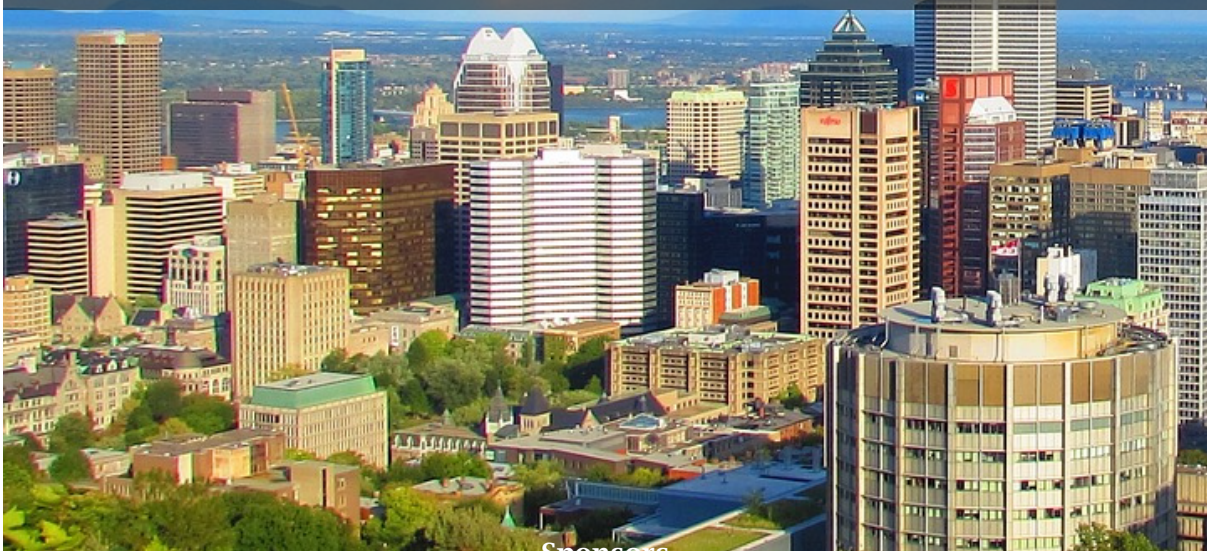
19th International Symposium on NeuroVirology

Held jointly with the

2023 Conference on HIV in the Nervous System

Poster Guide



Sponsors

Toupin Chair in Neurocognitive Disorders
University of Alberta

Center for Neurovirology and Gene Editing
Comprehensive NeuroHIV Center (CNHC)
Lewis Katz School of Medicine
Temple University
Philadelphia, Pennsylvania

Foundation for NeuroVirology

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

Journal of NeuroVirology

Excision BioTherapeutics, LLC

Department of Microbiology & Immunology
Institute for Molecular Medicine & Infectious Disease
Drexel University College of Medicine
Philadelphia, Pennsylvania

School of Medicine
University of California, San Francisco
San Francisco, California

ISNV Meetings Committee

Lynn Pulliam (Co-Chair)
Brian Wigdahl (Co-Chair)
Lena Al-Harthi
Bruce Brew
Avindra Nath
Michael Nonnemacher
Christopher Power
Valerie Wojna

www.isnv.org

General information about posters

- Poster abstracts were ordered by first author last name
- The guide provides the poster number (example poster 1 = P1), title, author(s), author(s) affiliations
- The index provides ALL authors names and ALL poster numbers they are associated with
- Odd number poster will be presented in the first hour
- Even number posters will be presented in the second hour

Notes

P1

Analysis of EIF2AK3 alternative splicing and its effect on PERK function in response to ER stress

Elena Alvarez Periel[1], Avinash Singh[2], Kelly Jordan-Sciutto[3]
(corresponding author: elenaap@upenn.edu)

[1]Department of Oral Medicine, School of Dental Medicine, University of Pennsylvania; [2]College of Arts and Sciences, University of Pennsylvania; [3]Department of Oral Medicine, School of Dental Medicine, University of Pennsylvania

P2

Viral dynamics of SIV rebound in the CNS following cART cessation

Michelle Ash[1], Anjelica Reyes[1], Lena Al-Harthi[1], Ron Veazey[2], Jeffrey Schneider[1]
(corresponding author: michelle_k_ash@rush.edu)

[1]Rush University Medical Center, Department of Microbial Pathogens & Immunity; [2]Tulane University School of Medicine, Tulane National Primate Research Center, Division of Comparative Pathology

P3

Anti-HIV and Anti-inflammasome Activity of a Novel Chiral Potent Endocannabinoid Ligand (R)- N-(1-Methyl-2-hydroxyethyl)-13-(S)-methyl-arachidonamide (AMG315)

Venkata Atluri[1], Adriana Yndart[2], Nagesh Kolishetti[2], Arti Vashist[2], Alexandros Makriyannis[3], Madhavan Nair[2]
(corresponding author: vsatluri@noordacom.org)

[1]Department of Biomedical Sciences, Noorda College of Osteopathic Medicine, Provo, Utah; [2]Department of Immunology and Nano-Medicine, Herbert Wertheim College of Medicine, Florida International University, Miami, FL; [3]Departments of Chemistry and Chemical Biology, Northeastern University, Boston, Massachusetts

P4

Injectable Long-acting Nanoformulations Prevent Dolutegravir-linked Neurodevelopmental Impairments

Aditya Bade, Yutong Liu, Howard Gendelman, Benson Edagwa
(corresponding author: aditya.bade@unmc.edu)

University of Nebraska Medical Center

P5

Suppression of HSV-1 Infection and Viral Reactivation by CRISPR/Cas9 Gene Editing in 2D and 3D Culture Models

Anna Bellizzi[1], Senem Cakir[1], Martina Donadoni[1], Rahsan Sariyer[1], Shuren Liao[1], Hong Liu[1], Elvin Ruan[2], Jennifer Gordon[2], Kamel Khalili[1], Ilker K Sariyer[1]
(corresponding author: ilker.sariyer@temple.edu)

[1]Center for Neurovirology and Gene Editing, Department of Microbiology, Immunology and Inflammation - Temple University Lewis Katz School of Medicine; [2]Excision BioTherapeutics, Inc. 499 Jackson Street, Suite 300, San Francisco, CA 94611

P6

Agnostic development of highly efficient CRISPR/Cas9 gRNAs to target the integrated HIV-1 provirus

Rachel Berman[1,2], Will Dampier[1,2,3], Chelsea E. Gunderson[1,2], Bhaswati Sen[1,4], Azad Ahmed[1,4], Michael Nonnemacher[1,2,5], and Brian Wigdahl[1,2,5]

(corresponding author: bw45@drexel.edu)

[1]Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, USA, [2]Center for Molecular Virology and Gene Therapy, Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, USA, [3]School of Biomedical Engineering, Science and Health Systems, Drexel University, Philadelphia, PA, USA, [4]Center for Genomic Sciences, Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, USA, [5]Sidney Kimmel Cancer Center, Thomas Jefferson University, Philadelphia, PA, USA

P7

Effects of cannabidiol (CBD) in EcoHIV infection, behavioral defects, and transcriptional brain signatures.

Alejandra Borjabad, Jennifer Kelschenbach, Loreto Carvallo, Eran Hadas, Wei Chao, David J Volsky
(corresponding author: alejandra.borjabad@mssm.edu)

Icahn School of Medicine at Mount Sinai

P8

Impact of circulating HBV proteins on HIV-1 infection dynamics in cells of the myeloid lineage

Alexis Brantly[1,2], Stephanie M. Matt[3,4], Kyle Yeakle[6], Michael Bouchard[5,6], Peter J. Gaskill[3,4], Michael R. Nonnemacher[1,2,5]
(corresponding author: mrn25@drexel.edu)

[1]Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, USA, [2]Center for Molecular Virology and Translational Neuroscience, Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, USA, [3]Department of Pharmacology and Physiology, Drexel University College of Medicine, Philadelphia, PA, USA, [4]Center for Neuroimmunology and CNS Therapeutics, Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, USA, [5]Sidney Kimmel Cancer Center, Thomas Jefferson University, Philadelphia, PA, USA, [6]Department of Biochemistry and Molecular Biology, Drexel University College of Medicine, Philadelphia, PA, USA

P9

Non-infectious varicella zoster virus extracellular vesicles suppress the antiviral response and promote neuroinvasion

Andrew Bubak[1], Christy Niemeyer[1], Seth Frietze[2], Christina Coughlan[1], Serena Lewis[1], Sara Bustos Lopez[1], Anthony Saviola[3], Kirk Hansen[3], Eva Medina[1], Vicki Traina-Dorge[4], Maria Nagel[5], Diego Restrepo[6], Ravi Mahalingam[1]
(corresponding author: Andrew.Bubak@cuanschutz.edu)

[1]University of Colorado-Anschutz Medical Campus, Neurology Department; [2]University of Vermont, Department of Biomedical and Health Sciences; [3]University of Colorado-Anschutz Medical Campus, Department of Biochemistry and Molecular Genetics; [4]Tulane University, Tulane National Primate Research Center, Division of Microbiology; [5]University of Colorado-Anschutz Medical Campus, Neurology Department, Ophthalmology Department; [6]University of Colorado-Anschutz Medical Campus, Cell and Developmental Biology Department

P10

The role of LncRNA TUG1 in HIV-1 Tat-induced astrocyte senescence: Implications for NeuroHIV

Shilpa Buch, Seema Singh, Susmita Sil, Palsamy Periyasamy
(corresponding author: sbuch@unmc.edu)

Department of Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, Omaha, NE-68198, USA

P11

Chronic HIV/SIV infection is associated with viral persistence and heightened neuroinflammation despite viral suppression with ART

Sarah Byrnes[1], Kathleen Busman-Sahay[2], Thomas Angelovich[1], Skyler Younger[2], Sol Taylor-Brill[2], Michael Nekorchuk[2], Stephen Bondoc[2], Rachel Dannay[2], Margaret Terry[2], Catherine Cochrane[1], Trisha Jenkins[1], Emma Wanicek[1], Michael Roche[1], Claire Deleage[3], Steve Bosinger[4], Mirko Paiadini[4], Bruce Brew[5], Jacob Estes[2], Melissa Churchill[1]
(corresponding author: sarah.byrnes@rmit.edu.au)

[1]School of Health and Biomedical Science, RMIT University; [2]VGTI, OHSU; [3]NIH; [4]Emory; [5]University of NSW

P12

HIV increases foam cell formation through NLRP3 inflammasome pathway

Maurizio Caocci[1], Meng Niu[2], Howard Fox[2], Tricia Burdo[1]
(corresponding author: BurdoT@temple.edu)

[1] Katz School of Medicine at Temple University; [2]Nebraska Medical Center

P13

A novel method of characterizing cells from ex vivo mammalian brain tissue to study HIV infection of the central nervous system

Zachary Capriotti, Erick O'Brien, Rachel Van Duyne, Joshua Jackson, Zachary Klase
(corresponding author: zc389@drexel.edu)

Department of Pharmacology and Physiology, Center for Neuroimmunology and CNS Therapeutics, Drexel University College of Medicine, Philadelphia, PA, USA

P14

Inflammasome activation correlates in the CNS with impaired early antibody response and viral neutralization in SIV-infected pigtail macaques (Macaca nemestrina)

Natalie Castell, Celina Abreu, Erin Shirk, Suzanne E. Queen, Lucio Gama, Joseph L. Mankowski, Janice E. Clements, Rebecca T. Veenhuis
(corresponding author: ncastel3@jhmi.edu)
Johns Hopkins School of Medicine

P15

JCV-infection modeling in 3D human cerebral organoid cultures

Chen Chen[1], Hong Liu[1], Shuren Liao[1], Senem Cakir[1], Angela Rocchi[1], Tessa Keefe[2], Jennifer Gordon[3], Ilker K. Sariyer[1], Kamel Khalili[1]

(corresponding author: kkhalili@temple.edu)

[1]Center for Neurovirology and Gene Editing, Department of Microbiology, Immunology, and Inflammation, Katz School of Medicine at Temple University, 3500 N. Broad Street, 7th Floor Philadelphia, PA 19140 USA; [2]Franklin and Marshall College, Biology, 637 College Ave, Lancaster, PA 17603; [3]Excision Biotherapeutics, Inc., 499 Jackson Street, San Francisco, CA 94111 USA

P16

SLC38A9 regulates SARS-CoV-2 viral entry

Xuesong Chen
(corresponding author: xuesong.chen@und.edu)
University of North Dakota

P17

Alzheimer's disease related biomarkers in people living with HIV

Maddy Cohen[1], Caitlin Tice[1], Dianne Langford[1], Sarah Cooley[2], Beau M. Ances[2], Tricia H. Burdo[1]
(corresponding author: maco8666@temple.edu)

[1]Department of Microbiology, Immunology, and Inflammation, Center for NeuroVirology and Gene Editing, Lewis Katz School of Medicine, Temple University; [2]Department of Neurology, Washington University School of Medicine in St. Louis

P18

Evaluating defectiveness of integrated HIV-1 quasispecies in brain and spleen reservoirs using Nanopore sequencing

Mackenzie E. Collins[1,2], Diehl R. De Souza[1,2], William Dampier[1,2], DV Klopfenstein Cassandra Spector[1,2], Brian Wigdahl[1,2,3,5], and Michael R. Nonnemacher[1,2,5]

(corresponding author: mrn25@drexel.edu)

[1]Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, USA, [2]Center for Molecular Virology and Translational Neuroscience, Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, USA, [3]Center for Clinical and Translational Medicine, Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, USA, [4]Division of Infectious Diseases and HIV Medicine, Department of Medicine, Drexel University College of Medicine, Philadelphia, PA, USA, [5]Sidney Kimmel Cancer Center, Thomas Jefferson University, Philadelphia, PA, USA

P19

Computational analysis of Cas proteins unlocks new potential in HIV-1-targeted gene therapy

Will Dampier[1,2], Rachel Berman[1,2], Michael R Nonnemacher[1,2,3], and Brian Wigdahl[1,2,3]

(corresponding author: mrn25@drexel.edu)

[1]Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, USA, [2]Center for Molecular Virology and Gene Therapy, Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, USA, [3]Sidney Kimmel Cancer Center, Thomas Jefferson University, Philadelphia, PA, USA

P20

HIV-1 Tat induces the formation of Bax pores on lysosomes

Gaurav Datta, Neda Rezagholizadeh, Xuesong Chen
(corresponding author: gaurav.datta@und.edu)

School of Medicine and Health Sciences, University of North Dakota

P21

Development and application of an ELISA to quantify HIV Tat in exosomes from serum and CSF

Diehl R. De Souza[1], Juyun Crawford[2], Norman Haughey[3], Bruce Brew[4], Bryan Smith[1], Amanda Wiebold[1], Darshan Pandya[1], Joseph Snow[5], Brian K. Agan[6], Chuen-Yen Lau[7], Avindra Nath[1], Tory Johnson[1]
(corresponding author: diehl.desouza@nih.gov)

[1]National Institute of Neurological Disorders and Stroke, National Institutes of Health; [2]National Human Genome Research Institute, National Institutes of Health; [3]Department of Neurology, Johns Hopkins Drug Discovery, Johns Hopkins University School of Medicine, Baltimore, MD; [4]Peter Duncan Neurosciences Unit, Departments of Neurology and Immunology St Vincent's Hospital, Sydney, NSW, University of New South Wales; [5]National Institute of Mental Health, National Institutes of Health; [6]Infectious Diseases Clinical Research Program, Uniformed Services University of the Health Sciences; [7]National Cancer Institute, National Institutes of Health

P22

Extracellular Vesicle Associated HIV RNA Correlates with Neurocognitive Dysfunction

Catherine DeMarino[1], Julia Denniss[1], Maria Cowen[1], Lisa Henderson[1], Elyse Gollomp[2], Joseph Snow[2], Darshan Pandya[1], Bryan Smith[1], Avi Nath[1]
(corresponding author: catherine.demarino@nih.gov)

[1]Section of Infections of the Nervous System, National Institute of Neurological Disorders and Stroke, NIH, Bethesda, MD, United States; [2]National Institute of Mental Health, NIH, Bethesda, MD, United States

P23

The interplay between oxylipins, energy metabolism and immune function associated with HIV infection and ART

Pragney Deme[1], Seung Wan Yoo[1], Norman J Haughey[2]
(corresponding author: pdeme1@jhmi.edu)

[1]The Johns Hopkins University School of Medicine, Departments of Neurology, Baltimore, MD.; [2]The Johns Hopkins University School of Medicine, Departments of Neurology and Department of Psychiatry, Baltimore, MD.

P24

ER Stress and dysregulated autophagy mediate HIV-1 Tat-induced senescence in human M√ºller glial cells

Uma Maheswari Deshetty, Palsamy Periyasamy, Shilpa Buch
(corresponding author: udeshetty@unmc.edu)

Department of Pharmacology & Experimental Neuroscience, University of Nebraska Medical Center

P25

Longitudinal Neuropsychological Assessment In an Urban Cohort of Adults Living with Well-Managed HIV

Kathryn N. Devlin[1], Will Dampier[2,3,4], Shinika Tillman[2,5,6], Diana Surita[2,5,6], Kim Malone[2,5,6], Amy Althoff[5,6], Zsofia Szep[5,6], Vanessa Pirrone[2,3], Michael Nonnemacher[2,3,7], Brian Wigdahl[2,3,5,7] and Maria Schultheis[1]

(corresponding author: knd52@drexel.edu)

[1]Department of Psychological and Brain Sciences, Drexel University, Philadelphia, PA, USA. [2]Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, USA, [3]Center for Molecular Virology and Translational Neuroscience, Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, USA, [4]School of Biomedical Engineering, Science and Health Systems, Drexel University, Philadelphia, PA, USA, [5]Center for Clinical and Translational Medicine, Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, USA, [6]Division of Infectious Diseases and HIV Medicine, Department of Medicine, Drexel University College of Medicine, Philadelphia, PA, USA, [7]Sidney Kimmel Cancer Center, Thomas Jefferson University, Philadelphia, PA, USA

P26

HIV-1 infection characterization and modeling NeuroHIV in hiPSCs-derived 3D cerebral organoids

Martina Donadoni, Senem Cakir, Anna Bellizzi, Michael Swingler, Ilker K. Sariyer
(corresponding author: tug36939@temple.edu)

Center for Neurovirology & Gene Editing, Temple University Lewis Katz School of Medicine

P27

Expansion of EBV Peptide-Specific CD8 T Cells from Multiple Sclerosis Patients and Healthy Donors Reveals Dysregulation of Effector Responses that may be Associated with Disease Pathogenesis

Abaigeal Donaldson[1], Lauren Suarez[2], William Frazier[1], Maria Monaco-Kushner[1], Ruipeng Wang[2], Jack Ragheb[2], Mathias Oelke[2], Steven Jacobson[1]
(corresponding author: abaigeal.donaldson@nih.gov)

[1]Viral Immunology Section, Neuroimmunology Branch, NINDS/NIH, Bethesda, MD, USA; [2]NexImmune, Inc. Gaithersburg, MD, USA

P28

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

Nazira El-Hage[1], Yemmy Soler[1], Myosotys Rodriguez[1], Dana Austin[2], Cohava Gelber[2]
(corresponding author: nelhage@fiu.edu)

[1]Florida International University; [2]Serpin Pharma

P29

Caspase cleavage of gasdermin E causes neuronal pyroptosis in HIV-associated neurocognitive disorder

Jason Fernandes[1], William Branton[1], Eric Cohen[2], Gerrit Koopman[3], Ivanela Kondova[4], Benjamin Gelman[5], Christopher Power[1]
(corresponding author: cp9@ualberta.ca)

[1]University of Alberta; [2]Institut de Recherches Cliniques Montreal (IRCM); [3]Department of Virology, Biomedical Primate Research Centre (BPRC); [4]Department of Animal Science, Biomedical Primate Research Centre (BPRC); [5]Departments of Pathology and Neurobiology, University of Texas Medical Branch

P30

Drugs of Abuse Alter Cell-Type-Specific Pathogenic Pathways in SIV-Infected Nonhuman Primates

Howard S Fox[1], Meng Niu[1], Benjamin G Lamberty[1], Katy Emanuel[1], Palsamy Periyasamy[2], Shannon Callen[2], Arpan Acharya[2], Gregory Kubik[3], James Eudy[4], Chittibabu Guda[4], Siddappa N Byrareddy[2], Shilpa Buch[2]
(corresponding author: hfox@unmc.edu)

[1]Neurological Sciences; University of Nebraska Medical Center, Omaha, NE, 68198; [2]Pharmacology and Experimental Neuroscience; University of Nebraska Medical Center, Omaha, NE, 68198; [3]Genomics Core Facility; University of Nebraska Medical Center, Omaha, NE, 68198; [4]Genetics, Cell Biology and Anatomy; University of Nebraska Medical Center, Omaha, NE, 68198

P31

Cocaine Regulates Antiretroviral Therapy CNS Access Through Pregnane-X Receptor-Mediated Drug Transporter and Metabolizing Enzyme Modulation at the Blood Brain Barrier

Lisa Fridman, Stephen Knerler, Amira-Storm Price, Rodnie Colon Ortiz, Alicia Mercado, Hannah Wilkins, Bianca Flores, Benjamin Orsburn, Dionna Williams
(corresponding author: dwill201@jhmi.edu)

Johns Hopkins University

P32

Astrocyte-Induced Hiv Latency in Microglia: Immunomodulatory Role of Adenosine

Yoelvis Garcia-Mesa, Fengchun Ye, Sheetal Sreeram, Ahmed El Sayed, Konstantin Leskov, Jonathan Karn
(corresponding author: yxg146@case.edu)

Department of Molecular Biology and Microbiology, School of Medicine, Case Western Reserve University, Cleveland, Ohio

P33

Stimulants may act via multiple mechanisms to increase myeloid HIV infection and exacerbate neuroHIV

Peter Gaskill, Emily Nickoloff-Bybel, Stephanie Matt, Oluwatofunmi Oteju, Alexis Brantly, Breana Channer, Teresa Lupone, Rachel Nolan
(corresponding author: pjg63@drexel.edu)

Drexel University College of Medicine

P34

Investigating intercellular interactions between astrocytes and microglia during HIV infection

James Gesualdi[1], Cagla Akay-Espinoza[2], Stephanie Matt[3], Peter Gaskill[3], Kelly Jordan-Sciutto[2]
(corresponding author: jamesges@pennmedicine.upenn.edu)

[1]Perelman School of Medicine, University of Pennsylvania; [2]Department of Basic and Translational Sciences, Penn Dental Medicine, University of Pennsylvania; [3]Department of Pharmacology and Physiology, Drexel University College of Medicine

P35

Development of an de novo miRNA Packaging Assay to Elucidate the Role of Intrinsic and Extrinsic (Viral Specific) Factors Affecting Extracellular Vesicle-Mediated miRNA Export and Exchange in Host mammalian Cells

Syamantak Ghosh[1], Sourav Hom Choudhury[1], Kamalika Mukherjee[2], Suvendra Bhattacharyya[2]
(corresponding author: sbhattacharyya@unmc.edu)

[1]RNA Biology Research Laboratory, Molecular Genetics Division, CSIR-Indian Institute of Chemical Biology, Kolkata, India; [2]Department of Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center (UNMC), NE, USA

P36

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

Shivesh Ghura[1], Cagla Akay-Espinoza[2], Kelly Jordan-Sciutto[2]
(corresponding author: sghura@upenn.edu)

[1]Department of Pharmacology, Perelman School of Medicine, University of Pennsylvania; [2]Department of Oral Medicine, School of Dental Medicine, University of Pennsylvania

P37

Cerebral humanization of immune compromised mice with hematopoietic stem and neural progenitor cells to create wholistic model of HAND

Jessah Goldner, Srinivasa Narasipura Narasipura[1], Leannie Olivares [1], Jennillee Wallace[1], Lena Al-Harthi[1]
(corresponding author: jessah_goldner@rush.edu)

Rush University

P38

Generating a CRISPR/spCas9 system utilizing multiple gRNAs for targeting co-evolved HIV genes

Theodore E. Gurrola[1,2], Samuel N. Effah[1,2], Vanessa Pirrone[1,2], Shendra Passic[1,2], Michael R. Nonnemacher[1,2,4], Will Dampier[1,2,3], and Brian Wigdahl[1,2,4]

(corresponding author: mrn25@drexel.edu)

[1]Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, USA, [2]Center for Molecular Virology and Translational Neuroscience, Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, USA, [3]School of Biomedical Engineering, Science, and Health Systems, Drexel University, Philadelphia, PA, USA, [4]Sidney Kimmel Cancer Center, Thomas Jefferson University, Philadelphia, PA, USA

P39

HERV-K (HML-2) envelope protein induces mitochondrial depolarization and neurotoxicity via endolysosome iron dyshomeostasis

Peter Halcrow[1], Darius N.K. Quansah[1], Nirmal Kumar[1], Joseph P. Steiner[2], Avindra Nath[2], Jonathan D. Geiger[1]
(corresponding author: jonathan.geiger@und.edu)

[1]Department of Biomedical Sciences, UND School of Medicine and Health Sciences, Grand Forks, ND 58202; [2]Section for Infections of the Nervous System, National Institute of Neurological Disorders and Stroke, NIH, Bethesda, MD 20892

P40

SARS-CoV-2 S1 induces endolysosome leakage in astrocytes

Wendie Hasler, Neda Resagholizadeh, Xuesong Chen
(corresponding author: wendie.hasler@und.edu)

University of North Dakota

P41

Serological ATP plays a role in HIV-associated neurocognitive disorder by promoting transcellular trans-endothelial migration through the blood-brain barrier

Cristian Hernandez, Eliseo Eugenin
(corresponding author: eleugeni@utmb.edu)

Department of Neurobiology, University of Texas Medical Branch

P42

The role of inflammation and blood-brain barrier disruption in depression pathogenesis in people with HIV

Caitlin Hills[1], Anjali Sharma[2], Xiang Xu[3], Benjamin A. Ely[4], Vilma Gabbay[4], Joan W. Berman[4]
(corresponding author: caitlin.hills@einsteinmed.edu)

[1]Department of Pathology, Albert Einstein College of Medicine; [2]Department of Medicine, Albert Einstein College of Medicine; [3]Department of Radiology, BioMedical Engineering and Imaging Institute, Icahn School of Medicine at Mount Sinai; [4]Department of Psychiatry and Behavioral Sciences, Psychiatry Research Institute at Montefiore Einstein, Albert Einstein College of Medicine; [5]Department of Pathology, Department of Microbiology and Immunology, Albert Einstein College of Medicine

P43

Accelerated aging in the brain of SIV-infected macaques: a role for astrocytes in ADRD and potential therapeutics?

Miranda Horn [1], Alison Van zandt[2], Elise Frost[3], Andrew MacLean[4]
(corresponding author: amaclean@tulane.edu)

[1]Tulane Program in Neuroscience, Tulane National Primate Research Center; [2]Tulane National Primate Research Center, Tulane Program in Biomedical Science; [3]Tulane National Primate Research Center; [4]Tulane Program in Neuroscience Tulane National Primate Research Center Tulane Program in Biomedical Science Department of Microbiology & Immunology

P44

HIV transcriptional regulation in the CNS of ART-suppressed people with HIV

Janna Jamal Eddine[1], Jingling Zhou[1], Emily Chalmers[1], Catherine Cochrane[1], Thomas Angelovich[1], Nadia Saraya[2], Sushama Telwatte[3], Michael Roche[2], Melissa Churchill[1]
(corresponding author: s3601091@student.rmit.edu.au)

[1]RMIT University; [2]RMIT University, Doherty Institute; [3]Doherty Institute, UCSF

P45

Human Endogenous Retrovirus-K subtype HML-2 Envelope triggers TLR2 in Sporadic Amyotrophic Lateral Sclerosis

Tony James[1], Catherine DeMarino[2], Joe Steiner[2], Lisa Henderson[2], Avindra Nath[2]
(corresponding author: avindra.nath@nih.gov)

[1]The George Washington University; [2]NIH

P46

The Impact of HIV-1 Tat and Morphine on Spatial Distribution of Drugs in the Brain

Austin Jones[1], Kara Rademeyer[2], Silas Contaifer[2], Eli Rosen[3], Dayanjan Wijesinghe[4], Kurt Hauser[5], MaryPeace McRae[1]
(corresponding author: xmd4gp@virginia.edu)

[1]Department of Neuroscience, School of Medicine, University of Virginia; [2]Department of Pharmacotherapy and Outcomes Science, School of Pharmacy, Virginia Commonwealth University; [3]Division of Pharmacotherapy and Experimental Therapeutics, University of North Carolina at Chapel Hill; [4]Department of Pharmacotherapy and Outcomes Science, School of Pharmacy, Virginia Commonwealth University; [5]Department of Pharmacology and Toxicology/Department of Anatomy and Neurobiology, School of Medicine, Virginia Commonwealth University

P47

gRNAs targeting the 5'LTR of the HIV-1 provirus induce insertions and deletions that prevent proviral reactivation

Joanna Jones[1,2], Alexander G. Allen[1,2], Cheng-Han Chung[1,2], Rachel Berman[1,2], Will Dampier[1,2,3], Michael R. Nonnemacher[1,2,4], and Brian Wigdahl[1,2,4]

(corresponding author: mrn25@drexel.edu)

[1]Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, USA, [2]Center for Molecular Virology and Translational Neuroscience, Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, USA, [3]School of Biomedical Engineering, Science, and Health Systems, Drexel University, Philadelphia, PA, USA, [4]Sidney Kimmel Cancer Center, Thomas Jefferson University, Philadelphia, PA, USA

P48

Morphine dependence accelerates HIV-associated neurocognitive impairment in EcoHIV infected mice

Jennifer Kelschenbach[1], Lauren Wills[2], Xiaokun Liu[1], Alejandra Borjabad[1], Richard O'Connor[2], Eran Hadas[1], Boe-Hyun Kim[1], Wei Chao[1], Paul J. Kenny[2], David J. Volsky[3]
(corresponding author: jennifer.kelschenbach@mssm.edu)

[1]Department of Medicine - Division of Infectious Diseases, Icahn School of Medicine at Mount Sinai; [2]Nash Family Department of Neuroscience, Icahn School of Medicine at Mount Sinai; [3]Department of Medicine - Division of Infectious Diseases, Icahn School of Medicine at Mount Sinai

P49

CCL2 is required for initiation but not persistence of HIV infection mediated neurocognitive disease in mice

Boe-Hyun Kim, Eran Hadas, Jennifer Kelschenbach, Wei Chao, Chao-Jiang Gu, Mary Jane Potash, David J. Volsky
(corresponding author: boe-hyun.kim@mssm.edu)

[1]Division of Infectious Diseases, Department of Medicine, Icahn School of Medicine at Mount Sinai

P50

CSF1R inhibition depletes brain macrophages and reduces brain virus burden in SIV-infected macaques

Woong-Ki Kim[1], Diana Bohannon[2], Laurent Zablocki-Thomas[3], Evan Leung[4], Jinbum Dupont[4], Julian Hattler[4], Jolanta Kowalewska[4], Miaoyun Zhao[5], Jiangtao Luo[6], Marco Salemi[7], Angela Amedee[8], Qingsheng Li[5], Marcelo Kuroda[3]
(corresponding author: wkim6@tulane.edu)

[1]Division of Microbiology, Tulane National Primate Research Center; [2]Department of Microbiology and Molecular Cell Biology, Eastern Virginia Medical School; [3]Department of Anatomy, Physiology & Cell Biology, University California, Davis School of Veterinary Medicine; [4]Department of Molecular Cell Biology, Eastern Virginia Medical School; [5]Nebraska Center for Virology, School of Biological Sciences, University of Nebraska-Lincoln; [6]Department of Health Systems and Population Health Sciences, the Tilman J. Fertitta Family College of Medicine, University of Houston; [7]Department of Epidemiology, University of Florida College of Medicine; [8]Department of Microbiology, Immunology & Parasitology, Louisiana State University Health Sciences Center

P51

Early Extracellular Vesicles from HIV-1-infected Cells Modulate Cell Cycle and Inflammation in the Recipient Cells

Yuriy Kim[1], Gifty Mensah[1], Sarah Al Sharif[1], Daniel Pinto[1], Heather Branscome[1], Maria Cowen[1], James Erickson[1], Pooja Khatkar[1], Ariana Azimi-Sadjadi[1], Sowmya Yelamanchili [2], Renaud Mahieux[3], Fatah Kashanchi[1]
(corresponding author: fkashanc@gmu.edu)

[1]Laboratory of Molecular Virology, School of Systems Biology, George Mason University; [2]Department of Anesthesiology, University of Nebraska Medical Center; [3]International Center for Research in Infectiology, Retroviral Oncogenesis Laboratory, INSERM U1111-University Claude Bernard Lyon 1, Ecole Normale Sup

P52

Assessment of DNA methylation of HIV and its integration sites in the human genome

DV Klopfenstein[1,2], Mackenzie Collins[1,2] Will Dampier[1,2], Michael R. Nonnemacher[2,3,4], and Brian Wigdahl[1,2,3,4]

(corresponding author: mrn25@drexel.edu)

[1]Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, USA, [2]Center for Molecular Virology and Translational Neuroscience, Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, USA, [3]Center for Clinical and Translational Medicine, Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, USA, [4]Sidney Kimmel Cancer Center, Thomas Jefferson University, Philadelphia, PA, USA

P53

HIV antibodies in the central nervous system (CNS) have a unique glycosylation profile that increases CNS penetration across the blood brain barrier (BBB)

Gabrielle Kooi[1], Yuekun Lang[2], Michelle Ash[1], Anjelica Reyes[1], Pavan Bhimalli[1], Samatha Welninski[1], Leannie Olivares[1], Amber Virdi[1], Lena Al-Harthi[1], Vinayaka Prasad[1], Jeffrey Schneider[1]
(corresponding author: gabrielle_f_kooi@rush.edu)

[1]Department of Microbial Pathogens and Immunity, Rush University Medical Center; [2]Albert Einstein College of Medicine

P54

Extracellular vesicles in HIV and drugs of abuse

Santosh Kumar, Lina Zhou, Sandip Godse, Namita Sinha
(corresponding author: ksantosh@uthsc.edu)

The University of Tennessee Health Science Center

P55

“Sera-ious” Insights: Sera from depressed people with HIV induce mitochondrial and cytoskeletal changes in cultured human astrocytes

Anna Laird[1], Melody Sagarian[1], Alexandra Anh Le[1], Matthew Spencer[1], David Grelotti[1], Jennifer Iudicello[1], Brook Henry[1], Ronald Ellis[1], Jerel Fields[1]
(corresponding author: alaird@health.ucs.edu)

[1]Department of Psychiatry, University of California San Diego; [2]Department of Neurosciences, University of California San Diego

P56

Herpes simplex virus 1 infection does not affect amyloid-beta pathology in APP/PS1 mice

Lina Lapeyre[1], Jocelyne Piret [1], Chantal Rhéaume[1], Vincent Pons[2], Olus Uyar[1], Paul Préfontaine[1], Serge Rivest [1], Guy Boivin[3]
(corresponding author: lina.lapeyre@crchudequebec.ulaval.ca)

[1]Research Center in Infectious Diseases, Research center of the CHU de Quebec-Laval University; [2]Neuroscience laboratory, Research center of the CHU de Quebec-Laval University; [3]Research center in infectious diseases, Research center of the CHU de Quebec-Laval University

P57

Induction of A1-like astrocyte polarization in primary human cells

Jill M. Lawrence[1,2,3], Diehl De Souza[1,2,3], Kayla Schardien[1,4], Brenna Duffy[2,3], Brian Wigdahl[2,3,5,6], and Michael R. Nonnemacher[2,3,6]

(corresponding author: mrn25@drexel.edu)

[1]Molecular and Cell Biology and Genetics Graduate Program, Drexel University College of Medicine, Philadelphia, PA, USA, [2]Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, USA, [3]Center for Molecular Virology and Translational Neuroscience, Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, USA, [4]Department of Neurobiology and Anatomy, Drexel University College of Medicine, [5]Center for Clinical and Translational Medicine, Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, USA, [6]Sidney Kimmel Cancer Center, Thomas Jefferson University, Philadelphia, PA, USA

P58

Effects of cannabinoids on phenotype of patient monocyte-derived macrophages vary by cannabis use patterns

Alexandra Anh Le[1], Anna Laird[1], Melanie Crescini[1], Scott Letendre[2], Jennifer Iudicello[1], Jerel Adam Fields[1]
(corresponding author: atl068@ucsd.edu)

[1]Department of Psychiatry, University of California San Diego; [2]Department of Medicine, Division of Infectious Diseases, University of California San Diego

P59

Human endogenous retrovirus-K envelope transgenic mice as a mouse model of Amyotrophic Lateral Sclerosis

MYOUNG-HWA Lee, Wenxue Li, Kevon Sampson, Melina Jones, Joseph Steiner, Avindra Nath
(corresponding author: myounghwa.lee@nih.gov)

NIH/NINDS

P60

Strategic Self-Limiting Production of Infectious HIV Particles by CRISPR in Permissive Cells

Hong Liu[1], Chen Chen[1], Shuren Liao[1], Danielle K. Sohaii[2], Conrad R.Y. Cruz[2], Tricia H. Burdo[1], Thomas J. Cradick[3], Anand Mehta[4], Carlos Barrero[5], Magda Florez[5], Jennifer Gordon[3], Stephane Grauzam[4], James Dressman[4], Shohreh Amini[6], Catherine M. Bollard[2], Rafal Kaminski[1], Kamel Khalili[1]
(corresponding author: hong.liu@temple.edu)

[1]Department of Microbiology, Immunology, and Inflammation, Center for Neurovirology and Gene Editing, Katz School of Medicine, Phila, PA; [2]Center for Cancer and Immunology Research, Children's National Health System, The George Washington University, Washington, DC; [3]Excision BioTherapeutics, Inc., San Francisco, CA; [4]Department of Cell and Molecular Pharmacology, Medical University of South Carolina, Charleston, SC; [5]Department of Pharmaceutical Sciences, School of Pharmacy, Temple University, Philadelphia, PA; [6]Center for Neurovirology and Gene Editing, Katz School of Medicine; Department of Biology, Temple University, Phila, PA

P61

The HIV-1 Transgenic Rat: An Extant In Vivo Biological System to Model Aging and HIV-1 Comorbidities

Charles F. Mactutus, Kristen A. McLaurin, Rosemarie M. Booze
(corresponding author: MACTUTUS@mailbox.sc.edu)

University of South Carolina

P62

Clonal Hematopoiesis in monocytes contributes to HIV-associated neuroinflammation

Sanjay Maggirwar, Carles Moreno Soriano
(corresponding author: smaggirwar@gwu.edu)

George Washington University School of Medicine and Health Sciences, Department of Microbiology, Immunology & Tropical Medicine

P63

Simian varicella virus infection in rhesus macaques promotes amyloid formation in multiple organs

Ravi Mahalingam[1], Andrew Bubak[1], Amalia Bustillos[1], Brittany Feia[1], Arpia Das[2], Eileen de Haro[3], Lara Doyle-Meyers[3], Jaymee Looper[4], Christy Neimeyer[1], Diego Restrepo[1], Maria Nagel[1], Vicki Traina-Dorge[3]
(corresponding author: ravi.mahalingam@cuanschutz.edu)

[1]University of Colorado School of Medicine; [2]Trudeau Institute; [3]Tulane National Primate Research Center; [4]Lousiana State University

P64

Myeloid Inflammation and Viral Infection in the Context of Comorbid HIV and Depression

Stephanie Matt, Breana Channer, Yash Agarwal, Krisna Mompho, Alexis Brantly, Peter Gaskill
(corresponding author: smm678@drexel.edu)

Department of Pharmacology and Physiology, Drexel University College of Medicine

P65

Anticholinergic and Sedative Medication Burdens are Associated with Cognitive Frailty in People Aging with HIV

Henry Michael[1], Marie-Josée Brouillette[2], Robyn Tamblyn[3], Lesley Fellows[4], Nancy Mayo[5]
(corresponding author: henry.michael@mail.mcgill.ca)

[1]Division of Experimental Medicine, McGill University; [2]Department of Psychiatry, McGill University; [3]Department of Epidemiology, Biostatistics & Occupational Health, McGill University; [4], Department of Neurology and Neurosurgery, McGill University; [5]Department of Medicine School of Physical and Occupational Therapy

P66

Monkeypox virus infection of human astrocytes drives gasdermin B cleavage and pyroptosis

Hajar Miranzadeh, Yi-Chan Lin, Natacha Ogando, Eman Moussa, Olivier Julien, Ryan Noyce, David Evans, Christopher Power (corresponding author: cp9@ualberta.ca)

University of Alberta

P67

Expression of HIV envelope protein gp120 in human brain

Italo Mocchetti[1], Christy Agbey[1], Sofia Walton[1], Avindra Nath[2], Bryan Smiths[2], Amanda Wiebold[2], Junfeng Ma[3]
(corresponding author: moccheti@georgetown.edu)

[1]Department of Neuroscience, Georgetown University; [2]NIH/NINDS; [3]Georgetown University

P68

Extracellular Vesicles Isolation Methods Identify Distinct HIV-1 Particles Released from Chronically Infected T-cells

Sebastian Molnar[1], Yuriy Kim[2], Lindsay Wieczorek[1], Pooja Khatkar[2], Mark Santos[3], Gifty Mensah[2], Fatemeh Dehbandi[2], Aurelio Lorico[3], Victoria Polonis[1], Fatah Kashanchi[2]
(corresponding author: fkashanc@gmu.edu)

[1]Military HIV-1 Research Program, Walter Reed Army Institute of Research; [2]Laboartory of Molecular Virology, School of System Biology, George Mason University; [3]College of Medicine, Touro University Nevada

P69

Long-term ART suppression increases neurodegenerative mRNA profiles in brain macrophages isolated from SIV-infected ART-suppressed macaques.

Celina Monteiro Abreu[1], Edna Ferreira[1], Erin Shirk[1], Jordin Dixson[1], Janaysha Ratliff[1], Suzanne Queen[1], Carlo Colantuoni[2], Lucio Gama[1], Janice Clements[3], Rebecca Veenhuis[4]
(corresponding author: cabreu4@jh.edu)

[1]Department of Molecular and Comparative Pathobiology, at the Johns Hopkins University School of Medicine; [2]Departments of Neurology and Neuroscience, at the Johns Hopkins University School of Medicine; [3]Departments of Molecular and Comparative Pathobiology, Neurology, and Pathology, at the Johns Hopkins University School of Medicine; [4]Departmens Molecular and Comparative Pathobiology, and Neurology, at the Johns Hopkins University School of Medicine

P70

Milk-EVs as Nextgen Carriers

Kamalika Mukherjee[1], Soumya Sagar Dey[1], Dawson Hollingsworth[1], Sudipta Panja[1], Noah Greenwood[1], Keith Swarts[1], John Oehlerking[2], Carae Oehlerking[2], Mai Mostafa[1], Suvendra Bhattacharyya[1], Santhi Gorantla[1], Howard Gendelman[1]
(corresponding author: kmukherjee@unmc.edu)

[1]Department of Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, Omaha, NE, 68198, USA; [2]Oehlerking Farm, Inc.

P71

EcoHIV Infection in Mice Interacts with Cocaine Abstinence and Exposure Pattern to Alter Cocaine Seeking and Peripheral Immune Function

Mark Namba, Jacqueline Barker
(corresponding author: mdn54@drexel.edu)

Department of Pharmacology & Physiology, College of Medicine, Drexel University

P72

The long non-coding RNA Meg3 is essential for HIV-1 latency in T cells.

Kien Nguyen, Jonathan Karn
(corresponding author: kvn2@case.edu)

Case Western Reserve Univeristy

P73

Infection of olfactory epithelium with alphaherpesvirus elicits cellular remodeling and expression of beta amyloid

Christy S. Niemeyer[1], Andrew N. Bubak[1], B. Dnate Baxter[2], Arianna Gentile Polese[2], Vijay Ramakrishnan[3], Peter J. Dempsey[4], Maria A. Nagel[1], Diego Restrepo[2]
(corresponding author: christy.niemeyer@cuanschutz.edu)

[1]Department of Neurology, University of Colorado Anschutz Medical Campus, Aurora, CO; [2]Department of Cell and Developmental Biology, University of Colorado Anschutz Medical Campus, Aurora, CO; [3]Department of Otolaryngology-Head & Neck Surgery, Indiana University, Indianapolis, IN; [4]Department of Pediatrics and Developmental Biology, University of Colorado Anschutz Medical Campus, Aurora, CO

P74

HIV-1 Infection of Monocyte Derived Macrophages Alters miRNA Expression targeting beta-Catenin-TEF/LEF Signaling

Erick O'Brien, Rachel Van Duyne, Zachary Klase
(corresponding author: evo25@drexel.edu)

Department of Pharmacology and Physiology, Center for Neuroimmunology and CNS Therapeutics, Drexel University College of Medicine, Philadelphia, PA, USA

P75

HIV-1 Tat and methamphetamine-induced neuroinflammation: the involvement of ZBP1-PANoptosis in astrocyte activation

Abiola Oladapo, Shilpa Buch, Palsamy Periyasamy
(corresponding author: abiola.oladapo@unmc.edu)

Department of Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, Omaha NE 68198

P76

Cocaine May Enhance HIV-Infection of Human iPSC-derived Microglia and Monocyte-Derived Macrophages

Oluwatofunmi Oteju, Teresa LuPone, Alexis Brantly, Stephanie Matt, Yash Agarwal, Breana Channer, Peter Gaskill
(corresponding author: to357@drexel.edu)

Department of Pharmacology and Physiology, Drexel University College of Medicine

P77

Alternative Splicing of Amyloid Precursor Protein (APP) and Connections to HIV Associated Aging and AD-Like Pathology

Matthew Pasteris, Anna Bellizzi, Senem Cakir, Ilker Sariyer
(corresponding author: ilker.sariyer@temple.edu)

Department of Microbiology, Immunology, and Inflammation, Center for Neurovirology and Gene Editing, Temple University Lewis Katz School of Medicine,

P78

Epigenetic regulation of astrocyte activation and neuroinflammation by HIV Tat and morphine: Implications for pathogenesis of NeuroHIV

Palsamy Periyasamy, Abiola Oladapo, Uma Maheshwari Deshetty
(corresponding author: palsamy.periyasamy@unmc.edu)

Department of Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, Omaha, NE-68198

P79

Nef expression in astrocytes of the nucleus accumbens disrupts the glutamate cycle and increases cocaine seeking behavior in rats

Jessalyn Plá-Tenorio, Bethzaly Velázquez-Pérez, Myrella Cruz-Rentas, Ana Vargas-Virella, María Colón-Romero, Marian Sepúlveda-Orengo, Richard Noel
(corresponding author: jpla18@stu.psm.edu)

Ponce Health Sciences University

P80

Viral Immune Signatures from Cerebrospinal Fluid Extracellular Vesicles in HAM/TSP and Other Chronic Neurological Diseases

Michelle Pleet[1], Joshua Welsh[2], Emily Stack[1], Sean Cook[2], Maria Chiara Monaco[1], Nyater Ngouth[1], Joan Ohayon[1], Yoshimi Enose-Akahata[1], Avindra Nath[3], Irene Cortese[4], Daniel Reich[5], Jennifer Jones[2], Steven Jacobson[1]
(corresponding author: michelle.pleet@nih.gov)

[1]1Viral Immunology Section, Neuroimmunology Branch, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, M; [2]Translational Nanobiology Section, Laboratory of Pathology, Center for Cancer Research, National Cancer Institute, National Institutes of Health, Beth; [3]Section of Infections of the Nervous System, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD, USA; [4]Experimental Immunotherapeutics Unit, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD, USA; [5]Translational Neuroradiology Section, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD, USA;

P81

Changes in myeloid-derived extracellular vesicle production and profiles during SHIV.D infection

Rachel Podgorski[1], Rebecca Warfield[1], Amir Yarmahmoodi[2], Katharine Bar[3], Tricia Burdo[1]
(corresponding author: burdot@temple.edu)

[1]Department of Microbiology, Immunology, and Inflammation, Center for NeuroVirology and Gene Editing, Lewis Katz School of Medicine, Temple University; [2]Flow Cytometry Core Facility, Lewis Katz School of Medicine, Temple University; [3]Department of Infectious Disease, University of Pennsylvania

P82

Myeloid-tropic SHIV.D persistence in the central nervous system after six months of antiretroviral therapy

Rachel Podgorski[1], Tara Gabor[1], Grayson Sanchez[1], Suvadip Mallick[2], Francesco Marino[2], Katharine Bar[2], Tricia Burdo[1]
(corresponding author: burdot@temple.edu)

[1]Department of Microbiology, Immunology, and Inflammation, Center for NeuroVirology and Gene Editing, Lewis Katz School of Medicine, Temple University; [2]Department of Infectious Disease, University of Pennsylvania

P83

HIV-Tat protein: from molecular structure to aggregation

Alina Popescu Hategan[1], Elena Karnaukhova[2], Jeff Kowalak[3], Yan Li[3], Joe Steiner[1], Emilios Dimitriadis[4], Avindra Nath[1]
(corresponding author: alina.popescu@nih.gov)

[1]Section of Infections of the Nervous System, NINDS, NIH; [2]Center for Biologics Evaluation and Research, FDA; [3]NINDS, NIH; [4]Scanning Probe Microscopy Unit, NIBIB, NIH

P84

Methadone alters antiretroviral concentrations, dysregulates neuroinflammation, and disrupts P-glycoprotein expression in the brains of HIV-1 Tat transgenic mice.

Kara Rademeyer[1], Emily Miller[1], Kurt Hauser[2], MaryPeace McRae[3]
(corresponding author: rademeyerk@vcu.edu)

[1]Department of Pharmacotherapy and Outcomes Science, Virginia Commonwealth University; [2]Department of Pharmacology and Toxicology, Virginia Commonwealth University; [3]Department of Neuroscience, School of Medicine, University of Virginia

P85

Role of SLC38A9 in Tat-induced Cytokine Release in Astrocytes

Neda Rezagholizadeh[1], Wendie Hasler[1], Gaurav Datta[1], Erica Nguon[2], Xuesong Chen[1]
(corresponding author: neda.rezagholizadeh@und.edu)

[1]Department of Biomedical Sciences, School of Medicine and Health Sciences, University of North Dakota; [2]Department of Chemistry, School of Medicine and Health Sciences, University of North Dakota

P86

You are what you vape: Implications of chronic Δ-THC self-administration in changes in the gut microbiome of rats

Jose Javier Rosado-Franco, Alysha Ellison, Catherine Moore, Elise Weerts, Dionna Williams
(corresponding author: jrosado4@jhmi.edu)

Johns Hopkins University

P87

Roadmap For The Expression Of Canonical And Extended Endocannabinoid System Receptors And Proteins In Peripheral Organs Of Mice, Rats and NHP

Jose Javier Rosado-Franco, Alysha Ellison, Cory White, Amira Price, Catherine Moore, Lisa Fridman, Elise Weerts, Dionna Williams
(corresponding author: jrosado4@jhmi.edu)

Johns Hopkins University

P88

Intact HIV genomes within monocytes are associated with cognitive function in virally suppressed women with HIV

Leah Rubin [1], Erin Shirk[2], Lily Pohlenz[2], Hayley Romero[2], Elizabeth Roti[2], Raha Dastgheyb[3], Isabel Santiuste[3], Chantal Riggs[3], Jennifer Coughlin[4], Todd Brown[5], Joel Blankson[5], Pauline Maki[6], Janice Clements[2], Rebecca Veenhuis[2]
(corresponding author: rterill1@jh.edu)

[1]Department of Neurology, Johns Hopkins University School of Medicine, Baltimore, MD; [2]Department of Molecular and Comparative Biology, Johns Hopkins University School of Medicine, Baltimore, MD; [3]Department of Neurology, Johns Hopkins University School of Medicine, Baltimore, MD; [4]Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, Baltimore, MD; [5]Department of Medicine, Johns Hopkins University School of Medicine, Baltimore, MD; [6]Departments of Psychiatry and Psychology, University of Illinois at Chicago, Chicago, IL

P89

Characterizing migratory and inflammatory properties of different subsets of CD14+CD16+ monocytes and their role in HIV neuropathogenesis

Vanessa Ruiz, Tina Calderon, Rosiris Leon-Rivera, Vanessa Chilunda, Joan Berman
(corresponding author: vanessa.ruiz@einsteinmed.edu)

Department of Pathology, Albert Einstein College of Medicine

P90

Delivery of shRNA by AAV9 Blocks HERV-K Env Expression and its Neurotoxicity

Kevon Sampson, Wenxue Li, Myounghwa Lee, Avindra Nath
(corresponding author: kevon.sampson@nih.gov)

NIH/NINDS

P91

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

Urvinder Sardarni[1], Anoop Ambikan [2], Arpan Acharya[1], Kabita Pandey[1], Rajesh Rajaiah[1], Samuel Johnson[1], Ujjwal Neogi[2], Siddappa Byrareddy[1]
(corresponding author: sid.byrareddy@unmc.edu)

[1]Department of Pharmacology & Experimental Neuroscience, University of Nebraska Medical Center; [2]The Systems Virology Laboratory, Division of Clinical Microbiology, Karolinska Institute

P92

Nef-arious? Investigating the role of HIV-1 Nef Neurotoxicity in a SCID Murine Model for HIV Associated Neurocognitive Disorders

Aaron Scanlan[1], Zelideth Rivera Morales[1], Rajeth Koneru[1], Chelsea Richardson Morrell[2], Zhan Zhang[1], Heather Bimonte-Nelson[3], Michael Bukrinsky[4], William Tyor[1,2]
(corresponding author: awscanl@emory.edu)

[1]Department of Neurology, Emory University School of Medicine; [2]Atlanta VA Medical Center; [3]Department of Psychology, Arizona State University; [4]Dept. of Microbiology, Immunology & Tropical Medicine, School of Medicine and Health Sciences, The George Washington University

P93

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

Jeffrey R. Schneider[1], Tanner Shull[1], Pavan Bhimalli[1], Samantha Welninski[1], Byoung-Kyu Cho[2], Basil Baby Mattamana[3], Jaison Arivalagan[3], Imad Tarhoni[4], Young Ah Goo[2], Julie A. Schneider[5], Sonal Agrawal[6], David Bennett[5], Sue Leurgans[5], Mayur B. Patel[7], E. Wesley Ely[7], Neil L. Kelleher[3], Jeffrey A. Borgia[4], Lena Al-Harthi[1]
(corresponding author: jeffrey_schneider@rush.edu)

[1]Department of Microbial Pathogens and Immunity, Rush University Medical Center; [2]Proteomics Center of Excellence, Northwestern University; Mass Spectrometry Technology Access Center, Washington University in St Louis; [3]Proteomics Center of Excellence, Northwestern University; [4]Department of Anatomy and Cell Biology, Rush University Medical Center; [5]Rush Alzheimer's Disease Center, Rush University Medical Center; [6]Rush Alzheimer's Disease Center, Rush University Medical Center; Department of Pathology, Rush University Medical Center; [7]Critical Illness, Brain dysfunction and Survivorship (CIBS) Center, Vanderbilt University Medical Center, and the Veteran's Affairs Tennessee Valley Healthcare System

P94

Tryptophan-Kynurenine Metabolic Pathway and Daytime Dysfunction in Women Living With HIV

Eran Shorer[1], Leah Rubin[1], Audrey French[2], Kathleen Weber[3], Clary Clish[4], Ralph Morack[3], Deborah Gustafson[5], Anjali Sharma[6], Andrea Rogando[7], Qibin Qi[8], Helen Burgess[9], Raha Dastgheyb[1]
(corresponding author: eshorer1@jh.edu)

[1]Department of Neurology, Johns Hopkins Hospital, Baltimore, MD, USA; [2]Department of Medicine, Stroger Hospital of Cook County, Chicago IL, USA; [3]Hektoen Institute of Medicine, Chicago, IL, USA; [4]Metabolomics Platform, Broad Institute of Massachusetts Institute of Technology and Harvard, Cambridge, Massachusetts, USA; [5]Department of Neurology, State University of New York Downstate Medical Center, Brooklyn, New York, USA; [6]Department of Medicine, Albert Einstein College of Medicine, Bronx, New York, USA; [7]College of Science and Health at Charles R. Drew University of Medicine and Science, Los Angeles, California, USA; [8]Department of Epidemiology and Population Health, Albert Einstein College of Medicine, Bronx, New York, USA; [9]Department of Psychiatry, University of Michigan, Ann Arbor, Michigan, USA

P95

Studying cell-extrinsic regulators of HIV latency in the brain

Sheetal Sreeram[1], Konstantin Leskov[1], Yoelvis Garcia Mesa[1], Fengchun Ye[1], Ya Chen[2], Luke Bury[2], Anthony Wynshaw-Boris[2], Jonathan Karn[1]
(corresponding author: sxs2286@case.edu)

[1]Department of Molecular Biology and Microbiology, Case Western Reserve University, Cleveland, Ohio; [2]Department of Genetics and Genome Sciences, Case Western Reserve University, Cleveland, Ohio

P96

Imaging Spinal Cord Atrophy: Quantifying Spinal Cord Cross Sectional Area in HAM/TSP Patients Longitudinally

Emily Stack[1], Mallory Stack[1], Nyater Ngouth[1], Yoshimi Enose-Akahata[1], Govind Nair[2], Steven Jacobson[1]
(corresponding author: emily.stack@nih.gov)

[1]Viral Immunology Section, Neuroimmunology Branch, NINDS/NIH, Bethesda, MD, USA; [2]qMRI Core, NINDS/NIH, Bethesda, MD, USA

P97

Comparative response of HIV-infected, brain-resident myeloid cells to CB2 activation.

Alexander Starr[1], Cagla Akay-Espinoza[2], Kelly Jordan-Sciutto[2]
(corresponding author: jordank@upenn.edu)

[1]Pharmacology Graduate Group, Perelman School of Medicine, University of Pennsylvania; [2]Department of Oral Medicine, School of Dental Medicine, University of Pennsylvania

P98

OPRM1 pre-mRNA Splicing and its Regulation by HIV-1 and Morphine in 3D Cerebral Organoid Models

Michael Swingler[1], Martina Donadoni[1], Anna Bellizzi[1], Senem Cakir[1], Muhammed Bishir[2], Wenfei Huang[2], Sulie L. Chang[2], Ilker K. Sariyer[1]
(corresponding author: michael.swingler@temple.edu)

[1]Department of Microbiology, Immunology, and Inflammation, Center for Neurovirology and Gene Editing, Temple University Lewis Katz School of Medicine; [2]Institute of NeuroImmune Pharmacology and Department of Biological Sciences, Seton Hall University

P99

Detect, Predict, Prevent: Neurodegenerative Disease of Disrupted Waste Management

Caitlin Tice[1], Huaqing Zhao[2], Dianne Langford[1]
(corresponding author: tdl@temple.edu)

[1]Department of Neural Science, Lewis Katz School of Medicine, Temple University; [2]Center for Biostatistics and Epidemiology, Lewis Katz School of Medicine, Temple University

P100

Spatio-temporal reorganization of the endolysosomal network by Zika virus

Olus Uyar[1], Océanne Mérette[1], Viviana Andrea Barragan Torres[1], Nicolas Tremblay[1], Andreas Pichlmair[2], Pietro Scaturro[2], Laurent Chatel-Chaix[1]
(corresponding author: olus.uyar@inrs.ca)

[1]Centre Armand-Frappier Santé Biotechnologie, Institut National de la Recherche Scientifique, Laval, Quebec, Canada; [2]Institute of Virology, Technical University of Munich, School of Medicine, Munich, Germany

P101

The Role of Tunneling Nanotubes in NeuroHIV

Silvana Valdebenito-Silva, Eliseo Eugenin
(corresponding author: sivaldeb@utmb.edu)

University of Texas Medical Branch, Department of Neurobiology

P102

Novel approaches utilizing human brain tissue to investigate HIV-1 infection of the central nervous system

Rachel Van Duyne, Elena Irollo, Erick O'Brien, James Johnson, Joshua Jackson, Atom Sarkar, Zachary Klase, Olimpia Meucci
(corresponding author: zk76@drexel.edu)

Department of Pharmacology and Physiology, Center for Neuroimmunology and CNS Therapeutics, Drexel University College of Medicine, Philadelphia, PA, USA

P103

Characterizing the Role of Monocytes in HIV Neuropathogenesis

Veronica Veksler[1], Rosiris Leon-Rivera[1], Leah H. Rubin[2], Susan Morgello[3], Joan W. Berman[1]
(corresponding author: veronica.veksler@einsteinmed.edu)

[1]Department of Pathology, Albert Einstein College of Medicine, Bronx, NY; [2]Department of Psychiatry and Behavioral Sciences Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; [3]Departments of Neurology, Neuroscience, and Pathology, Mount Sinai Medical Center, New York, NY, United States

P104

Exploring benzodiazepine mediated epigenetic regulation of transcriptional control in HIV1 infected hMDMs

Courtney Wallace, Rachel Van Duyne, Peter Gaskill, Zachary Klase
(corresponding author: cgw64@drexel.edu)

Department of Pharmacology and Physiology, Center for Neuroimmunology and CNS Therapeutics, Drexel University College of Medicine, Philadelphia, PA, USA

P105

Accumulation of CNS macrophages within and traffic out with SIV infection, ART and ART interruption: implications for the CNS as viral reservoir

Zoey K. Wallis[1], Cecily C. Midkiff[2], Xavier Alvarez[2], Robert V. Blair[2], Kevin S. White[3], Patrick Autissier[3], Addison Amadeck[3], Soon Ok Kim[3], Yiwei Wang[3], Maia Jakubowski[3], Andrew D. Miller[4], Tricia Burdo[5], Kenneth C. Williams[1]
(corresponding author: wallisz@bc.edu)

[1]Morrissey College of Arts and Sciences, Biology Department, Boston College, Chestnut Hill, MA; [2]Tulane National Primate Research Center, Covington, LA, USA; [3]Morrissey College of Arts and Sciences, Biology Department, Boston College, Chestnut Hill, MA; [4]Department of Population Medicine and Diagnostic, Section of Anatomic Pathology, College of Veterinary Medicine, Cornell University, Ithaca, NY, USA; [5]Department of Microbiology, Immunology and Inflammation, Center for Neurovirology and Gene Editing, Lewis Katz School of Medicine at Temple University

P106

The Impact of Methamphetamine on Macrophages in the Context of HIV Neuropathogenesis

Jessica Weiselberg[1], Meng Niu[2], Howard Fox[2], Tina Calderon[1], Joan W. Berman[1]
(corresponding author: Jessica.Weiselberg@einsteinmed.edu)

[1]Albert Einstein College of Medicine; [2]University of Nebraska Medical Center

P107

The use of CBD and its synthetic analog HU308 in HIV-1-infected myeloid cells

Anastasia Williams[1], Pooja Khatkar[1], Heather Branscome[1], Yuriy Kim[1], James Erickson[1], Mohammad-Ali Jenabian[2], Cecilia Costiniuk[3], Fatah Kashanchi[1]
(corresponding author: awill57@gmu.edu)

[1]Laboratory of Molecular Virology, School of Systems Biology, George Mason University; [2]Department of Biological Sciences and CERMO-FC Research Centre, Université du Québec à Montréal; [3]Department of Medicine, Division of Infectious Diseases and Chronic Viral Illness Service, McGill University Health Centre

P108

Brain N-acetyl-aspartyl-glutamate (NAAG) is associated with cognitive function in virally-suppressed people living with HIV

Robyn Wiseman[1], Raha Dastgheyb[2], Isabel Santiuste[3], Chantal Riggs[3], Rana Rais[4], Jesse Alt[5], Kristin Bigos[6], Peter Barker[7], Leah Rubin[8], Barbara Slusher[9]
(corresponding author: rwisema5@jhmi.edu)

[1]Department of Pharmacology and Molecular Sciences, Johns Hopkins Drug Discovery, Johns Hopkins School of Medicine Baltimore, MD; [2]Department of Neurology, Johns Hopkins School of Medicine Baltimore, MD; [3]Brain Health Team Department of Neurology and Neurosurgery, Johns Hopkins School of Medicine Baltimore, MD; [4]Johns Hopkins Drug Discovery, Department of Neurology, Department of Pharmacology and Molecular Sciences, Johns Hopkins School of Medicine Baltimore,; [5]Johns Hopkins Drug Discovery, Johns Hopkins School of Medicine Baltimore, MD; [6]Department of Medicine-Clinical Pharmacology, Department of Pharmacology and Molecular Sciences, Department of Psychiatry and Behavioral Sciences, Johns Hopkins School of Medicine Baltimore, MD ; [7]Department of Radiology and Radiological Sciences, Johns Hopkins School of Medicine Baltimore, MD; [8]Johns Hopkins Brain Health, Dept. Neurology, Dept. of Molecular and Comparative Pathobiology, Dept. of Psychiatry and Behavioral Sciences; [9]Johns Hopkins Drug Discovery, Neurology, Psychiatry and Behavioral Sciences, Medicine, Neuroscience, Oncology, Pharmacology and Molecular Sciences

P109

Effect of Depressive Symptoms on Memory Performance in Persons with HIV: A Systematic Review

Lujie Xu[1], Tarek Turk[1], Sandra Campbell [2], Zahra Ghofrani Jahromi[3], Esther Fujiwara [1]
(corresponding author: lujie2@ualberta.ca)

[1]Department of Psychiatry, University of Alberta; [2]Faculty of Medicine and Dentistry, University of Alberta; [3]Department of Psychology, Alzahra University

P110

The Retinoid X Receptors (RXRs) Are Additional HIV-1 Silencing factors in Microglial Cells

Fengchun Ye, Kien Nguyen, Yoelvis Garcia-Mesa, Sheetal Sreeram, David Alvarez-Carbonell, Konstantin Leskov, Jonathan Karn
(corresponding author: fxy63@case.ed)

Department of Molecular Biology & Microbiology, School of Medicine, Case Western Reserve University

P111

HIV-1 Infection Accelerates Alzheimer's Pathobiology in Humanized App Knock-In Mouse

Pravin Yeapuri, Jatin Machhi, Yaman Lu, Rana Kadry, Prasanta Dash, Krista Namminga, Emiko Waight, Chen Zhang, Shaurav Bhattarai, Santi Gorantla, Mosley Lee, Howard Gendelman
(corresponding author: pravin.yeapuri@unmc.edu)

Department of Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center

P112

Regulation of microglial phenotype by immunometabolic reprogramming in HIV-infected microglia colonized human forebrain organoids

Seung Wan Yoo, Jinchiong Xu, Yuegia Huang, Valina Dawson, Norman Haughey
(corresponding author: nhaughe1@jhmi.edu)

Johns Hopkins School of Medicine Baltimore, MD

P113

Requirement for macrophage-derived cysteinyl leukotrienes in HIV-associated neuronal injury

Nina Y Yuan[1], Kathryn E Medders[2], Ana B Sanchez[2], Rohan Shah[1], Cyrus M de Rozieres[2], Daniel Ojeda-Juarez[1], Ricky Maung[1], Roy Williams[2], Benjamin B Gelman[3], Amanda J Roberts[4], Marcus Kaul[1]
(corresponding author: marcus.kaul@medsch.ucr.edu)

[1]Division of Biomedical Sciences, School of Medicine, University of California Riverside; [2]Sanford Burnham Prebys Medical Discovery Institute; [3]Department of Pathology, University of Texas Medical Branch, Galveston; [4]The Scripps Research Institute

P114

Generation of microglia-containing organoids: validation of a model for HIV infection studies

Janet Zayas, Srinivasa Narasipura, Michelle Ash, Lena Al-Harthi, Joao Mamede
(corresponding author: janet_p_zayas@rush.edu)

Rush University Medical Center Department of Microbial Pathogens and Immunity

P115

HIV infection triggers the inflammatory cGAS-STING pathway in microglia

Janet Zayas, Srinivasa Narasipura, Lena Al-Harthi, João I. Mamede
(corresponding author: joao_mamede@rush.edu)

Department of Microbial Pathogens and Immunity, Rush University Medical Center

P116

Development of Murine Model of HIV-induced Psychosocial and Sleep Deficits

Xiaolei Zhu[1], Meixiang Huang[2], Preeti Vyas[3], Kaitlyn Huizar[2], Yannan Li[1], Sujatha Kannan[3], Barbara Slusher[2]
(corresponding author: xzhu31@jhmi.edu)

[1]Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine; [2]Johns Hopkins Drug Discovery, Johns Hopkins University School of Medicine; [3]Department of Anesthesiology and Critical Care Medicine, Johns Hopkins University School of Medicine