23rd Scientific Conference

Hotel DOUBLETREE BY HILTON
PHILADELPHIA CENTER CITY
Philadelphia, PA, USA
March 29 - April 1, 2017

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Acknowledgements

The Society on Neurommune Pharmacology (SNIP) expresses its deep appreciation for the contributions made by so many individuals and institutions in support of this 23rd SNIP Scientific Conference in Philadelphia, PA, USA. The scientific program and symposia were developed by the Meetings Committee and Symposia Chairs in coordination with the Executive Committee. Other aspects of the conference agenda were organized by the Executive Committee and local organizing team. Special thanks go to the local hosts from the Department of Pharmacology & Physiology at Drexel University College of Medicine; Drs. Olimpia Meucci (Chair) and Peter Gaskill for their work in organizing the meeting on-site as well as the local symposium. We also thank Dr. Kamel Khalili, Chair of the Department of Neuroscience and Director of the Comprehensive NeuroAIDS Center at Temple University, for organizing the City-Wide NeuroAIDS Discussion Group as a satellite symposium. The society would also like to thank Mr. Kevin Tarn and Mr. Mitchell Patel for generating the flyer for the 23rd conference.

Sponsors and Contributors

The Society on Neurommune Pharmacology (SNIP) sincerely thanks the following sponsors who have generously contributed to different activities during the 23rd Society of Neurommune Pharmacology Scientific Conference, 2017.
Kenira J. Thompson, PhD, President, Ponce Research Institute, Dean of Research “To promote diversity and inclusion”

To support HIV related sessions

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Annual Society Awards

Each year the Society recognizes a few of its members who have exemplified unique qualities of leadership, service and/or scholarship on behalf of the Society and its mission. The following awards are bestowed annually.

**Herman Friedman Founders Award**

*For Visionary Contributions in the Establishment and Continued Development of the Society*

This award is named in honor of Herman Friedman, PhD, a man who promoted the study of drugs of abuse, infections, and immunity, promoted meetings among scientists based on this theme, and was a founding member of the Society. He passed away in 2007. This award recognizes individuals whose contribution to SNIP was visionary and served as a key to the founding of the Society and/or its continued development and perpetuation.

**Distinguished Services Award**

*For Extraordinary Service to Society and to the Accomplishment of its Mission*

The Distinguished Services Award recognizes an individual whose efforts and commitment to the society has been both consistent and exemplary over protracted years of service.

**Outstanding Service and Support Award**

*For Extraordinary Service to Society and to the Accomplishment of its Mission*

This award is given in recognition of individuals who are not necessarily investigators or members, but who have provided extraordinary service in facilitating the operation of Society initiatives. Examples would include individuals who often work “behind the scenes” to facilitate the Society by work on its publications, fundraising, and/or in the organization or conduct of meetings and symposia.

**Lifetime Achievement Award**

*For Outstanding Lifetime Contribution to the Advancement of the Mission of the Society*

The Lifetime Achievement Award recognizes an individual who has contributed a sustained and extraordinary effort throughout their career on behalf of the society and its goals.

**Wybran Award**

*For Extraordinary Contributions that Help to Integrate the Fields of NeuroImmunology, Drugs Of Abuse, and Immunity to Infection*

Joseph Wybran, MD, was trained in Immunology and worked for some time in the USA before returning to his Brussels home. He was a seminal contributor through the 1970s and into the 1980s to the integration of the fields of neuroimmunology, drugs of abuse and immunity to infection. As a measure of the impact that his science had on the field of neuroimmune pharmacology, his seminal paper published in the Journal of Immunology 1979 regarding the ability of endogenous and exogenous opioids to modulate T cell rosette formation in a naloxone reversible way was the most cited research article through the early 1980s. He was killed, presumably, by terrorists reacting to his leadership and participation in Jewish causes. He was shot in his car in
the parking lot of his work, October 3, 1989 in Brussels. Sadly, this tragedy occurred at
the peak of Joe’s career. The Wybran Award was created to memorialize Joe’s scientific
prestige in the area of neuroimmune pharmacology. It is meant, most particularly, to
serve as a remembrance of his leading contributions that underpin SNIP. The Wybran
Award is the highest honor bestowed by SNIP in recognition of the very best scientific
contributions that have resulted in the preservation and expansion of the field of
Neuroimmune Pharmacology.

Early Career Investigator Travel Award Winners 2017

To promote interest in the field of Neuroimmune Pharmacology and recognize the
excellent work being done by Early Career Investigators in this field, the Society
provides Early Career Investigator Travel Awards (ECITA) to graduate students and
post-doctorate trainees (within 5 years of Ph.D.) working with a SNIP member and
seeking funds to attend the annual conference. For the 2017 SNIP Scientific
Conference, 41 graduate students and 22 post-doctoral fellows were given travel
awards. All awardees received a registration waiver, 35 were awarded a full travel
award of $750 and 13 were awarded a certificate of excellence. Candidates receiving
past SNIP support or representing the 3rd trainee from a mentor received only
registration waiver or certificate of excellence. The top 6 graduate students and the top
6 post-doctorate fellows were selected by the ECITA committee to give a talk at the
Early Career Investigator Symposium. Six speakers were also selected by the Diversity
and Inclusion SNIP Committee (DISC) to give a talk at the DISC Symposium. Special
thanks to the ECITA and DISC committees, and the SNIP leadership for their service
and support.

Pre-doctoral Awardees

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<tr>
<th>Awardee</th>
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<tr>
<td>Liao, K</td>
<td>Buch, S</td>
<td>University of Nebraska Medical Center</td>
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<td>McLaurin, KA</td>
<td>Mactutus, CF</td>
<td>University of South Carolina</td>
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<td>Borgmann, K</td>
<td>Ghorpade, A</td>
<td>University of North Texas Health Science Center</td>
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<td>Ojha, CR</td>
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<td>Tiwari, Sneham</td>
<td>Nair, M</td>
<td>Florida International University</td>
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<td>Zhou, RH</td>
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<td>Lutton, EM</td>
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<td>University of Minnesota</td>
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<td>Hill, JD</td>
<td>Persidsky, Y</td>
<td>Lewis Katz School of Medicine, Temple University</td>
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<td>Jaureguiberry-Bravo,M</td>
<td>Berman, JW</td>
<td>Albert Einstein College of Medicine</td>
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<td>Joshi, C.R</td>
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<td>Nookala, Anantha Ram</td>
<td>Kumar, A</td>
<td>University of Missouri-Kansas City</td>
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<td>Wallace, JW</td>
<td>Al-Harthi, LA</td>
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<td>Wenzel, ED</td>
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<td>Post-doctoral Awardees</td>
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<td>Geiger, J</td>
<td>University of North Dakota</td>
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<td>Parikh, NU</td>
<td>Mahajan, S</td>
<td>University at Buffalo</td>
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<tr>
<td>Wang, Yang</td>
<td>Wang, Jing</td>
<td>Zhengzhou University, China</td>
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**ECITA Awardees are expected to attend all sessions of the conference to be eligible for travel award support.**
PLENARY SPEAKERS

Dr. David Sulzer, Ph.D., Professor, Departments of Psychiatry, Neurology, and Pharmacology, Columbia University Medical Center, NY, USA

Dr. Sulzer is a Professor of Psychiatry, Neurology, and Pharmacology at Columbia University Medical Center and the New York Psychiatric Institute. His lab conducts research devoted to understanding the synapses of the basal ganglia, particularly in investigating how synapses of the cortex, striatum, and dopamine neurons are selected to underlie learning and decision making; and elucidating the causes of diseases that produce disorders of the basal ganglia, including Parkinson's, Huntington's, drug dependence, autism and schizophrenia. Sulzer has authored over 150 publications that have been cited over 25,000 times in the field of dopamine and basal ganglia synaptic physiology and disease, and has introduced multiple new therapeutic directions. His awards include the McKnight, the NARSAD Distinguished Investigator Award, and plenary talks for many international conferences. He founded the Gordon Conference on Parkinson’s Disease, and the new journal Nature NPG Parkinson's Disease.

Dr. Paul Kenny, Ph.D., Ward-Coleman Professor and Chair of the Arthur M. Fishberg Department of Neuroscience, Mount Sinai School of Medicine, NY, USA

Dr. Kenny is the Ward-Coleman Professor and Chairman of the Department of Neuroscience and Director of the Drug Discovery Institute at the Icahn School of Medicine at Mount Sinai in New York. He received a degree in biochemistry from Trinity College Dublin and his Ph.D. in psychopharmacology from King's College London. He completed his post-doctoral training in neuropharmacology at The Scripps Research Institute in La Jolla, California. Research in Dr. Kenny's laboratory is focused on the molecular neurobiology of drug addiction, obesity and schizophrenia. Dr. Kenny is also involved in efforts to develop novel small molecule therapeutic agents for the treatment of drug addiction and other psychiatric indications, and is the co-founder of Eolas Therapeutics, Inc. Dr. Kenny is a handling editor for the Journal of Neuroscience and a member of the National Advisory Council on Alcohol Abuse and Alcoholism (NIAAA). Dr. Kenny has won numerous awards for his research, including the Jacob P. Waletzky Memorial Award, Society for Neuroscience and the Tom Connor Distinguished Investigator Award, Neuroscience.

Dr. Astrid Cardona, Ph.D., Associate Professor of Immunology, University of Texas at San Antonio, TX, USA

Dr. Astrid Cardona is an Associate Professor of immunology at the University of Texas at San Antonio. After receiving her Ph.D. in Microbiology and Immunology in 2002 at the University of Texas Health Science Center at San Antonio she continued her post-doctoral training at the Cleveland Clinic in the Department of Neurosciences at the Lerner Research Institute. During her trajectory at the Cleveland Clinic she received a post-doctoral fellowship from the National Multiple Sclerosis Society.
Society and then she became a Research Associate and also held a Project Staff Position. In 2009 she joined The University of Texas at San Antonio, where she is currently a faculty member of the Department of Biology and a member of the South Texas Center for Emerging Infectious Diseases.

Dr. Cardona’s research laboratory is focused in neuroinflammation and she is the principal investigator in research projects aimed to understand the damage that occurs to the brain during chronic diseases such as Multiple Sclerosis, Diabetic retinopathy and Neurocysticercosis. Dr. Cardona discovered a key neuronal-microglial communication signal mediated by the chemokine fractalkine and has developed several new models to confirm the neuroprotective effects of fractalkine and its mechanisms of action. Her research has been supported by the National Institutes of Health, the National Multiple Sclerosis Society and the San Antonio Area Foundation.

Dr. Serena Spudich, M.D., Professor of Neurology; Division Chief, Neurological Infections & Global Neurology, Yale University, CT, USA

Serena is Professor of Neurology and Chief, Division of Neurological Infections and Global Neurology at Yale. She earned her medical degree from UCSF, pursued residency training in internal medicine at UW, neurology at Harvard, and fellowships in neuroID and neuroHIV at Harvard and UCSF. Her clinical and translational research explores HIV in the nervous system, focusing on effects of acute HIV infection, antiretroviral treatment, and HIV cure strategies on HIV pathogenesis and persistence in the central nervous system. She collaborates with colleagues of multiple disciplines in clinical studies in urban centers in the United States and in international settings, exploring questions of CNS inflammation, injury, and compartmentalization of HIV. She was the first neuroscientist elected to the AIDS Clinical Trials Group (ACTG) HIV Reservoirs and Eradication Transformative Science Group, is Chair Ex-Officio of the ACTG Neurology Collaborative Science Group, co-leads the International NeuroHIV Cure Consortium (http://www.inhcc.net), and leads multiple projects addressing the pathobiology of NeuroHIV. She cares for HIV-infected patients with neurological disorders in the Nathan Smith HIV Clinic at Yale.

Dr. Paul McGonigle, Director, Division of Interdisciplinary and Career-Oriented Programs; Professor of Pharmacology & Physiology, Director, Drug Discovery and Development Program, Drexel University, College of Medicine, Philadelphia, PA, USA

Dr. McGonigle is a neuropharmacologist and drug discovery professional who has held various positions in the biopharmaceutical industry and in academia. His primary research and professional focus has been on drug discovery for psychiatric and neurodegenerative disorders. He joined Drexel University in 2012 to direct the newly formed Drug Discovery and Development Program and was appointed the Director of the Interdisciplinary and Career-oriented program in 2014. He previously served as the CSO of PsychoGenics Inc., a behavioral neurobiology company, where his efforts were focused on the development and application of proprietary technologies to discover novel drugs for CNS disorders. In this capacity, he supervised numerous drug discovery programs and spearheaded the formation of several partnerships with pharmaceutical and biotech companies.
Prior to joining PsychoGenics, he co-founded and served as the CEO of NeuroGenix Corp., a biopharmaceutical company established to use neurogenesis as the basis for the discovery of new treatments for psychiatric and neurodegenerative disorders. He also served on the Board of Directors of Brain Cells Inc., a neurogenesis-based drug discovery company. Before forming NeuroGenix, Dr. McGonigle was the Director of Psychiatric Disorder Research at Wyeth where he supervised all aspects of drug discovery related to psychiatric disorders. Under his leadership, several compounds for the treatment of depression, anxiety, schizophrenia and cognitive impairment were successfully advanced to clinical trials. Prior to joining Wyeth, he was on the faculty of the Department of Pharmacology at the University of Pennsylvania where his research focused on neurotransmitter receptors involved in psychiatric and neurodegenerative disorders. Dr. McGonigle has served on a number of NIH advisory panels and review committees and is a member of multiple editorial boards.
Wednesday March 29, 2017
Registration Opens 2:00 – 5:00 pm
Retrieve name tag, pick-up meeting materials; choose from banquet menu

City-Wide NeuroAIDS Discussion Group 2:00 – 5:00 pm
Organized by the Comprehensive NeuroAIDS Center (CNAC) at the Lewis Katz School of Medicine at Temple University, Philadelphia, USA

Dr. Kamel Khalili, Ph.D., 2:00 – 2:05 pm
Professor and Chair, Department of Neuroscience, Director, Comprehensive NeuroAIDS Center Lewis Katz School of Medicine at Temple University, Philadelphia, PA, USA
Welcoming Remarks

Session Chairs: Dr. Jeffrey Jacobson, M.D. and Dr. Tricia Burdo, Ph.D.

Dr. Antonio Valentin, M.D., Ph.D. 2:05 - 2:35 pm
Staff Scientist, Vaccine Branch, Center for Cancer Research, National Cancer Institute at Frederick, National Institutes of Health
Prospects for AIDS vaccine and immunotherapies

Dr. Fred Krebs, Ph.D. 2:35 – 2:50 pm
Associate Professor, Department of Microbiology & Immunology Drexel University College of Medicine
Linking genetic variants of HIV-1 Vpr to pathogenesis in the blood and brain

Dr. Rafal Kaminski, Ph.D. 2:50 – 3:05 pm
Associate Scientist, Department of Neuroscience and Center for Neurovirology Lewis Katz School of Medicine at Temple University
Negative feedback elimination of HIV-1 by CRISPR: A direct strategy toward a cure of AIDS

Break 3:05 – 3:20 pm
Session Chairs: Dr. Brian Wigdahl, Ph.D. and Dr. Jennifer Gordon, Ph.D.

Dr. Kelly Jordan-Sciutto, Ph.D. 3:20 - 3:50 pm
Professor and Chair, Department of Pathology, The Robert Schattner Center University of Pennsylvania School of Dental Medicine
Role for the B Amyloid Precursor Protein Convertase Enzyme 1 in HIV associated neuronal damage
Dr. Stephani Velazquez, Ph.D. 3:50 – 4:05 pm
Postdoctoral Fellow, Department of Neuroscience, Lewis Katz School of Medicine at Temple University
*Modulation of the kynurenine pathway and inflammatory markers in SIV and HIV infection: Implications for HIV cure and treatment of comorbid conditions*

General Discussion & Closing Remarks 4:05 – 5:00 pm

**The 23rd SNIP Scientific Conference**

Opening Reception & Trainee Poster Session (W1-72) 5:00 – 8:00 pm
*Sponsored by the Early Career Investigator Committee*
(Food and drinks provided - Odd poster numbers will be judged from 5-6:30 and even numbers from 6:30-8 pm. All presenters need to be standing at their posters during their assigned time.)

1st Annual DISC Networking Hour 8:00 – 10:00 pm
*Sponsored by the Diversity and Inclusion SNIP Committee*
Introduction: Dr. Kelly Jordan-Sciutto, Ph.D., University of Pennsylvania, School of Dental Medicine, PA, USA

Speaker: Dr. Ana Nuñez, M.D., Associate Dean for Diversity, Equity and Inclusion, Drexel University College of Medicine, PA, USA
Diversity, Equity and Inclusion in Neuroimmune Pharmacology – A Mentoring Challenge (Dessert and drinks provided)

Thursday March 30, 2017
Breakfast 7:00 – 8:00 am

Presidents’ Welcome 8:00 – 8:10 am
Dr. Michal Toborek, M.D., Ph. D., University of Miami, Miami, FL, USA

Presidential Symposium 8:10 – 9:50 am
Dopamine Neurotransmission in HIV-1 Infection

**Dedicated to the work and memory of Dr. Adarsh Kumar**

Chairs: Dr. Vishnudutt Purohit, Ph.D., NIDA, NIH, MD, USA
Dr. Habibeh Khoshbouei, Pharm.D., Ph.D., University of Florida, FL, USA

Dr. Mahendra Kumar, Ph.D., University of Miami, FL, USA
*Introduction*

Dr. Peter J. Gaskill, Ph.D., Drexel University College of Medicine, PA, USA
*Role of Dopamine Receptor Activation in HIV Entry*
Dr. Franca Marino, Ph.D., University of Insubria, Varese, Italy
*Dopamine and immunity: from basic evidence to therapeutic opportunities*

Dr. Jun Zhu, Ph.D., University of South Carolina, SC, USA
*Molecular mechanism of HIV-1 Tat interacting with human dopamine Transporter*

Dr. Rosemarie Booze, Ph.D., University of South Carolina, SC, USA
*HIV-1 disrupts motivational processes via dopamine transporter dysregulation*

Dr. T. Celeste Napier, Ph.D., Rush University, IL, USA
*Pathophysiology of the nucleus accumbens in HIV-1 transgenic rats is potentiated by cocaine self-administration*

Dr. Jay McLaughlin, Ph.D., University of Florida, Gainesville, FL, USA
*Brain Exposure to HIV-1 Tat Protein Potentiates the Psychostimulant Effects of Morphine, Modulates Consumption and Reinstates Extinguished Reward-Seeking*

**Break**
9:50 – 10:10 am

**Presidential Symposium**
10:10 – 11:00 am
Introduction: Dr. Michal Toborek, M.D., Ph. D., University of Miami, FL, USA

Speaker: Dr. David Sulzer, Ph.D., Columbia University Medical Center, NY, USA
*Antigen display by dopamine neurons*

**Symposium 2**
11:00 – 12:30 pm
**Novel mechanisms of CNS infection by emerging neurotropic viruses**

Chairs: Dr. Eliseo A. Eugenin, Ph.D., Rutgers University, USA
Dr. Mark Challberg, Ph.D. NIAID, NIH, MD, USA

Speakers:
Dr. Mark Challberg, Ph.D., NIAID, NIH, MD, USA
*Introduction to Flaviviruses*

Dr. Eliseo Eugenin, Ph.D., Rutgers University, NJ, USA
*Flaviviruses, a critical threat: Focus in CNS*

Dr. Laura Yockey, Ph.D., Yale University, CT, USA
*Zika and CNS development*

Ms. Courtney Veilleux, Rutgers University, NJ, USA
*Productive Zika infection in the human brain*
Dr. Catherine Blish, Stanford University, CA, USA
Zika virus infection induces cranial neural crest cells to produce cytokines at levels detrimental for neurogenesis

Meet the Mentors Luncheon
Sponsored by the Early Career Investigator Committee
12:30 – 2:00 pm

SNIP Council Meeting
12:30 – 2:00 pm

Plenary Pharmacology Lecture
Introduction: Dr. Marcus Kaul, Ph. D., SBP Med. Discovery Inst., La Jolla, CA, USA
2:00 – 2:45 pm
Speaker: Dr. Paul Kenny, Ph.D., Mount Sinai School of Medicine, New York, NY, USA
Immune signaling in the habenula and nicotine addiction

Break (take down posters from Wednesday Poster session)
2:45 – 3:00 pm

Symposium 3
Role of microbiome in health and disease: Implications in HIV disease progression and drug abuse
3:00 – 4:30 pm
Chair: Dr. Sabita Roy, Ph.D., University of Miami, FL, USA

Dr. Dan Knights, Ph.D., University of Minnesota, MN, USA
Plenary talk: Linking the Microbiome to Clinical Outcomes

Dr. Shilpa Buch, Ph.D., University of Nebraska, NE, USA
Opening statement

Dr. Jason Brenchley, Ph.D., NIAID, MD, USA
Does induction of microbial dysbiosis affect disease progression?

Dr. Charles Mactutus, Ph.D., University of South Carolina, SC, USA
Integrity of the microbiome of the HIV-1 transgenic rat: Efficacy of the gut-brain-axis for treatment of neurocognitive impairment

Dr. Sabita Roy, Ph.D., University of Miami, FL, USA
Role of Gut Microbiome in Morphine induced analgesic tolerance

Dr. Santanu Banerjee, Ph.D., University of Miami, FL, USA
HIV and morphine-induced microbial dysbiosis in NSG-BLT humanized mice and putative pulmonary-intestinal cross-talk

Dr. Ivan Vujkovic-Cvijin, Ph.D., NIH, MD, USA
Mining the endogenous antibody repertoire to identify pro-inflammatory gut bacteria in HIV
Break (Put up Posters for Thursday Night Poster Session)  4:15 – 5:00 pm

Poster Session (T1-81)  5:00 – 8:00 pm
(Food and drinks provided - Odd poster numbers will be judged from 5-6:30 and even numbers from 6:30-8 pm. All presenters need to be standing at their posters during their assigned time.)

JNIP Editorial Board Meeting  7:00 – 9:00 pm

Friday March 31, 2017

Breakfast  7:00 – 8:00 am

Local Symposium  8:00 – 10:30 am
Neuroinflammatory Bases of Cognitive Impairment and Other CNS Disorders

Chairs:  Dr. Olimpia Meucci, M.D., Ph.D., Drexel University, Philadelphia, PA, USA
        Dr. Dennis Kolson, M.D., Ph.D., Univ. of Pennsylvania, Philadelphia, PA, USA
        Dr. Norman Haughey, Ph. D., Johns Hopkins University, MD, USA
        Neuroinflammation in Multiple Disease States

Dr. Francesco Petrelli, Ph.D., University of Lausanne, Lausanne, Switzerland
Neuroglia interactions and neurotransmission: new focus on monoaminergic pathways

Dr. Angelo Lepore, Ph.D., Thomas Jefferson University, Philadelphia, USA
Neuroinflammatory mechanisms in axon regeneration and neuropathic pain following SCI: role of astrocyte communication with microglia and macrophages

Dr. Davide Ragozzino, Ph.D., University La Sapienza, Rome, Italy
Microglia shape presynaptic properties of glutamatergic CA1 synapses

Dr. Joan W. Berman, Ph.D., Albert Einstein College of Medicine, NY, USA
CCL2-driven mechanisms of neuroinflammation & drug abuse

Dr. Robert Nagele, Ph.D., Rowan University, NJ, USA
Autoantibodies as biomarkers in neurodegenerative diseases

Break  10:15 – 10:30 am

Adarsh Kumar Memorial Lecture  10:30 – 11:25 am
Introduction:  Dr. Kelly Jordan-Sciutto, Ph.D., Univ. of Pennsylvania, Philadelphia, PA, USA

Speaker:  Dr. Astrid Cardona, Ph.D., University of Texas at San Antonio, TX, USA
Absence of fractalkine/CX3CR1 induces perivascular clustering of microglia and fibrinogen leakage during systemic inflammation in mouse models of diabetic retinopathy
Symposium 5  
11:30 – 12:30 pm
**Mechanisms of mitochondrial dysfunction associated with HIV-induced neurotoxicity**

**Chairs:**  
Dr. Adam Fields, Ph.D., University of California at San Diego, CA, USA  
Dr. Vasudev Rao, MD., NIMH, MD, USA

**Dr. Todd Hulgan,** M.D., M.P.H., Vanderbilt University, TN, USA  
*Mitochondrial DNA variation and HIV-associated neurotoxicity*

**Dr. Josue Perez Santiago,** Ph.D., University of California San Diego, CA, USA  
*Mitochondrial Injury and Aging in HIV Infection*

**Dr. Valeria Avdoshina,** M.D., Ph.D., Georgetown Univ. Med. Center, Washington, DC, USA  
*Neurotoxic effect of Human Immunodeficiency Virus: cytoskeleton, mitochondria, and neuronal apoptosis*

**Dr. Kelly Stauch,** Ph.D., University of Nebraska, Medical Center, Omaha, NE, USA  
*Mechanisms of Synaptic Energetic Failure: commonalities between mitochondrial functional alterations in HIV, aging, and neurodegenerative diseases*

Lunch  
12:30 - 2:00 pm

**NIH Workshop on Grant Writing for Trainees**  
12:30 - 2:00 pm  
(Boxed lunch provided)

Participants:  
Dr. Roger Sorenson, Ph.D., NIDA, NIH, MD USA  
Dr. Vishnudutt Purohit, Ph.D., NIDA, NIH, MD USA  
Dr. Changhai Cui, Ph.D., NIAAA, NIH, MD USA  
Dr. Jeymohan Joseph, Ph.D., NIMH, NIH, MD USA  
Dr. Vasudev Rao, Ph.D., NIMH, NIH, MD USA  
Dr. Abraham Bautista, Ph.D., Dir. OEA, NIAAA, NIH, MD, USA

Symposium 6  
2:00 – 3:30 pm
**Alcohol and Neuroimmune Pharmacology**

**Chairs:**  
Dr. Abraham Bautista, Ph.D., Dir. OEA, NIAAA, NIH, MD, USA  
Dr. Santosh Kumar, Ph. D., Univ. of Tennessee Health Sci. Center, TN, USA

**Dr. Ilker K Sariyer,** DVM, Ph.d., School of Medicine, Temple University, Philadelphia, PA, USA  
*Pre-mRNA missplicing of MCL-1 is involved in ethanol induced neurotoxicity*

**Dr. Dayne Mayfield,** Ph.D., Waggoner Center for Alcohol and Addiction Research, University of Texas at Austin, Austin, TX, USA  
*Alcohol effects on microRNA, neuroimmune gene network, neuroinflammation*

**Dr. Marisa Roberto,** Ph.D., The Scripps Research Institute, San Diego, CA, USA  
*Neuroimmune factors in alcohol-induced neuroadaptation in the central amygdala*
Dr. Michael Lewis, Ph.D., Hunter College CUNY & Doctoral Program, CUNY Graduate Center Alcohol Neuropharmacology, NY, USA

*Alcohol neuropharmacology: Interaction with food intake and reward mechanisms*

Dr. Hee-Yong Kim, Ph.D., Laboratory of Molecular Signaling, NIAAA, Bethesda, MD, USA

*Docosahexaenoic acid in the nervous system: Modulation by ethanol*

Dr. Narasimha Midde, Ph.D., University of Tennessee Health Science Center, Memphis, TN, USA

*Role of cytochrome P450 in alcohol-mediated effects in brain cells: Strategy to target novel CYP pathway*

Break

Workshop 3:30 – 4:00 pm

Exploration of Alternate Career Options for Young Investigators in Neuroimmune Pharmacology

Co-Chairs: Dr. Sanjay B. Maggirwar, Ph.D., University of Rochester, NY, USA

Kathleen Borgmann, University of North Texas, TX, USA

Sanjay B. Maggirwar, Ph.D., M.B.A., Univ. Rochester, Rochester, NY, USA

*Need to Reform Biomedical Workforce Training*

Mark Skasko, Chemist Reviewer, FDA

*Working at the FDA*

Tracy Diamond, Principal Scientist, Merck & Co. Inc.

*Internship and Post-Doctoral Programs for Graduate Students in Big Pharma*

Benson Cheng, Analyst, The Center for the Advancement of Science in Space, Melbourne, FL, USA.

*Job Opportunities within the US National Laboratories at the International Space Station in Lower Earth Orbit*

Lynn Sniderhan Gottfried, Tech Specialist, LeClair Ryan Law Firm, Rochester, NY, USA

*Career Opportunities in Intellectual Property*

Saturday April 1, 2017

Breakfast 7:00 – 8:30 am

Symposium 7 8:30 – 10:00 am

**Cannabinoids in the Immune System**

Chairs: Dr. Roger Sorenson, Ph. D., NIDA, NIH MD, USA

Dr. Toby K. Eisenstein, Ph.D., Temple University, PA, USA
Dr. Pal Pacher, MD, Ph.D., NIAAA, NIH, MD, USA  
Advances in the Role of CB2 Activation in the Attenuation of Inflammation

Dr. Yuri Persidsky, M.D., Ph.D., Temple University, PA, USA  
Cannabinoid type 2 receptor activation in neuro-immune modulation at blood brain barrier: Role in neuroprotection

Dr. Yumin Zhang, M.D., Ph.D., Uniformed Services University of Health Sciences, MD, USA  
Inhibition of the 2-AG hydrolytic enzyme ABHD6 in neuroinflammatory diseases

Dr. Toby K. Eisenstein, Ph.D., Temple University, PA, USA  
CB2 Agonists as Immunosuppressive Molecules: Mechanisms of Action

Break 10:00 – 10:25 am

Bill Narayan Memorial Lecture 10:25 – 11:30 am  
Introduction: Dr. Howard E. Gendelman, M.D., University of Nebraska Medical Center, Omaha, NE, USA

Speaker: Dr. Serena Spudich, M.D., M.A., Yale University, CT, USA  
Establishment of CNS HIV-1 reservoirs and brain injury: Is typical antiretroviral therapy too little, too late?

Early Career Investigator Symposium 11:30 – 2:30 pm  
5 min presentations (+ 5 min discussion) by selected pre- and post-doctoral ECITA and DISC awardees. (Boxed lunch provided)

Chairs: Dr. Marisela Agudelo, Ph.D., Florida International University, Miami, FL, USA  
Dr. Madhavan Nair, Ph.D., Founding Chair, Dept of Immunology, FIU, Miami, FL, USA

Pre-doctoral Awardees:
Ke Liao, M.S. Mentor: Shilpa Buch, Ph.D.  
University of Nebraska Medical Center.  
Role of Autophagy in HIV Tat-mediated Disruption of Blood Brain Barrier

Kristen A. McLaurin, M.A. Mentor: Charles F. Mactutus, Ph.D.,  
University of South Carolina.  
Temporal Processing Deficits in the HIV-1 Transgenic Rat: Dopamine Transporter Dysfunction

Kathleen Borgmann, B.S., Mentor: Anuja Ghorpade, Ph.D.  
University of North Texas Health Science Center.  
TAARgeting Astrocytic METH-mediated Mitochondrial Dysfunction
Chet Raj Ojha, M.S. Mentor: Nazira El-Hage, PhD
Florida International University, Herbert Wertheim College of Medicine
*Drug-drug Interaction of cART and Morphine Mediated by Autophagy Exacerbates the Overall Effect of cART in Brain.*

Sneham Tiwari, M.S. Mentor: Madhavan Nair, Ph.D.
Florida International University. Herbert Wertheim College of Medicine.
*Withaferin A Suppresses Beta Amyloid in APP Expressing Cells: Studies for Neurocognitive Dysfunctions*

Runhong Zhou, M.S. Mentors: Wenzhe Ho, M.D. M.P.H. and Jieliang Li, Ph.D.
*Lewis Katz School of Medicine at Temple University and School of Basic Medical Sciences at Wuhan University.*
*Soybean Lectin Inhibits HIV Infection of Macrophages*

Post-doctoral Awardees:
Victoria Lutgen, Ph.D., Mentor: Lena Al-Harthi, Ph.D.
Rush University Medical Center.
*Human Transplanted Astrocytes into NSG-HuPBMC Mice Demonstrate Astrocyte-initiated HIV Spread from the Brain to other Tissues*

Jingjing Meng, Ph.D., Mentor: Sabita Roy, Ph.D.
University of Miami-Miller School of Medicine
*Compromised Intestinal Barrier Function by Opioids Accelerates HIV Disease Progression*

Myosotys Rodriguez, Ph.D., Mentor: Nazira El-Hage, Ph.D.
Florida International University-Herbert Wertheim College of Medicine
*Intranasal Administration of Small Interfering (si) RNA Beclin1 Encapsulated with Linear Polyethyleneimine (PEI) Nano-Plexes to Attenuate HIV-1 Infection in the Brain*

Richa Pandey, Ph.D., Mentor: Anuja Ghorpade, Ph.D.
Institute of Molecular Medicine, University of North Texas Health Science Center.
*Alcohol Influences HAND via Astrocyte- TLR4 and cPLA2 Signaling*

Luc Bertrand, Ph.D., Mentor: Michal Toborek, M.D., Ph.D.
University of Miami, Miller School of Medicine.
*Restoration of Rev Nucleo-cytoplasmic Shuttling Increases EcoHIV Infectivity in vitro and in vivo*

Marta Skowronska, Ph.D., Mentor: Michal Toborek, M.D., Ph.D.
University of Miami, Miller School of Medicine.
*Methamphetamine Increases HIV-1 Infectivity in Neural Progenitor Cells*

DISC Awardees
Chair: Dr. Kelly Jordan-Sciutto, Ph.D., Univ. of Pennsylvania, Philadelphia, PA, USA 
Dr. Howard E. Gendelman, M.D., Univ. of Nebraska Med. Ctr, Omaha, NE, USA
Pre-doctoral Awardees:

Wallace, JW, MS, Mentor: Lena Al-Harthi, Ph.D.; Immunology and Microbiology, Rush University Medical Center, Chicago, IL, USA.  
Wnt7a regulates monocyte differentiation and MDM phenotype

Martinez-Orengo, N., BS, Mentor: Richard Noel, Ph.D., Ponce Research Institute, Ponce Health Sciences University, Ponce, PR, USA.  
HIV-1 Nef differentially modulates the TGFβ pathway in astrocytes and neurons

Grlickova-Duzevik, E, Mentor: Ling Cao, MD, Ph.D.; Graduate School of Biomedical Sciences and Engineering, University of Maine, Orono, ME, USA, and Biomedical Sciences, University of New England, Biddeford, ME, USA.  
The role of calcitonin gene related peptide (CGRP) in retroviral infection of glial cells

Lakpa, L, BS, Mentors: Geiger, J. D., Ph.D.¹, Chen, X., MD, Ph.D.¹; ¹School of Medicine and Health Sciences, University of North Dakota, Grand Forks, ND, USA  
HIV-1 Tat induced acid store operated calcium entry (aSOCE) in primary cultured neurons

Postdoctoral Awardees:

Campbell, LA, Ph.D., Mentor: Harvey, BK, Ph.D.; Molecular Mechanisms of Cellular Stress and Inflammation, National Institute on Drug Abuse, Baltimore, MD, USA  
Gesicle-Mediated Delivery of CRISPR/Cas9 for Inactivating the HIV Provirous

Cantres-Rosario, YM, Ph.D., Mentors: Gorantla, S, Ph.D., and Melendez, LM, Ph.D.; Microbiology and Medical Zoology Department, University of Puerto Rico, Medical Sciences Campus and NeuroID Program, University of Puerto Rico, Rio Piedras Campus, San Juan, PR, USA, and Durham Research Center, University of Nebraska Medical Center, Omaha, NE, USA  
Cathepsin B in HIV infection: from macrophages to neurons

SNIP Open Business Meeting 2:30 – 3:30 pm

Break 3:30 – 4:00 pm

Symposium 8 4:00 – 5:30 pm

Computational and Systems Biology Applied to the Brain  
Chair: Dr. Maria Cecilia Marcondes, Ph.D., The Scripps Research Institute, La Jolla, CA, USA

Dr. Celia M. Schunter, Ph.D., King Abdullah University of Science and Technology, Thuwal, SA  
The role of the brain in the adaptation to climate change

Dr. Chris Gaiteri, Ph.D., AD Center, Rush University, Chicago, IL, USA  
Neuroimaging the molecular state of the brain in cognitive decline and Alzheimer's disease

Dr. Michelli Faria de Oliveira, Ph.D., University of California San Diego, CA, USA  
HIV compartmentalization in the CNS
Dr. Maria Cecilia G. Marcondes, Ph.D. The Scripps Research Institute, La Jolla, CA, USA
Astrocyte-specific signatures in response to methamphetamine exposure in vitro

Banquet
7:00 – 10:00 pm
Hosted by the new SNIP president, Dr. Jonathan Geiger, Ph.D., University of North Dakota, Grand Forks, ND, USA

Introduction: Dr. Olimpia Meucci, M.D., Ph.D., Drexel University, Philadelphia, PA, USA

Speaker: Dr. Paul McGonigle, Ph.D., Director, Division of Interdisciplinary and Career-Oriented Programs; Professor of Pharmacology & Physiology, Director, Drug Discovery and Development Program, Drexel University, College of Medicine, Philadelphia, PA, USA
Title of presentation: Academic drug discovery: Opportunities and challenges

The presentation will be followed by a brief panel discussion.

Panelists:
Katherine C. Jordan, Ph.D., Coulter Program Director, School of Biomedical Engineering, Drexel University

Michael Wood, Ph.D., Principal, Neupharm, LLC (formerly Neuroscience Licensing and Collaborations Director, Astra Zeneca)

Sandhya Kortagere, Ph.D., Associate Professor, Department of Microbiology and Immunology, Drexel University College of Medicine and Chief Scientific Officer, Polycore Therapeutics

Announcements, Awards and Adjournment of Conference

Meeting adjourned.

A survey questionnaire will be sent to all registered meeting participants in the weeks following the meeting. Please, take a few moments to participate in the post conference survey in order to help SNIP organizing the best possible future scientific meetings. Thank you!
LIST OF POSTER ASSIGNMENTS

Wednesday, March 29th

PRE-DOCTORAL POSTER SESSION (W1 – W72)

Pre-Doctoral Scientists

W1. Resveratrol Analog TIMBD Inhibits HIV-1-gp120 Associated Inflammation in Human Astrocytes
   ABDALLA, E, MS1, Noookala, A, BS1, Kumar, A, Ph.D.1, Bhat, H, Ph.D.1; 1Pharmacology and Toxicology, University of Missouri Kansas City, Kansas City, MO, 64108 United States.

W2. CRISPR/Cas9-mediated excision of HIV-1 proviral genome sequences
   Allen, A1, Sullivan, N1, Nonnemacher, M1, Dampier, W1, Homan, G1, Desimone, M2, Pirrone, V1, Kercher, K1, Passic, S1, Williams, J1, Wigdahl, B1; 1Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, 19102 United States. 2School of Biomedical Engineering and Health Systems, Drexel University, Philadelphia, PA, 19104 United States.

W3. LP-BM5 virus Exacerbates Murine AIDS-associated symptoms in gp120 transgenic mice
   Arabatzis, TJ, BS2, Wakley, AA, Ph.D.1, McLane, VD, Ph.D.1, Cao, L, MD, Ph.D.1; 1Department of Biomedical Sciences: College of Osteopathic Medicine, University of New England, Biddeford, ME, 04055 United States. 2College of Arts and Sciences, University of New England, Biddeford, ME, 04055 United States. 3Graduate School of Biomedical Sciences and Engineering, University of Maine, Orono, ME, 04055 United States.

W4. Neurocognitive Impairment in the HIV-1 Transgenic Rat at an Advanced Age
   Balog, EM, BS1, McLaurin, KA, MS1, Booze, RM, Ph.D.1, Mactutus, CF, Ph.D.1; 1Program in Behavioral Neuroscience, Department of Psychology, University of South Carolina, Columbia, SC, 29208 United States.

W5. PERK Haplotype Function in HIV-Associated Neurocognitive Disorders
   Bond, S., BS1, Stutzbach, L., Ph.D.1, Cannon, P., Ph.D.1, Akay-Expinoza, C., MD1, Jordan-Sciutto, K., Ph.D.1; 1Department of Pathology, University of Pennsylvania, Philadelphia, PA, 19104 United States.

W6. TAARgetting Astrocyte Mitochondrial Dysfunction during HIV-associated Neuroinflammation and METH Exposure.
   Borgmann, K, BS1, Ghorpade, A, Ph.D.1; 1Institute For Molecular Medicine, University of North Texas Health Science Center, Fort Worth, TX, 76107 United States.

W7. Pathologic changes in the NAc post experimental TBI and susceptibility to the rewarding effects of a subthreshold dose of cocaine following brain injury
   Cannella, L.A., MS2, Maynard, M.1, Andrews, A.A., Ph.D.1, Rawls, S.M., Ph.D.2, Ramirez, S.H., Ph.D.1; 1Department of Pathology and Laboratory Medicine, Lewis Katz School of Medicine Temple University, Philadelphia, PA, 19140 United States. 2Center of Substance Abuse Research, Lewis Katz School of Medicine Temple University, Philadelphia, PA, 19140 United States. 3Shriners Hospitals Pediatric Research Center, Lewis Katz School of Medicine Temple University, Philadelphia, PA, 19140 United States.

W8. Computational characterization of off-target effect on HIV-1 excision gRNAs in the human genome
   Chung, C-H1, Nonnemacher, M1, Wigdahl, B1, Dampier, W1; 1Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, 19102 United States.

W9. Unravelling the role of beta-adrenergic signaling in gastric cancer
   Coelho, MC, MS1, Rasini, ER, BS1, Luini, AL, BS1, Legnaro, ML, BS1, Marino, FM, Ph.D.1, Ribeiro, LR, Ph.D.2, Cosentino, MC, MD, Ph.D.1; 1Center for Research in Medical Pharmacology, University of Insubria, Varese, Varese, 21100 Italy. 2Department of Biochemistry, Faculty of Medicine, University of Porto, Porto, Porto, 4200-319 Portugal.

W10. A microstructure behavioral analysis of voluntary wheel running in HIV-1 Tg rats: evidence for dysregulation of motivation
   Cranston, MN, MS1, Booze, RM, Ph.D.1, Harrod, SB, Ph.D.1, Mactutus, CF, Ph.D.1; 1Program in Behavioral Neuroscience, Department of Psychology, University of South Carolina, Columbia, SC, 29208 United States.
W11. Circadian Disruption Changes Gut Microbiome Taxa and Functional Gene Composition
Deaver, JA, Toborek, M, Ph.D.1; Eum, SY, Ph.D.1; 1Department of Biochemistry, University of Miami, Miami, FL, 33136 United States.

Dutta, R, MS1; Chinnapaiyan, S, Ph.D.1; Nair, M, Ph.D.1; Unwalla, H, Ph.D.1; 1Department of Immunology, Florida International University, Miami, FL, 33199 United States.

W13. Red/Green Astrocytes Mimic CNS Viral Reservoirs in post ART HAND: Implications for Meth abuse
Edara, VVC, MS1; Ghorpade, A, Ph.D.1; 1Institute for Molecular Medicine, University of North Texas Health Science Center, Fort Worth, TX, 76107 United States.

W14. In vivo manipulation of the CXCL12/CXCR4 signaling axis increases dendritic spine density and enhances cognitive flexibility in wild-type and HIV-Tg rats via the Rac1/PAK pathway
Festa, L, MS1; Tian, Y, BS1; Platt, B, BS1; Floresco, S, Ph.D.2; Meucci, O, MD, Ph.D.1; 1Department of Pharmacology & Physiology, Drexel University College of Medicine, Philadelphia, PA, 19102 United States. 2Department of Psychology, University of British Columbia, Vancouver, BC, V6T 1Z4 Canada.

W15. Metabolomic analysis of astrocytes transfected with HIV-1 gp120
Garcia-Justiniano, J, BS1; Rodriguez-Santiago, R, E, BS1; Garcia-Flores, Y, BS1; Pabon-Cruz, E, BS1; Rivera-Amill, V, Ph.D.1; 1Ponce Research Institute, Ponce Health Sciences University, Ponce, PR, 00716 United States.

W16. Nutraceutical Apigenin regulates DC function in a RelB-dependent manner during neuroinflammation
Ginwala, R, McTish, E, Moore, P, Revuri, N, Raman, C, Singh, N, Nagarkatti, M, Nagarkatti, P, Kranz, V, Houle, J, Jain, P, Khan, ZK, 1Department of Microbiology and Immunology, and the Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, 19129 United States. 2Division of Clinical Immunology and Rheumatology, University of Alabama School of Medicine, Birmingham, AL, 35294 United States. 3Department of Pathology, Microbiology and Immunology, University of South Carolina, Columbia, SC, 29208 United States. 4Department of Neurobiology and Anatomy, Drexel University College of Medicine, Philadelphia, PA, 19129 United States.

W17. Chronic effects of alcohol on CYP2E1 mediated oxidative stress and HIV replication in primary macrophages and corroboration of this finding with clinical samples of HIV-infected alcohol drinkers
Gong, Y, Sinha, N, Rao, PSS, Ph.D.1; Kumar, S, Ph.D.1; 1Department of Pharmaceutical Sciences, University of Tennessee Health Science Center, Memphis, TN, 38163 United States.

W18. The role of CD40 in calcitonin gene related protein (CGRP) mediated antiviral effect in glial cells
Grlckova-Duzevik, E, Cao, L, MD, Ph.D.2; 1Graduate School of Biomedical Sciences and Engineering, University of Maine, Orono, ME, 04469 United States. 2Biomedical Sciences, University of New England, Biddeford, ME, 04005 United States.

W19. Heme oxygenase-1 protects against TNF-alpha-induced brain endothelial cell barrier permeability
Gruenewald, AL, BS, Gill, AJ, Ph.D.1; Alvarez, JI, Ph.D.2; Kolsen, DL, MD, Ph.D.1; 1Department of Pathobiology, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA, 19104 United States. 2Department of Neurology, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA, 19104 United States.

W20. TLR3 Activation of Human Intestinal Epithelial Cells Inhibits HIV Replication in Macrophages
Guo, Le, MS1; Zhou, Li, Ph.D.1; Xu, X, BS2; Li, Jieliang, Ph.D.1; Wang, Xu, Ph.D.1; Liu, Jibiao, Ph.D.1; Zhuang, Ke, Ph.D.1; Liu, Hang, MS1; Zhang, Biao, MS2; Ho, Wenzhe, MD, M.Ph.1; 1Department of Pathology and Laboratory Medicine, Temple University School of Medicine, Philadelphia, PA, 19140 United States. 2School of Basic Medical Sciences, Wuhan University, Wuhan, Hubei, 430071 China.

W21. PF3845 Attenuates HIV-1 Tat Mediated Neurotoxicity through Cannabinoid Signaling on Neurons and Astrocytes
Hermes, D, JI, Xu, C, Niphakis, M, J, Cravatt, B, F, Mackie, K, Lichtman, A, I Ignatowska-Jankowska, B, Fitting, S; 1Department of Psychology & Neuroscience, University of North Carolina Chapel Hill, Chapel Hill, NC, 27599-3270 United States. 2Department of Chemical Physiology, Scripps Research Institute, La Jolla, CA, 92037 United States.
W22. Lipid-raft tool gone viral- US9 lends a HAND
Hill, G1, Nash, B1, Brandimarti, R, Ph.D.1, Meucci, O, MD, Ph.D.1; 1Department of Pharmacology & Physiology, Drexel University College of Medicine, Philadelphia, PA, 19102 United States.

W23. Effects of GPR55 activation on neural stem cell proliferation, differentiation, and immune responses to chronic inflammation
Hill, JD1, Zuluaga-Ramirez, V1, Winfield, M1, Gaighe, S1, Persidsky, Y, MD, Ph.D.1; 1Department of Pathology and Laboratory Medicine, Lewis Katz School of Medicine, Temple University, Philadelphia, PA, 19140 United States.

W24. Buprenorphine decreases CCL2-Mediated Mature Monocyte Migration in the context of NeuroAIDS
Jaureguiberry-Bravo, M, MS1, Kelschenbach, JL, Ph.D.2, Carvallo, L, Ph.D.2, Gu, CJ, Ph.D.2, Volsky, DJ, Ph.D.2, Berman, JW, Ph.D.1; 1Department of Pathology, Albert Einstein College of Medicine, New York, NY, 10461 United States. 2Department of Medicine, Division of Infectious Diseases, Icahn School of Medicine at Mount Sinai, New York, NY, 10029 United States.

W25. Exosome mediated intercellular communication in chronic pain
Jean-Toussaint, R, MS1, McDonald, M, Ph.D.1, Sacan, A, Ph.D.2, Ajit, S, Ph.D.1; 1Department of Pharmacology and Physiology, Drexel University College of Medicine, Philadelphia, PA, 19102 United States. 2School of Biomedical Engineering, Science and Health Systems, Drexel University, Philadelphia, PA, 19104 United States.

W26. Polymeric Nanoparticles (NPs)-Mediated Gene Delivery to Human Astrocytes
Joshi, C.R., MS1, Labhasetwar, V, Ph.D.2, Ghorpade, A., Ph.D.1; 1Institute for Molecular Medicine, University of North Texas Health Science Center, Fort Worth, TX, 76107 United States. 2Department of Biomedical Engineering, Cleveland Clinic Lerner Research Institute, Cleveland, OH, 44195 United States.

W27. HIV-1 Tat induced acid store operated calcium entry (aSOCE) in primary cultured neurons
Lakpa, L, BS1, Liang, H., MD, Ph.D.1, Geiger, J. D., Ph.D.1, Chen, X., MD, Ph.D.1; 1School of Medicine and Health Sciences, University of North Dakota, Grand Forks, ND, 58202 United States.

W28. Nef increases mitochondrial staining in U87 astrocytes
Lamboy, R, MS1, Noel, R, Ph.D.1; 1Ponce Research Institute, Ponce Health Sciences University, Ponce, Puerto Rico, 00716 Puerto Rico.

W29. Autophagy is cytoprotective in neurons and necessary against Tat and morphine-induced toxicity in autophagy-deficient mice
Lapierre, J, MS1, Rodriguez, M, Ph.D.1, El-Hage, N, Ph.D.1; 1Department of Immunology, Florida International University, Miami, FL, 33199 United States.

W30. Role of Autophagy in HIV Tat-mediated Disruption of Blood-Brain Barrier
Liao, K, MS1, Niu, F, MS1, Hu, G, Ph.D.1, Buch, S, Ph.D.1; 1Department of Pharmacology & Experimental Neuroscience, University of Nebraska Medical Center, Omaha, NE, 68198 United States.

W31. Computationally Driven Rational Design of HIV-1-LTR-Targeted CRISPR/Cas9 Therapy Dismisses HERVs as a Primary Source of Toxicity
Link, R, BS1, Nonnemacher, MR, Ph.D.2, Wigdahl, B, Ph.D.2, Dampier, W, Ph.D.3; 1School of Biomedical Engineering and Health Systems, Drexel University, Philadelphia, PA, 19104 United States. 2Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, 19102 United States. 3Center for Molecular Virology and Translational Neuroscience, Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, 19102 United States.

W32. Acute administration of endothelial-targeted catalase attenuates oxidative stress and reduces neuroinflammation in experimental traumatic brain injury
Treatment with VDLP induction chemotherapy in acute lymphoblastic leukemia with TEL-AML1 and TEL-ABL rearrangements

Mao, Shuting, MD, Liu, Yufeng, MD, Ph.D.; 1the First Affiliated Hospital, Zhengzhou University, Zhengzhou, Henan, 450000 China.

HIV-1 Nef differentially modulates the TGFβ pathway in astrocytes and neurons

Martinez-Oregano, N., BS; Cruz, M., BS; Noel, R., Ph.D.; 1Ponce Research Institute, Ponce Health Sciences University, Ponce, PR, 00716 United States.

Tight junction complex deregulation by morphine and HIV-1 Tat exposure in an in vitro blood-brain barrier system

Maubert, M; Kercher, K; Strazza, M; Pirrone, V; Lin, W; Feng, R; Nonnemacher, M; 1Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, 19102 United States. 2Department of Biostatistics and Epidemiology, Center for Clinical Epidemiology and Biostatistics, University of Pennsylvania School of Medicine, Philadelphia, PA, 19104 United States.

Temporal Processing Deficits in the HIV-1 Tg Rat: Dopamine Transporter Dysfunction

McLaurin, KA, MS; Li, H, MD, Ph.D.; Booze, RM, Ph.D.; Mactutus, CF, Ph.D.; 1Program in Behavioral Neuroscience, Department of Psychology, University of South Carolina, Columbia, SC, 29208 United States.

HIV-1 Tat variants derived from neurocognitively impaired patients may differentially transactivate HIV and host cell gene promoters

Mele, A; Antell, G; Dampier, W; Pirrone, V; Aiamkitsumrat, B; Williams, J; Passic, S; Kercher, K; Zhong, W; Szep, S; Jacobson, J; Wigdahl, B; Hershberg, U; Nonnemacher, M; 1Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, 19102 United States. 2Department of Medicine, Division of Infectious Diseases and HIV Medicine, Drexel University College of Medicine, Philadelphia, PA, 19102 United States. 3Department of Medicine, Section of Infectious Disease, Lewis Katz School of Medicine, Temple University, Philadelphia, PA, 19140 United States.

Investigating the RNA-binding domain of transcription factor E2F1 in the neuronal context

Meurice, C, BS; Doa, AQ, BS; Jackson, DP, Ph.D.; Cho, G, BS; Zyskind, JW, Ph.D.; Jordan-Sciutto, KL, Ph.D.; 1Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, 19104 United States. 2School of Dental Medicine, University of Pennsylvania, Philadelphia, PA, 19104 United States. 3College of Arts and Sciences, University of Pennsylvania, Philadelphia, PA, 19104 United States.

Increased neuronal iron following exposure of cortical cultures to morphine drives upregulation of the Ferritin Heavy Chain protein, but iron loading is not sufficient to reproduce morphine’s inhibition of CXCR4 signaling.

Nash, B. S., BS; Tam, K., MS; Nolan, R.A., BS; Meucci, O., MD, Ph.D.; 1Department of Pharmacology & Physiology, Drexel University College of Medicine, Philadelphia, PA, 19102 United States.

Immunosuppressive Effects of Cannabidiol in Mild and Moderate Disease States of Experimental Autoimmune Encephalomyelitis

Nichols, JM; Gilfeather, K, BS; Yray, G; Kummari, E, Ph.D.; Dhital, S, Ph.D.; Kaplan, BLF, Ph.D.; 1Department of Basic Sciences, College of Veterinary Medicine, Mississippi State University, Mississippi State, MS, 39762 United States.

A comparison of DRD2 transcript and protein expression in undifferentiated and differentiated neuronal cells.

Nolan, K; Tam, K; Gaskell, P, Ph.D.; Meucci, O, MD, Ph.D.; 1Department of Pharmacology and Physiology, Drexel University College of Medicine, Philadelphia, PA, 19102 United States.

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W43. Methamphetamine augment HIV-1 Tat mediated memory deficits by altering the expression of synaptic proteins and neurotrophic factors
Nookala, Anantha Ra, BS1, Kumar, Anil, Ph.D.1; 1Division of Pharmacology and Toxicology, University of Missouri-Kansas City, Kansas City, MO, 64108 United States.

W44. Self-administered methamphetamine by HIV-1 transgenic rats alters markers of neuronal activity and plasticity in the limbic brain
Ohene-Nyako, M, MS1; Persons, A, Ph.D.1; Napier, T.C, Ph.D.1; 1Department of Pharmacology, Rush University, Chicago, IL, 60612 United States.

W45. Lipoicin-2 in HIV-induced neuronal damage
Ojeda-Juárez, D, B.S.1, Shah, RL1, Sanchez, AB, Ph.D.1, Kaul, M; Ph.D.1, 1Infectious and Inflammatory Disease Center, Sanford Burnham Prebys Medical Discovery Institute, La Jolla, CA, 92037 United States.

W46. Drug-drug interaction of cART and Morphine mediated by autophagy exacerbates the overall effect of cART in brain
Ojha, CR, MS1, Lapierre, J, MS1, Estrada, H, BS1, Rodriguez, M, Ph.D.1, El-Hage, N, Ph.D.1; 1Department of Immunology, College of Medicine, Florida International University, Miami, FL, 33199 United States.

W47. Methamphetamine (METH) and HIV-tat mediated oxidative stress contributes to Mitochondrial dysfunction in microglia.
Parikh, NU, MD1, Aalinkeel, R, Ph.D.1, Reynolds, J, Ph.D.1, Quaye, E1, Cwikinski, K, BS1, Skyes, D, Ph.D.1, Mammen, M, MD1, Sharikova, A, Ph.D.1, Khaladze, A, Ph.D.1, Schwartz, S, MD, Ph.D.1, Mahajan, S, Ph.D.1; 1Division of Allergy, Immunology and Rheumatology, University at Buffalo, Buffalo, NY, 14203 United States. 2Department of Physics, University at Albany, Albany, NY, 12222 United States.

W48. Functional effects of chronic alcohol stress in human monocyte-derived dendritic cells and the immunoprotective role of trichostatin A as demonstrated by single cell imaging flow cytometry
Parira, Tiyash, MS1, Granado, Sherly1, Figueroa, Gloria, BS1, Agudelo, Marisela, Ph.D.1; 1Department of Immunology, Herbert Wertheim College of Medicine, Florida International University, Miami, FL, 33199 United States.

W49. Potential Role of Exosomes in Defense against Ethanol-Induced Oxidative Stress in the Central Nervous System (CNS)
Patterson, BJ, BS1, Kumar, S, Ph.D.1; 1Department of Pharmaceutical Sciences, University of Tennessee Health Science Center, Memphis, TN, 38163 United States.

W50. Mutation of human dopamine transporter aspartic acid206 displays a neutral effect on basal dopamine transport and attenuates Tat-induced inhibition of transport function
Quizon, PM1, Yuan, Y1, Sun, WL1, Strauss, MJ1, Zhu, Y1, Zhou, Y1, Midde, NM1, Zhan, CG2, Zhu, J; 1Department of Drug Discovery and Biomedical Sciences, South Carolina College of Pharmacy, University of South Carolina, Columbia, SC, 29208 United States. 2Molecular Modeling and Biopharmaceutical Center, and Department of Pharmaceutical Sciences, College of Pharmacy, University of Kentucky, Lexington, KY, 40536 United States.

W51. Potential Role of Cytochrome P450s and Oxidative Stress in Benzop(a)pyrene-mediated HIV-1 Replication in Monocytic cells
Ranjit, Sabina1, Sinha, N1, Midde, N.M., Ph.D.1, Kumar, S., Ph.D.1; 1Department of Pharmaceutical Sciences, University of Tennessee Health Science center, Memphis, TN, 38163 United States.

W52. Astrocyte expression of Nef can activate a pro-inflammatory response in the small intestine by macrophages
Rivera Ortiz, J, MS1, Cruz Rentas, M, BS1, Noel, R, Ph.D.1; 1Biochemistry, Ponce Health and Science University, Ponce, PR, 00732 United States.

W53. Integrative Model of Medical Past, Inflammation Markers, and Microbiome in HIV Subjects with Sustained Virological Control
Rodriguez-Santiago, RE, BS1, Sanchez, R, BS1, Garcia-Justiniano, J, BS1, Pabon-Cruz, E, BS1, Yamamura, Y, Ph.D.1, Rivera-Amill, V, Ph.D.1; 1Ponce Research Institute, Ponce Health Sciences University, Ponce, PR, 00716 United States.
W54. The Effects of Antiretroviral Therapies on Oligodendrocyte Growth and Maturation
Roth, LR, BS; Zidane, BZ, BS; Jensen, BJ, Ph.D.; Perlegos, AP, BS; Grinspan, JG, Ph.D.; Jordan-Sciutto, KJS, Ph.D.;
1Department of Pathology, School of Dental Medicine, University of Pennsylvania, Philadelphia, PA, 19104 United States.
2Department of Neurology, Children’s Hospital of Philadelphia, Philadelphia, PA, 19104 United States. 3Pharmacology
Graduate University, School of Dental Medicine, Philadelphia, PA, 19104 United States.

W55. Prescription opioid Hydromorphone use disrupts gut microbiome resulting in gut barrier compromise and persistent bacterial translocation
Sharma, U, Ph.D.; Khatiri, R, MD; Banerjee, S, Ph.D.; Meng, J, Ph.D.; Zhang, L, MS; Roy, S, Ph.D.; 1Department of
Surgery, University of Miami, Miami, FL, 33136 United States. 2Department of Surgery, University of Minnesota, Minneapolis, MN, 55455 United States.

W56. Role of Eph-Ephrin Signaling in perturbing Neuron-Glia Interaction in HIV-1 Induced Neurodegeneration.
SINGHAL, M.S.C, MS; SETH, P, Ph.D.; 1CELLULAR AND MOLECULAR NEUROSCIENCE, NATIONAL BRAIN
RESEARCH CENTRE, GURGAON, HARYANA, 122051 India.

W57. APP cleavage by BACE1 mediates HIV-associated neurotoxicity
Stern, AL, BS; Gannon, P, Ph.D.; Gelman, B, MD, Ph.D.; Kolson, D, MD, Ph.D.; Jordan-Sciutto, K, Ph.D.; 1Perelman
School of Medicine, The University of Pennsylvania, Philadelphia, PA, 19104 United States, 2Department of Pathology,
University of Texas Medical Branch, Galveston, TX, 77555 United States.

W58. Pharmacological profile of dopaminergic transmission in HIV-1 inducible Tat transgenic mice
Strauss, MJ; Deneyh, ED; Zhou, L, Ph.D.; Sun, WL, Ph.D.; Quizon, PM; Eans, SO; Cinino, TF; Bardo, MT; McLaughlin, JP; Zhu, J, MD, Ph.D.; 1Drug Discovery and Biomedical Sciences, University of South Carolina, Columbia, SC, 29208 United States. 2Department of Psychology, University of Kentucky, Lexington, KY, 40506 United States. 3Department of Pharmacodynamics, college of Pharmacy, University of Florida, Gainesville, FL, 32611 United States.

W59. Determining on- and off-target excision events of HIV-1 specific gRNAs using GUIDE-Seq
Sullivan, N; 1Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, 19102 United States.

W60. Withaferin A suppresses Beta amyloid in APP expressing cells: Studies for neurocognitive dysfunctions
Tiwari, Sneham, MS; Kaushik, A, Ph.D.; Jayant, RD, Ph.D.; Yndart, A, MS; Nair, M, Ph.D.; 1Department of
Immunology, HWCOM, Florida International University, Miami, FL, 33199 United States.

W61. Cenicriviroc, anti-JAM-A, and anti-ALCAM are potential therapeutics to prevent preferential transmigration across the BBB of HIV+CD14+CD16+ monocytes: reducing CNS viral seeding and HAND in the ART era
Veenstra, M, MS; Byrd, D, Ph.D.; Ingles, M, MD, Ph.D.; Gana, L, Ph.D.; Clements, J, Ph.D.; Shiramizu, B, MD; Anastas, K, MD; Morgello, S, MD; Berman, J.W, Ph.D.; 1Department of Pathology, Albert Einstein College of Medicine, Bronx, NY, 10461 United States, 2Departments of Neurology, and Psychiatry, Icahn School of Medicine at Mount Sinai, New York, NY, 10029 United States, 3Departments of Neurology, Neuroscience, and Radiology, Icahn School of Medicine at Mount Sinai, New York, NY, 10029 United States, 4Molecular and Comparative Pathobiology, Johns Hopkins School of Medicine, Baltimore, MD, 21205 United States, 5Departments of Pediatrics, and Medicine, John A. Burns School of Medicine at University of Hawaii, Manoa, Honolulu, HI, 96813 United States, 6Departments of Medicine, and Epidemiology & Population Health, Albert Einstein College of Medicine, Bronx, NY, 10461 United States, 7Departments of Neurology, Neuroscience, and Pathology, Icahn School of Medicine at Mount Sinai, New York, NY, 10029 United States, 8Departments of Pathology, and Microbiology and Immunology, Albert Einstein College of Medicine, Bronx, NY, 10461 United States.

W62. HIV-1 Vpr induces CCL5 and CXCL10 upregulation in astrocytes mediated by p38-MAPK and NFkB signaling pathways
Velázquez-Pérez, B, BS; Noel, R, Ph.D.; 1Ponce Research Institute, Ponce Health Sciences University, Ponce, PR, 00716 United States.
W63. Sigma-1r and cocaine interplay in cathepsin B secretion in HIV-1 infected macrophages
Vélez López, O., BS1, Segarra Marrero, A, Ph.D.1, Meléndez Aponte, L, Ph.D.1; 1Department of Microbiology Medical School, University of Puerto Rico Medical Sciences Campus, San Juan, PR, 00921 United States.

W64. Wnt7a skew macrophage phenotype: Relevance to NeuroAIDS
Wallace, JW, MS1, Al-Harthi, LA, Ph.D.1; 1Immunology and Microbiology, Rush University Medical Center, Chicago, IL, 60612 United States.

W65. MOVED - Please see T81.
Testis-specific lactate dehydrogenase (LDH-C4) expressed in lung cancer may accelerate tumor metastasis to the brain
Wang, Yang, MD, Ph.D.1, Zhang, Hui, MD1, Wang, Jing, MD, Ph.D.1; 1Department of respiratory and critical care medicine, First affiliated hospital, Zhengzhou University, Zhengzhou, Henan, 450000 China.

W66. Gpl20 alters stability of microtubules and interrupts the transport of essential organelles
Wenzel, ED, BS1, Avdoshina, V, MD, Ph.D.2, Taraballi, F, Ph.D.3, Mocchetti, I, Ph.D.2; 1Department of Pharmacology, Georgetown University, Washington, DC, 20057 United States. 2Department of Neuroscience, Georgetown University, Washington, DC, 20057 United States. 3Department of Nanomedicine, Houston Methodist Research Institute, Hourson, TX, 77030 United States.

W67. Human cervical epithelial cells inhibit HIV replication in macrophages
Xu, Xiqiu, BS1, Guo, Le, MS2, Li, Jieliang, Ph.D.2, Wang, Xu, Ph.D.2, Liu, Jinhiao, Ph.D.1, Zhuang, Ke, Ph.D.1, Gu, Jun, BS1, Liu, Hang, BS2, Ho, Wenzhe, MD, M.P.2, Zhou, Li, MD.1; 1School of Basic Medical Sciences, Wuhan University, Wuhan, Hubei, 430071 China. 2Department of Pathology and Laboratory Medicine, Temple University School of Medicine, Philadelphia, PA, 19140 United States.

W68. Morphine induced analgesic tolerance is modulated by disruption of gut microbiome and sustained inflammation
Zhang, I, MS1, Ramakrishnan, S, Ph.D.2, Roy, S, Ph.D.2; 1Department of Pharmacology, University of Minnesota, Minneapolis, MN, 55455 United States. 2Department of Surgery, University of Miami, Miami, FL, 33442 United States.

W69. Small molecule ONC201/TIC10 inhibits HIV-1 replication in reservoir cell types in vitro and in mouse brains xenotransplanted with human macrophages
Zhao, RZ, BS1, Wu, BW, MD1, Zheng, JCZ, MD1, Huang, YH, MD, Ph.D.1; 1Department of Pharmacology and Experimental Neurology, University of Nebraska Medical Center, Omaha, NE, 68198-5700 United States.

W70. Soybean Lectin Inhibits HIV Infection of Macrophages
Zhou, RH, MS1, Wang, X, Ph.D.1, Ma, TC, Ph.D.1, Wang, H, MD, Ph.D.1, Ho, WZ, MD, M.P.1, Li, JL, Ph.D.1; 1Department of Pathology and Laboratory Medicine, Temple University Lewis Katz School of Medicine, Philadelphia, PA, 19140 United States.

W71. Effects of HIV anti-retroviral drugs on oligodendrocyte differentiation via SREBP1 pathway
Zidan, B, MS1, Monnerie, H, Ph.D.2, Jordan-Sciutto, K, Ph.D.1, Grinspan, J, Ph.D.2; 1Department of Pathology, University of Pennsylvania School of Dental Medicine, Philadelphia, PA, 19104 United States. 21Department of Neurology, Children’s Hospital of Philadelphia, Philadelphia, PA, 19104 United States.

Late Breaking Abstracts

W72. Differentiation of MonoMac-1 Cell Line Induced by M-CSF and Glucocorticoid Pathways
Vakili, S1, Fisher, T, Ph.D.1, Rappaport, J, Ph.D.1; Department of Neuroscience, Center for NeuroVirology, Temple University School of Medicine, Philadelphia, Pennsylvania, USA, 19140.

Thursday, March 30th

POSTER SESSION 2 (T1 – T81)

Post-Doctoral and Regular Scientists

T1. MRI-assisted magnetically guided CNS delivery of magneto-electro nanoparticles in non-human primate
Ajeet Kaushik, AK, Ph.D.1, Jose Rodriguez, JR, MS2, Daniel Röthen, DR, Ph.D.3, Vinay Bhardwaj, VB, Ph.D.4, Rahul Dev Jayant, RDJ, Ph.D.1, Roozbbeh Nikkah-Moshaie, RNM, Ph.D.1, Andria Yndart, AY, MS1, Beatriz Fuentes, BF, Ph.D.2,
T2. Differential In Vitro Neurotoxicity of Antiretroviral Drugs
Akay-Espinosa, C, MD1; Stern, A, BS1; LEE, RN, BS1; Panvelker, N, BS1; Li, JJ, BS1; Jordan-Sciutto, KL, Ph.D.1; 1Department of Pathology, University of Pennsylvania School of Dental Medicine, Philadelphia, PA, 19104 United States.

T3. Neutral sphingomyelinase 2 regulates amyloid beta levels and size of blood-brain barrier extracellular vesicles in the presence of HIV-1
Andras, IE1; Garcia-Contreras, M2; Toborek, M1; 1Department of Biochemistry and Molecular Biology, University of Miami School of Medicine, Miami, FL, 33136 United States. 2Diabetes Research Institute, University of Miami School of Medicine, Miami, FL, 33136 United States.

T4. PCR amplification of PBMC-derived proviral HIV-1 infection for next-generation sequencing and defining mutagenic process during latent/persistent infection
Atkins, A1; Dampier, W2; Kercher, K1; Passic, S1; Zhong, W1; Williams, J1; Balashov, S1; Mell, J1; Earl, J1; Pirrone, V1; Szep, Z1; Jacobson, J1; Nonnemacher, M1; Wigdahl, B1; 1Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, 19102 United States. 2Department of Medicine, Division of Infectious Disease and HIV Medicine, Drexel University College of Medicine, Philadelphia, PA, 19102 United States. 3Department of Medicine, Section of Infectious Disease, Lewis Katz School of Medicine, Temple University, Philadelphia, PA, 19140 United States.

T5. Inflammasome Gene Expression and their role in HIV and Cocaine Induced Apoptosis
Athuri, VSR, Ph.D.1; Pilakka-Kanthikeel, S, Ph.D.1; Garcia, G, BS1; Jayant, RD, Ph.D.1; Sagar, V, Ph.D.1; Thangavel, S, Ph.D.1; Yndart, A, BS1; Nair, M, Ph.D.1; 1Department of Immunology, Institute of NeuroImmune Pharmacology, Herbert Wertheim College of Medicine, Florida International University, Miami, FL, 33199 United States.

T6. Targeting latent HIV-1 in the brain using state of the art nanotechnology
Avila, Diana, Ph.D.1; Dikici, E, Ph.D.1; Yndart, A, BS1; Tomitaka, A, Ph.D.2; Daunert, S, Ph.D.1; Madhavan, N, Ph.D.2; Toborek, M, MD, Ph.D.1; 1Department of Biochemistry and Molecular Biology, University of Miami, Miami, FL, 33136 United States. 2Department of Immunology, Institute of NeuroImmune Pharmacology, Florida International University, Miami, FL, 33199 United States.

Bertrand, L, Ph.D.1; Velichkovska, M, BS1; Leda, A, Ph.D.1; Toborek, M, MD, Ph.D.1; 1Biochemistry and molecular biology, University of Miami School of Medicine, Miami, FL, 33136 United States.

T8. Giese mediated delivery of LTR targeted CRISPR/Cas9 decreases HIV proviral activity in HIV-nanoLuc CHME-5 microglia
Campbell, LA, Ph.D.1; Richie, C, Ph.D.1; Harvey, BK, Ph.D.1; 1Molecular Mechanisms of Cellular Stress and Inflammation, National Institute on Drug Abuse, Baltimore, MD, 21224 United States.

T9. Mechanisms of cathepsin B / serum amyloid P complex neuronal dysfunction in HIV infection
Cantres-Rosario, YM, Ph.D.1; Ogando Vélez, A1; Plaud, M, MS1; Goranta, S, Ph.D.1; Melendez, LM, Ph.D.1; 1Microbiology and Medical Zoology Department, University of Puerto Rico, Medical Sciences Campus, San Juan, PR, 00935 United States. 2NeuroID Program, University of Puerto Rico, Rio Piedras Campus, San Juan, PR, 00935 United States. 3Durham Research Center, University of Nebraska Medical Center, Omaha, NE, 68198-5880 United States.

T10. Critical role of NLRP3 inflammasome in cocaine-mediated activation of microglia: Implications in exacerbated neuroinflammation in HAND
Chivero, ET, Ph.D.1; Periyasamy, P, Ph.D.1; Callen, S, BS1; Guo, ML, Ph.D.1; Buch, S, Ph.D.1; 1Pharmacology & Experimental Neuroscience, UNMC, Omaha, NE, 68198 United States.
T11. HIV-1 alters expression of gap junctions and adherens junctions in human brain pericytes
Cho, HJ, Ph.D., Toborek, M, MD, Ph.D., 1Department of Biochemistry and Molecular Biology, University of Miami Miller School of Medicine, Miami, FL, 33136 United States.

T12. Nef Expression in Astrocytes Promotes Astrogliosis and Synaptic Dysfunction
Cruz, ML, Cintron, K, Rodriguez, Y, Valles, Y, Noel Jr, RJ, Ph.D., 1Department of Basic Sciences, Ponce Health Sciences University-Ponce Research Institute, Ponce, PR, 00717 United States. 2Research - Biology, University of Puerto Rico - Ponce, Ponce, PR, 00717 United States.

T13. Selection of gRNAs to target the HIV-1 quasispecies with CRISPR/cas9
Dampier, W, Nonnemacher, M, Chung, C-H, Allen, A, Sullivan, N, Desimone, M, Pirrone, V, Kercher, K, Passic, S, Williams, J, Wigdahl, B; 1Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, 19102 United States. 2School of Biomedical Engineering and Health Systems, Drexel University, Philadelphia, PA, 19104 United States.

T14. Examining the Role of Cocaine Abuse on HIV-1 Pathogenesis
Dash, C, Ph.D., Pandhare, J, Ph.D., Jennings, R, BS, Berthaud, V, MD, Kalams, S, MD; 1Center for AIDS Health Disparities Research, Meharry Medical College, Nashville, TN, 372 United States. 2Division of Infectious Diseases, Vanderbilt University Medical Center, Nashville, TN, 37235 United States.

T15. Exosomes released from astrocytes in response to morphine and inflammatory cytokines deconstruct synaptic connections through modulation of microRNA cargo
Datta Chaudhuri, A, Ph.D., Wang, S, Ph.D., Khuder, S, Ph.D., Dastgheyb, R, Ph.D., Trout, A, Ph.D., Yoo, S, Ph.D., Talbot, C, Ph.D., Hao, H, Ph.D., Haughey, N, Ph.D.; 1Department of Neurology, Richard T Johnson Division of Neuroimmunology and Neurological Infections, Johns Hopkins University School of Medicine, Baltimore, MD, 21287 United States. 2Sanders-Brown Center of Aging, University of Kentucky, Lexington, KY, 40536 United States. 3Institute of Basic Biomedical Sciences, Johns Hopkins University School of Medicine, Baltimore, MD, 21287 United States.

T16. CRISPR/Cas9 mediated activation of astrocytic glutamate transporter, EAAT2 gene
Datta, PK, Ph.D., Shekarabi, M, Ph.D., Deshmanc, S, Ph.D.; 1Neuroscience, Lewis Katz School of Medicine, Philadelphia, PA, 19140 United States.

T17. TGF-beta signaling in BMPR2 under-expressing hyper-proliferative smooth muscle cells exposed to cocaine and HIV-protein(s).
Dhillon, NK, Dalvi, P, Konstantinova, T, Sanderson, M, O'Brien-Ladner, A; 1Department of Internal Medicine, University of Kansas Medical Center, Kansas City, KS, 66160 United States.

T18. Transport of acute-phase isoforms of serum amyloid A across the blood-brain barrier
Erickson, MA, Ph.D., Rhea, EM, Ph.D., Salameh, TS, Ph.D., Fernandez, EG, BS, Banks, WA, MD; 1Geriatric Research, Education and Clinical Center, VA Medical Center, Seattle, WA, 98108 United States.

T19. Triggering receptor expressed on myeloid cells 2 levels are altered in the brain during HIV-associated neurocognitive disorders
Fields, JA, Ph.D., Spencer, B, Ph.D., Martin, E, Ph.D., Alexeeva, A, BS, Gough, S, Flores, T, Achim, C, MD, Ph.D., Desplats, P, Ph.D.; 1Department of Psychiatry, University of California, San Diego, San Diego, CA, 93093 United States.

T20. Mass Spectrometry and Single Cell Imaging Flow Cytometry as screening tools to detect H3 and H4 post-translational modifications after acute and chronic alcohol exposure of human monocyte-derived dendritic cells (MDDC)
Figueroa, G, BS, Parira, T, MS, Casteloire, G, Alejandra, L, Gomez-Hernandez, M, Ph.D., Fernandez-Lima, F, Ph.D., Nair, M, Ph.D., Agudelo, M, Ph.D.; 1Herbert Wertheim College of Medicine, Florida International University (FIU), Miami, FL, 33199 United States. 2Department of Chemistry and Biochemistry, FIU, Miami, FL, 33199 United States.

T21. Interferon-beta decreases macrophage heme oxygenase-1 expression: role in HIV neuropathogenesis
T22. Notch3/VEGF-A axis is involved in proliferation of pulmonary artery smooth muscle: implications in HIV-associated PAH
Guo, ML, Ph.D., Kook, YH, MS, Callen, S, BS, Buch, S, Ph.D.; Pharmacology & Experimental Neuroscience, University of Nebraska Medical Center, Omaha, NE, 68198 United States.

T23. Regulation of Programmed Cell Death Protein 1 (PD-1)/Programmed Death-Ligand 1 (PD-L1) in HIV-1 infection, and Therapeutic Prevention
Haounah, James, Ph.D., Mishra, Vikas, Ph.D., Schuetz, Heather, BS; Department of Biomedical Engineering, New Jersey Institute of Technology, Newark, NJ, 07102 United States.

T24. Inhibition of extracellular vesicle biogenesis halts productive Zika virus infection in human fetal astrocytes
Huang, Y., Ph.D., Li, Y., Zhang, H., Jing, R., Xu, Y., Zhao, R., He, M., Peer, J., Zheng, J.; Department of Pharmacology & Experimental Neuroscience, University of Nebraska Medical Center, Omaha, NE, 68198-5930 United States.

T25. Establishment of CRISPR/Cas9 stable astrocytes for gene-editing study for HIV eradication
Huang, Z, Ph.D., Nair, M, Ph.D.; Immunology Department, Florida International University, Miami, FL, 33199 United States.

T26. Role of de-acidified endolysosome in antiretroviral drug-induced amyloidogenesis
Hui, L, MD, Ph.D., Lakpa, L, BS, Geiger, J.D, Ph.D.; Department of Biomedical Sciences, University of North Dakota, School of Medicine & Health Science, Grand Forks, ND, 58203 United States.

T27. Novel E2F1 splice variants in the Rat CNS
Jackson, DP, Ph.D., Ting, JH, Ph.D., Schleidt, S, BS, Lymberopoulos, J, BS, Jordan-Sciutto, K, Ph.D.; School of Dental Medicine, University of Pennsylvania, Philadelphia, PA, 19128 United States.

T28. Effects of HIV-1 Tat within the Go/No-Go Task using a Transgenic Mouse Model

T29. FDC-TFH Interactions within CNS Draining Cervical Lymph Nodes of SIV-Infected Rhesus Macaques
Jain, P., Dave, R.S., Sharma, R.K., Muir, R.R., Haddad, E., Gumber, S., Villinger, F., Nehra, A., Khan, Z.K., Wighdahl, B., Ansari, A., Byrareddy, S.; Department of Microbiology and Immunology, and the Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, 19129 United States. Advanced Eye Center, Post Graduate Institute of Medical Education and Research, Chandigarh, Chandigarh, 160 012 India. Division of Infectious Disease and HIV Medicine, Department of Medicine, Drexel University College of Medicine, Philadelphia, PA, 19102 United States. Department of Pathology & Laboratory Medicine, School of Medicine and Emory Vaccine Center, Emory University, Atlanta, GA, 30322 United States. New Iberia Research Center, University of Louisiana at Lafayette, New Iberia, LA, 70560 United States. Department of Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, Omaha, NE, 68198 United States.

T30. Development and Delivery of Intranasal Cas9/gRNA Aerosol Nanoformulation to Eradicate Latent HIV-1 in CNS
Jayvant, R.D., Ph.D., Kaushik, A, Ph.D., Yndart, A, MS, Chand, H, Ph.D., Raghavan, V, Ph.D., Labhasetwar, V, Ph.D., Kuehl, P, Ph.D., Khalill, K, Ph.D., Nair, M, Ph.D.; Center for Personalized Nanomedicine, Institute of NeuroImmune Pharmacology, Dept. of Immunology, Herbert Wertheim College of Medicine, Florida International University, Miami, FL, 33199 United States. Dept. of Biomedical Engineering, Lerner Research Institute, Cleveland Clinic, Cleveland, OH, 44195 United States. Dept. of Biomedical Engineering, Lovelace Biomedical and Environmental Research Institute, Albuquerque, NM, 87108 United States. Dept. of Neuroscience, Lewis Katz School of Medicine, Temple University, Philadelphia, PA, 19140 United States.

T31. Cannabidiol (CBD) induces functional CD4+CD25+FOXP3+ Tregs in response to low level T cell activation
Kaplan, BLF, Ph.D., Dhital, S, Ph.D., Stokes, JV, MS, Park, N, Ph.D., Seo, KS, Ph.D.; Department of Basic Sciences, College of Veterinary Medicine, Mississippi State University, Mississippi State, MS, 39762 United States.
32. Chronic morphine administration facilitates EcoHIV-induced neurocognitive impairments in mice

33. APOE isoform-dependently affects Tat-mediated HIV-1 LTR transactivation in astrocytes
Khan, Nabab, Ph.D.; 1Department of Basic sciences, School of Medicine and Health Sciences, Grand Forks, ND, 58203 United States.

34. HTLV-1 infection and neuropathogenesis in the context of Rag1-/-γc-/- (RAG1) and BLT mice
Khan, Z.K.; Ginwala, R.; Caruso, B.; Chew, G.M.; Pattek, A.; Corley, M.J.; Loonawat, R.; Jacobson, S.; Sreedhar, S.; Ndhlovu, L.C.; Jain, P.; 1Department of Microbiology and Immunology, and the Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, 19129 United States. 2Department of Microbiology, Immunology and Pathology, Colorado State University, Fort Collins, CO, 80523 United States. 3Viral Immunology Section, Neuroimmunology Branch, National Institutes of Health, Bethesda, MD, 20892 United States.

35. Loss of TH-phenotype in the substantia nigra but not ventral tegmental following HIV-Tat exposure
Khoshbouei, Habibeh, MD, Ph.D.; 1Department of Neuroscience, University of Florida, Gainesville, FL, 32605 United States.

36. Impaired Insulin Sensitivity Indicates Worsening Cognitive Function in HIV-infected Patients
Khuder, S., Ph.D.; Kim, S., Ph.D.; Letendre, S., MD.; Marcotte, I., MD.; Saktor, N., MD.; McArthur, J.C., MD.; Dickens, A.M., Ph.D.; Haughey, N.J., Ph.D.; 1Department of Neurology, The Johns Hopkins University School of Medicine, Baltimore, MD, 21287 United States. 2HIV Neurobehavioral Research Program and Department of Psychiatry, School of Medicine, University of California, San Diego, La Jolla, CA, 92093 United States.

37. Role of CXCR4 in a rat model of cocaine seeking behaviors
Kim, J.K., Ph.D.; Unterwald, EM, Ph.D.; Ramirez, SH, Ph.D.; Razmpour, R.; Meissler, J.J.; Connelly, K.L.; Doura, MD; Ph.D.; Eisenstein, TK, Ph.D.; Rawls, SM, Ph.D.; 1Center for Substance Abuse Research, Lewis Katz School of Medicine at Temple University, Philadelphia, PA, 19140 United States.

38. Cigarette Smoke Condensate (CSC) alters the characteristics of monocyte-derived exosomes and differentially regulates exosomal antioxidant enzymes.
Kumar, S., Ph.D.; Sinha, N., BS; Midde, NM, Ph.D.; Haque, S., MS; Kashanchi, F., Ph.D.; 1Pharmaceutical Sciences, University of Tennessee Health Science Center, Memphis, TN, 38163 United States. 2National Center for Biodefense and Infectious Diseases, George Mason University, Manassas, VA, 20110 United States.

39. The involvement of the endocannabinoid system in HIV-induced amyloid-beta pathology
Leda, AR, Ph.D.; Andras, IE, MD; Toborek, M, MD, Ph.D.; 1Department of Biochemistry and Molecular Biology, University of Miami Miller School of Medicine, Miami, FL, 33136 United States.

40. The potential effects of abnormal β-Amyloid aggregation on HIV-related cognitive disorder in aged rats
Li, H.L., MD, Ph.D.; Likins, B, MS; Mactutus, CF, Ph.D.; Chang, SL, Ph.D.; Booze, RM, Ph.D.; 1Department of Psychology, University of South Carolina, Columbia, SC, 29208 United States. 2Institute of NeuroImmune Pharmacology and Department of Biological Sciences, Seton Hall University, South Orange, NJ, 07079 United States.

41. Methamphetamine compromises TLR3-mediated antiviral response of astrocytes via induction of autophagy
Li, Jieliang; Wang, X, Ph.D.; Zhou, RH, MS; Ho, WZ, MD, M.Ph.; 1Jieliang Li, Temple University, Philadelphia, PA, 19140 United States.

42. Emodin Inhibits HIV-1 Infection of Macrophages through the JAK-STAT Pathway
Luo, F.; Wang, XK; Wang, H.; Shi, JC; Zheng, WJ; Xiong, HR; Feng, Y.; Wang, X; Ho, WZ; Hou, W; 1State Key Laboratory of Virology, Institute of Medical Virology, School of Basic Medical Sciences, Wuhan University, Wuhan, Hubei, 430071 China. 2Department of Pathology and Laboratory Medicine, Temple University Lewis Katz School of Medicine, Philadelphia, PA, 19140 United States.
T43. Human transplanted astrocytes into NSG-HuPBMCs mice demonstrate astrocyte-initiated HIV spread from the brain to other tissues
Lutgen, V., Ph.D.1, Narasipura, S.D., Ph.D.1, Richards, M., Ph.D.1, Robinson, K., BS1, Al-Harthi, L., Ph.D.1; 1Immunology/Microbiology, Rush University Medical Center, Chicago, IL, 60612 United States.

T44. Human Immunodeficiency Virus infection compromises the inositol phosphate metabolism in astrocytes: Role in survival of HIV CNS reservoirs
Malik, S, Ph.D.1, Eugenin, EA, Ph.D.1; 1Public Health Research Institute, New Jersey Medical School-Rutgers University, Newark, NJ, 07103 United States.

T45. Compromised intestinal barrier function by opioids accelerates HIV disease progression
Meng, J, Ph.D.2, Banerjee, S, Ph.D.2, Zhang, L, MS1, Sindberg, G, Ph.D.1, Buch, S, Ph.D.2, Segura, B, MD, Ph.D.4, Bauman, B, MD4, Roy, S, Ph.D.2; 1Department of Pharmacology, University of Minnesota, Minneapolis, MN, 55455 United States. 2Department of Surgery, University of Miami, Miami, FL, 33442 United States. 3Department of Pharmacology and Experimental Neuroscience, Nebraska Medical Center, Omaha, NE, 68198 United States. 4Department of Surgery, University of Minnesota, Minneapolis, MN, 55455 United States.

T46. Assessment of hepatic clearance, CYP3A4 inhibition, and cellular pharmacokinetics of darunavir in the presence of alcohol
Midde, NM, Ph.D.1, Gong, Y, MS1, Li, J, MS2, Li, W, Ph.D.2, Meibohm, B, Ph.D.1, Kumar, S, Ph.D.1; 1Pharmaceutical Sciences, University of Tennessee Health Science Center, Memphis, TN, 38163 United States. 2Shanghai Key Laboratory of New Drug Design, East China University of Science and Technology, Shanghai, Shanghai, 200237 China.

T47. Oncostatin M is a potential therapeutic target in HIV-associated neuronal excitotoxicity
Moidunny, S., Ph.D.1, Matos, M., Ph.D.2, Wesseling, E., MS1, Banerjee, S., Ph.D.1, Volsky, D.J., Ph.D.1, Cunha, R.A., Ph.D.2, Agostinho, P., Ph.D.2, Boddeke, H.W., Ph.D.3, Roy, S., Ph.D.1; 1Department of Surgery, Miller School of Medicine, University of Miami, Miami, FL, 33136 United States. 2Center for Neuroscience of Coimbra, University of Coimbra, Coimbra, Coimbra, 3004-517 Portugal. 3Department of Neuroscience, University Medical Center Groningen, University of Groningen, Groningen, Groningen, 9713GZ Netherlands.

T48. SDG Mediated HO-1 Induction and Partial Inhibition of Viral Replication in HIV-infected Human Macrophages
Nieves-Rosado, H, BS1, Williams, K.S., Ph.D.1, Pu, S, BS1, Jordan-Sciutto, K, Ph.D.1; 1Pathology, University of Pennsylvania, Philadelphia, PA, 19104 United States.

T49. Nanoelectroporation of magneto-electric nanoparticles as drug nano-carriers into the brain cells
Nikkhah-Moshajie, Roozbeh, Ph.D.1, Kaushik, A, Ph.D.1, Sinha, R, MS2, Bhardwaj, V, Ph.D.3, Atturi, V, Ph.D.1, Jayant, R.D., Ph.D.1, Yndart, A, MS1, Pala, N, Ph.D.2, Nair, M, Ph.D.1; 1Florida International University, Herbert Werthem College of Medicine, Department of Immunology, Miami, FL, 33199 United States. 2Florida International University, College of Engineering and Computing, Department of Electrical and Computing Engineering, Miami, FL, 33174 United States. 3Rutgers University, Department of Biomedical Engineering, Piscataway, NJ, 08854 United States.

T50. Alcohol influences HAND via astrocyte-TLR4 and cPLA2 cross-talk
Pandey, R, Ph.D.1, Ghorpade, A, Ph.D.1; 1Institute of Molecular Medicine, University of North Texas Health Science Center, FORT WORTH, TX, 76107 United States.

T51. HIV and methamphetamine-induced brain oxidative stress is mediated by reduced level of Mn-superoxide dismutase (SOD2)
Park, M, Ph.D.2, Leda, A, Ph.D.1, Barral, E1, Cambow, D1, Levine, H1, Toborek, M, MD, Ph.D.1; 1Biochemistry and Molecular Biology, University of Miami School of Medicine, Miami, FL, 33136 United States.

T52. Co-expression pattern analyses of immune checkpoint receptors and ligands on T cells and dendritic cells from HTLV-1 infected individuals and humanized mice
Pattekar, A., Ph.D.1, Ginwala, R., Khan, Z.K., Chew, G.M.; 2, Charlins, P., Akkina, R., Caruso, B., Jacobson, S., Ndhlovu, L., Jain, P.; 1Department of Microbiology and Immunology, and the Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, 19129 United States. 2Department of Tropical Medicine, Medical Microbiology and Pharmacology, University of Hawaii, Honolulu, HI, 96813 United States. 3Department of Microbiology, Immunology and Pathology, Colorado State University, Fort Collins, CO, 80523 United States.
T53. HIV-1 TAT-mediated epigenetic downregulation of miR-124 promotes microglial activation via MeCP2-STAT3 axis
Periyasamy, Palkamy, Ph.D.1, Guo, Ming-Lei, Ph.D.1, Buch, Shilpa, Ph.D.1; 1Department of Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, Omaha, NE, 68198 United States.

T54. IFN-induced transmembrane (IFTM) protein mediates restricted HIV entry in astrocytes.
Pilakka Kanthikeel, S, Ph.D.1, Sagar, V, Ph.D.1, Ghasemloian, J, BS1, Nair, M, Ph.D.1; 1Department of Immunology, Florida International University, Miami, FL, 33199 United States.

T55. Cannabinoids modulate cytokine profiles within HIV-1-infected individuals in the Drexel Medicine CARES Cohort
Pirrone, V1, Dampier, W1, Parikh, N1, Passic, S1, Blakey, B1, Szep, Z1, Jacobson, J1, Nonnemacher, M1, Wigdahl, B1; 1Department of Microbiology and Immunology, Drexel University College of Medicine, Philadelphia, PA, 19102 United States. 2Department of Medicine, Division of Infectious Diseases and HIV Medicine, Drexel University College of Medicine, Philadelphia, PA, 19102 United States. 3Department of Medicine, Section of Infectious Disease, Lewis Katz School of Medicine, Temple University, Philadelphia, PA, 19140 United States.

T56. The blood-brain barrier as a source of extracellular vesicles; emerging concepts in vascular remodeling in neurotrauma, substance abuse and HIV CNS infiltration
Ramirez, SH, Ph.D.1, Lutton, EM, BS1, Rawls, SM, Ph.D.2, Razmpour, R, BS1, Andrews, AM, Ph.D.1; 1Department of Pathology & Laboratory Medicine, The Lewis Katz School of Medicine at Temple University, Philadelphia, PA, 19140 United States. 2Center for Substance Abuse Research, The Lewis Katz School of Medicine at Temple University, Philadelphia, PA, 19140 United States.

T57. Development of a polydrug exosome-based mimetic to treat HIV-associated neuroinflammation/neurotoxicity and opiate abuse.
Raymond, A, Ph.D.1, Brito, D, BS1, Tomitaka, A, Ph.D.1, Lapierre, J, MS1, Yndarta-Arias, A, BS1, El Hage, N, Ph.D.1, Nair, M, Ph.D.1; 1Department of Immunology, Herbert Wertheim College of Medicine Florida International University, Miami, FL, 33199 United States.

T58. Intranasal administration of small interfering (si) RNA Beclin1 encapsulated with linear polyethylenimine (PEI) nano-plexes to attenuate HIV-1 infection in the brain
Rodriguez, M, Ph.D.1, Lapierre, J, MS1, Ojha, C, MS1, Batrakova, E, Ph.D.2, Kashanchi, F, Ph.D.1, Dever, S, Ph.D.1, El Hage, N, Ph.D.1; 1Department of Immunology, Herbert Wertheim College of Medicine, Florida International University, Miami, FL, 33199 United States. 2Center for Nanotechnology in Drug Delivery, Eshelman School of Pharmacy, University of North Carolina, Chapel Hill, NC, 27599 United States. 3Laboratory of Molecular Virology, School of Systems Biology, George Mason University, Manassas, VA, 20110 United States.

T59. NLR-stimuli sensitive ‘smart’ magnetic nanoagent for on demand drug delivery
Sagar, VIDYA, Ph.D.1, Atluri, V.S.R., Ph.D.1, Tomitaka, A, Ph.D.1, Nagasetti, A, Ph.D.1, Vashishit, A, Ph.D.1, Pilakka-Kanthikeel, S, Ph.D.1, El-Hage, N, Ph.D.1, McGoron, A, Ph.D.1, Nair, M, Ph.D.1; 1Vidya Sagar, Florida International University, Miami, FL, 33174 United States.

T60. Methamphetamine and HIV-1/gpl20 protein affect neurotransmitter systems in vivo through lasting changes in CNS gene expression
Sanchez, AB, Ph.D.1, Yuan, NY, Ph.D.1, Maung, R1, Kaul, M, Ph.D.1, TMARC Group, 2; 1Infectious and Inflammatory Disease Center, Sanford Burnham Prebys Discovery Medical Institute, La Jolla, CA, 92037 United States. 2Translational Methamphetamine AIDS Research Center, University of California San Diego, San Diego, CA, 92093 United States.

T61. β-arrestin 2 regulates anti-inflammatory effects of Salmeterol in lipopolysaccharide stimulated BV2 cells
Sharma, Monika, MS1, Flood, Patrick, Ph.D.1; 1Medical Microbiology and Immunology, University of Alberta, Edmonton, Alberta, T6G 2E1 Canada.

T62. Morphine-mediated astrogliosis involves dysregulated autophagy
T63. Methamphetamine increases HIV-1 infectivity in neural stem and progenitor cells
Skowronska, M, Ph.D.; McDonald, M, MS2; Toborek, M, MD, Ph.D.;1 Department of Biochemistry and Molecular Biology, University of Miami Miller School of Medicine, Miami, FL, 33136 United States; 2 Department of Marine Biology, University of Hawai’i at Manoa, Honolulu, HI, 96822 United States.

T64. Kallikrein-kinin system and Type I Interferons in Neurolupus
Sriram, U1; Zuluga-Ramirez, V1; Merkel, SJ1; Winfield, M1; Fernandes, NC1; Gujhat, S1; Gallucci, S2; Persidsky, Y1; 1Department of Pathology and Laboratory Medicine, Temple University Lewis Katz School of Medicine, Philadelphia, PA, 19140 United States; 2 Department of Microbiology and Immunology, Temple University Lewis Katz School of Medicine, Philadelphia, PA, 19140 United States.

T65. Role of TGF-β/Smad signaling pathway in CD8+ T cell function impairment in HIV/AIDS patients
Su, Q J S1, Ph.D.; Xiao, J X, Ph.D.; Lu, Z Z L1, Ph.D.; Shi, D X S1, Ph.D.; Liang, A H L2; 1 Ruikang Hospital, Guangxi University of Chinese Medicine, Nanning, Guangxi, 530011 China; 2 School of Basic Medical Science, Guangxi Medical University, Nanning, Guangxi, 530200 China.

T66. Effects of human dopamine transporter histidine547, tyrosine88 and lysine92 intermolecular interactions on basal and Tat-inhibited dopamine transport
Sun, W L1, Ph.D.; Quizon, PM1, BS; Yuan, Y, Ph.D.; Strauss, M, BS1; McCaın Jr, R, BS1; Zhan, CG, Ph.D.; Zhu, J, MD, Ph.D.;1 Department of Drug Discovery and Biomedical Sciences, University of South Carolina, Columbia, SC, 29208 United States; 2 Molecular Modeling and Biopharmaceutical Center, and Department of Pharmaceutical Sciences, University of Kentucky, Lexington, KY, 40536 United States.

T67. Wnt5a is a neuron-to-astrocyte signal regulating the pathogenesis of HIV-1/AIDS-associated neuropathic pain
Tang, S-J1, Ph.D.; Liu, X., Ph.D.;1 Department of Neuroscience and Cell Biology, University of Texas Medical Branch, Galveston, TX, 77555 United States.

T68. Cocaine-mediated activation of microglia: an implication of defective mitophagy
Thangaraj, Annadurai, Ph.D.; Periyasamy, Palsamy, Ph.D.; Buch, Shilpa, Ph.D.;1 Department of Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, Omaha, NE, 68198 United States.

T69. Cocaine and HIV Upregulate Glycolytic Enzymes and Mitochondrial Biogenesis in Astrocytes
Thangavel, S, Ph.D.; Atluri, VSR, Ph.D.; Nair, M.P, Ph.D.;1 Department of Immunology, Institute of NeuroImmune Pharmacology, College of Medicine, Florida International University, Miami, FL, 33176 United States.

T70. Magneto-plasmonic nanoparticles for image-guided brain targeting with enhanced blood-brain barrier transmigration
Tomitaka, A, Ph.D.;1, Arami, A, Ph.D.;2, Raymond, A, Ph.D.;1, Yndart, A, BS1; Takemura, Y, Ph.D.;2, Toborek, M, MD, Ph.D.;1, Nair, M, Ph.D.;1;1 Department of Immunology, Institute of NeuroImmune Pharmacology, Centre for Personalized Nanomedicine, Herbert Wertheim College of Medicine, Florida International University, Miami, FL, 33199 United States; 2 Molecular Imaging Program at Stanford (MIPS), The James H Clark Center, Stanford University, Stanford, CA, 94305 United States; 3 Department of Electrical and Computer Engineering, Yokohama National University, Yokohama, Kanagawa, 240-8501 Japan.

T71. Development of novel biopolymer based magnetic micro/nano hydrogels for targeted drug delivery and theranostic applications
Vashist, Arti, Ph.D.;1 Kaushik, Ajendra, Ph.D.;1 Atluri, Venkata, Ph.D.;1 Nikkah-Moshaie, Roozbeh, Ph.D.;1 Tomitaka, Asahi, Ph.D.;1, Sagar, Vidya, Ph.D.;1, Nair, Madhavan, Ph.D.;1;1 Center for Personalized Nanomedicine, Institute of NeuroImmune Pharmacology, Department of Immunology, Herbert Wertheim College of Medicine, Florida International University, Miami, FL, 33199 United States.

T72. Epigallocatechin gallate inhibits macaque SEVI-mediated enhancement of SIV or SHIV infection
Wang, X, Ph.D.¹, Zhou, RH, MS², Guo, L, MS², Liu, JB, Ph.D.², Liu, H, MS², Hou, W, MD, Ph.D.², Ho, WZ, MD, M.Ph.¹, Li, JL, Ph.D.¹; ¹Pathology and Laboratory Medicine, Temple University, PHILADELPHIA, PA, 19140 United States.
²School of Basic Medical Sciences/State Key Laboratory of Virology, Wuhan University, Wuhan, Hubei, 430071 China.

T73. HIV and Catecholamine Induced β-Arrestin Inhibits Interferon-γ in Macrophages: Implications for Neurotropic HIV Infection in the Context of Substance Abuse
Williams, DW¹, Askew, L¹, Clements, JE¹; ¹School of Medicine, Johns Hopkins University, Baltimore, MD, 21201 United States.

T74. Induction of the Endogenous Antioxidant Response Pathway by Secoisolariciresinol diglucoside in HIV-infected Human Macrophages
Williams, KS, Ph.D.¹, Pu, S, BS¹, Nieves, H, BS¹, Guerrero, A, BS¹, Jordan-Sciutto, KJ, Ph.D.¹; ¹School of Dental Medicine, University of Pennsylvania, Philadelphia, PA, 19104 United States.

T75. Exploring benefits of Methanandamide: towards developing a nanoformulation to combat against cannabinoids induced effects in HIV patients
Yndart A, AY, BS¹, Kaushik A, KA, Ph.D.¹, Tomitaka A, TA, Ph.D.¹, Tiwari S, TS, MS¹, Agudelo M, AM, Ph.D.¹, Munoz K, MK, MS¹, Nair M, NM, Ph.D.¹; ¹Center for Personalized Nanomedicine, Institute of Neuroimmune Pharmacology, Department of Immunology, Herbert Wertheim College of Medicine, Florida International University, Miami, FL, 33199 United States.

T76. Activation of the transient receptor potential mucolpin-1 receptor restores lysosomal biogenesis in model of HIV-related endolysosomal dysfunction
Yoo, SW, Ph.D.¹, Lisinicchia, J, BS², Lovett, J, BS¹, Gelman, BB, MD, Ph.D.², Haughey, NJ, Ph.D.¹; ¹Department of Neurology, Richard T Johnson Division of Neuroimmunology and Neurological Infections, Johns Hopkins University School of Medicine, Baltimore, MD, 21287 United States. ²Department of Pathology, Neuroscience and Cell Biology, University of Texas Medical Branch, Galveston, TX, 77555 United States.

T77. Limited impact of alcoholism comorbidity in HIV on peripheral cytokine levels
Zahr, N.M., Ph.D.¹, Asok, P., MD¹, Sullivan, E.V., Ph.D.², Pfefferbaum, A., MD¹; ¹Neuroscience, SRI International, Menlo Park, CA, 94025 United States. ²Psychiatry and Behavioral Sciences, Stanford University, Stanford, CA, 94305 United States.

Late Breaking Abstracts

T78. Cocaine and Tat induce a metabolic switch in glucose metabolism in human astrocytes
Natarajaseenivasan, K, Ph.D.¹, Cotto, B, BS¹, Shanmughappriya, S, Ph.D.², Lombardi, A, Ph.D.², Madesh, M, Ph.D.², Elrod, J, Ph.D.², Langford, D, Ph.D.¹; ¹Neuroscience, Temple University School of Medicine, Philadelphia, PA 19140²Center for Translational Medicine, Temple University School of Medicine, Philadelphia, PA 19140.

T79. Dopamine Increases Macrophage Susceptibility to HIV Infection.
Gaskill, PJ, Ph.D.¹; ¹Department of Pharmacology and Physiology, Drexel University College of Medicine, Philadelphia, PA 19012.

T80. Rapid, homogeneous and robust HIV-p24 detection assay using the AlphaLISA™ platform.
Apgar, Carl, M.S.¹, Martin Boissonneault Ph.D.¹, Geneviève Pinard Ph.D¹, Nathalie Rouleau Ph.D.¹, and Martina Bielefeld-Sévigny Ph.D.¹, ¹PerkinElmer, 68 Elm St., Hopkinton, MA 01743

Rescheduled Abstract

T81. Testis-specific lactate dehydrogenase (LDH-C4) expressed in lung cancer may accelerate tumor metastasis to the brain
Wang, Yang, MD, Ph.D.¹, Zhang, Hui, MD¹, Wang, Jing, MD, Ph.D.¹; ¹Department of respiratory and critical care medicine, First affiliated hospital, Zhengzhou University, Zhengzhou, Henan, 450000 China.
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