciplinary programs to develop and implement research, facilitates translational research, and promotes mentoring to advance the training of physicians and scientists.



The **Department of Neuroscience** in the **Temple University School of Medicine** (Philadelphia, PA, USA) is a state-of-the-art multidisciplinary research and education entity. Our mission is to foster a collaborative environment that enables superior research leading to an understanding of the mechanisms of disorders of the central nervous system. This leads to novel therapeutic strategies directed against relevant diseases. The variety and intensity of approaches provide an integrative graduate and postgraduate program that trains first-rate scientists in the field of neuroscience who will successfully contribute new and innovative ideas and technologies well into the future.



The mission of the **Comprehensive NeuroAIDS Center (CNAC)** is to improve and extend the public health impact of bench-to-clinic research associated with HIV-induced neurological diseases and cognitive disorders. Founded in 2011, the CNAC is in the Temple University School of Medicine in Philadelphia, PA.



The **Institute of NeuroImmune Pharmacology (I-NIP)** at **Seton Hall University (SHU)** (www.shu.edu/academics/neuroImmune-pharmacology) is committed to bringing knowledge of neuroimmune pharmacology to life via research, teaching, and community service. Current research at the I-NIP focuses on the: (1) bi-directional interaction between drug abuse and microbial infection, including HIV, in the central nervous system; (2) molecular mechanisms underlying nicotine's modulatory effects on learning behavior in the presence of HIV-1 viral proteins; (3) age-dependent developmental changes in the neurotransmitter systems in the brain; and (4) alcohol related behavior disorders in the adolescent. The I-NIP cultivates research among and between the basic and social sciences, and prides itself on fostering translational research from the laboratory bench to the community.



The Symposium and Conference were generously supported by an educational grant from **Janssen Pharmaceuticals, Inc.** (www.janssenpharmaceuticalsinc.com), administered by Janssen Scientific Affairs, LLC. Headquartered in Titusville, New Jersey, Janssen Pharmaceuticals provides medicines for an array of health concerns in several therapeutic areas, including: attention deficit hyperactivity disorder (ADHD), general medicine (acid reflux disease, infectious diseases), mental health (bipolar I disorder, schizophrenia), neurologics (Alzheimer's disease, epilepsy, migraine prevention and treatment), pain management, and women's health.



Biogen Idec (www.biogenidec.com) is among the world's leading global biotechnology companies. They are a Fortune 500 company with over \$4 billion in revenue. Patients in more than 90 countries benefit from their products, which include Tysabri and Avonex for the treatment of multiple sclerosis, and Rituxan for non-Hodgkins lymphoma.



Considered the founder of the industry, **Genentech** (www.gene.com) uses human genetic information to discover, develop, manufacture, and commercialize medicines to treat patients with serious or life-threatening medical conditions. Genentech, which is now a member of the Roche Group, is among the world's leading biotech companies, with multiple products on the market and a promising development pipeline.