Program of the 25th SNIP Scientific Conference

Hotel PORTLAND MARRIOTT DOWNTOWN WATERFRONT, Portland, OR, USA

**Wednesday April 10, 2019**

SNIP Council Meeting  10:00 AM – 12:00 PM

Registration for SNIP Meeting Open  2:00 – 8:00 PM

**Satellite Symposium**  12:00 – 6:00 PM

*Unraveling NeuroAIDS in the Presence of Substance Use Disorder*
_**Sponsored and organized by NIH/NIDA**_
_Co-Chairs: Yu (Woody) Lin and Roger Sorensen_

12:00 – 12:10 **Opening Remarks**
NIDA Staff
Yu (Woody) Lin, Ph.D., Program Director, National Institute on Drug Abuse, NIH

12:10 – 12:40 **Neuroimmune Complications and Consequences of HIV Infection Acquired in Persons with SUDs – an overview**
Scott L. Letendre, M.D., Professor of Medicine, Department of Medicine, Division of Infectious Diseases, University of California San Diego (UCSD), CA

12:40 – 1:30 **Attribute of Stimulant Use Disorders in NeuroAIDS**
_HIV immuno-pathogenesis in the presence of disrupted DA system_
Peter Gaskill, Ph.D., Assistant Professor, Department of Pharmacology and Physiology, Drexel University College of Medicine, Philadelphia, PA

_HIV neuro-pathogenesis in the presence of disrupted DA system_
Rosemarie Booze, Ph.D., Professor, Bicentennial Endowed Chair of Behavioral Neuroscience, University of South Carolina, SC

1:30 – 1:55 **Q & A and Panel I Discussion:**
Co-chairs: Rosemarie Booze and Mariana Cherner (UCSD)
Panel members: Scott L. Letendre, Peter Gaskill and Maria C. Marcondes

1:55 – 2:45 **Attribute of Opioid Use Disorder in NeuroAIDS**
_HIV immuno-pathogenesis in the presence of disrupted endogenous opioid system_
Shilpa Buch, Ph.D., Department of Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, NE

_HIV neuro-pathogenesis in the presence of disrupted endogenous opioid system_
Sylvia Fitting, Ph.D., Assistant Professor, University of North Carolina Chapel Hill, Chapel Hill, NC

2:45 – 3:10 **Q & A and Panel II Discussion:**
Co-chairs: Kurt Hauser (VCU) and Shilpa Buch
Panel Members: Sylvia Fitting, Wenzhe Ho (TU) and Jay McLaughlin (UF)

3:10 – 3:25 Break

3:25 – 4:40 Attribute of Cannabis and Tobacco Use Disorder in NeuroAIDS

HIV neuro-pathogenesis in HIV infected tobacco and cannabis smokers
Linda Chang, M.D., Professor, University of Maryland School of Medicine, MD

HIV immuno-pathogenesis in the presence of disrupted nicotinic system
Robert Gross, M.D., Associate Professor, University of Pennsylvania, PA

4:40 – 5:05 Q & A and Panel III Discussion:
Co-chairs: Linda Chang and Johnny He
Panel members: Sylvia Fitting and Robert Gross

5:05 – 5:30 Impact of SUDs on Immune Function
Sulie L. Chang, Ph.D., Professor of Biological Sciences and Director of the Institute of Neurommune Pharmacology, Seton Hall University, South Orange, NJ

5:30 – 6:00 General Discussion:
Co-Chairs: Yu (Woody) Lin and Roger Sorensen

6:00 Satellite Meeting Adjourn

25th Scientific Conference of SNIP Begins

Opening Night Reception & Poster Session (1) 6:00 PM

Sponsored by the Early Career Investigator Award (ECITA) Committee
Posters W01 – W58 will stay up until Thursday's afternoon break

DISC Networking Session 8:00 – 9:30 PM

Sponsored by the Diversity and Inclusion SNIP Committee (DISC)

Thursday April 11, 2019

Breakfast 7:00 – 8:00 AM

President's Welcome 8:00 – 8:10 AM
Dr. Johnny He, Ph. D., Interim Chair & Professor
Microbiology, Immunology & Genetics, University of North Texas Health Science Center, Fort Worth, TX, USA

Presidential Symposium (1) 8:10 – 9:40 AM
Creativity in Research
Co-Chairs: Brian Wigdahl, Ph.D., Drexel Univ. Philadelphia, PA
Sanjay B. Maggirwar, Ph.D., Univ. Rochester, Rochester, NY
Talk 1) **Sanjay Maggirwar**, Ph.D., Univ. of Rochester Medical Center, Rochester, NY
"Creativity in Research: Avoiding the kiss of death"

Talk 2) **Tariq Rana**, Ph.D., Univ. California San Diego, La Jolla, CA
"Epigenetic and Epitranscriptomic Regulation of HIV infection"

Talk 3) **Brandon K. Harvey**, Ph.D., National Institute on Drug Abuse, Baltimore, MD
“Developing molecular tools: Sometimes your control is the interesting part of the experiment”

Talk 4) **Mark Rizzo**, Ph.D., Univ. of Maryland School of Medicine, Baltimore, MD
“Taking inspiration from other fields to tackle problems worth FRETting”

Talk 5) **Carlos A. Paladini**, Ph.D., Univ. of Texas at San Antonio, San Antonio, TX
"Hunting neurons deep in the brain: developing in vivo methods to suit your research questions"

Break (posters available for viewing) 9:40 – 10:00 AM

**Presidential Lecture**
10:00 – 11:00 AM

Introduction: **Dr. Johnny He**, Ph. D., UNTHSC, Fort Worth, TX, USA

**Dr. Antonello Bonci**, M.D., Scientific Director, NIDA, NIH (Currently on sabbatical)
Synaptic Plasticity, Section Chief, NIDA IRP, NIH/NIDA, Baltimore, MD, USA
“From optogenetics to a novel treatment against cocaine abuse”

**Symposium 2**
11:00 – 12:15 PM

**The Biology of Adenosine**
Chair: **Jonathan Geiger**, Ph.D., Univ. North Dakota, Grand Forks, ND

Talk 1) **Anusha Mishra**, OHSU, Portland, OR
“The purinergic system in astrocyte biology and neurovascular coupling.”

Talk 2) **Munjal Acharya**, University of California Irvine, Irvine, CA
"Targeting astrocytic adenosine kinase to remediate radiation-induced brain injury"

Talk 3) **Ursula Sandau**, OHSU, Portland, OR
“Transient use of a systemic adenosine kinase inhibitor attenuates epilepsy development in mice”

**Meet the Mentors Luncheon**
12:15 – 2:00 PM

*Sponsored by the Early Career Investigator Committee*

**Additional Council Meeting** (Planning of next conference) 12:15 – 2:00 PM

**Lunch Break** 12:15 – 2:00 PM
Young Investigators Session; ECITA Pre- & Post-Doc Symposium
2:00 – 3:45 PM

Co-Chairs: Gurudutt Pendyala, Ph.D., Univ. of Nebraska Med. Ctr., Omaha, NE, Sylvia Fitting, Ph.D., University of North Carolina, Chapel Hill, NC, and Michael Nonnemacher, Ph.D., Drexel University, Philadelphia, PA

Part I Predoctoral (5 min presentations)
Talk 1) Michael Ohene-Nyako, Rush University (Napier Lab)
“The blood-brain barrier is dysregulated in the hippocampus of Meth self-administering HIV-1 transgenic rats”

Talk 2) Omalla Allan Olwenyi, University of Nebraska Medical Center (Byrareddy Lab)
“Retinoic Acid (RA) enhances the Recovery of Replication Competent Virus from Latent SIV infected cells by activating α4β7-expressing cells”

Talk 3) Farah Shahjin, University of Nebraska Medical Center (Yelamanchili Lab)
“Role of extracellular vesicles in HIV-1 and methamphetamine induced neurotoxicity”

Talk 4) Hang Liu, Temple University (Ho Lab)
“Changes of TLR3 Signaling Activation during Astroglial Differentiation”

Talk 5) Jamie Marino, Drexel University (Nonnemacher Lab)
“Effect of HIV-1 Tat-induced senescence on astrocytes and BMECs in a blood brain barrier model”

Talk 6) Yuqing Gong, University of Tennessee Health Sciences Center (Kumar Lab)
“Novel elvitegravir nanoformulation for drug delivery across the blood-brain barrier to achieve HIV-1 suppression in the CNS”

Q & A session part I

Part II Postdoctoral (5 min presentations)
Talk 1) Silvia Torices, Ph.D., University of Miami (Toborek Lab)
“HIV alters Occludin-Alix-Cav-1 interactions in human brain vascular pericytes”

Talk 2) Hina Singh, Ph.D., University of California at Riverside (Kaul Lab)
“Effect of IFNAR1 Deficiency on Neuronal and Astrocytic Cell Markers”

Talk 3) Purnima Gupta, Ph.D., Florida International University (Nair Lab)
“Efficacy studies of Magneto-electric nanoparticle bound Cas9/gRNA/Naltrexone to treat opioid addiction and neuroAIDS”

Talk 4) Stephanie Matt, Ph.D., Drexel University (Gaskill Lab)
“Role of dopamine-mediated conformational changes of CCR5 in HIV infection of macrophages”

Talk 5) Andrew Atkins, Ph.D., Drexel University (Wigdahl Lab)
“Validation of in silico predictions for gRNA specificity targeting HIV-1 proviral sequences using unbiased detection of CRISPR/Cas9 cleavage events”
**Q & A session part II**

Break / Poster mounting **T01-T58 for Poster Session (2)** 3:45 – 4:00 PM

**NIH Workshop on Research Priorities & Grant Writing** 4:00 – 5:00 PM

Participants:
- **Dr. Yu (Woody) Lin**, M.D., Ph.D., NIDA, NIH, Bethesda, MD, USA
- **Dr. Vasudev Rao**, Ph.D., NIMH, NIH, Bethesda, MD, USA
- **Dr. Rao Rapaka**, Ph.D., NIDA, NIH, Bethesda, MD, USA

**Poster Session (2)** 5:00 – 8:30 PM

**Posters T01-T58**

**Friday April 12, 2019**

**Breakfast & Perkin Elmer presentation** 7:00 – 8:00 AM

**Symposium 3** 8:00 – 9:30 AM

**Glia, Toxins & Drugs of Abuse** (in collaboration with the **Neurotoxicity Society**)

Chair: **Italo Mocchetti**, Ph. D., Georgetown University, Washington, DC

Talk 1) **Gilles J Guillemin**, Ph.D., Macquarie University, NSW, AUS
“Glia, tryptophan metabolism and neurodegenerative diseases “

Talk 2) **Jean Harry**, Ph.D., NIH/NIEHS, RTP, NC
“Modulatory ability of toxicants to shift regulatory processes of microglia and neuroinflammation“

Talk 3) **Julie K. Andersen**, Ph.D., The Buck Institute, Novato, CA
“Senolytics as novel potential therapeutics for Alzheimer’s and Parkinson’s disease”

Talk 4) **Eliseo Eugenin**, Ph.D., University of Texas Medical Branch, Galveston, TX
“Role of Glial cells in the pathogenesis of NeuroHIV”

Talk 5) **Kathleen Maguire-Zeiss**, Ph. D., Georgetown University Med Ctr, Washington, DC
“Aberrant proteins incite a complex glial inflammatory response”

**2nd Adarsh Kumar Lecture – (DISC Lecture)** 9:30 – 10:30 AM

Introduction: **Dr. Kelly Jordan-Scuitto**, Ph.D., Univ. of Pennsylvania, Philadelphia, PA

**Dr. Susan Amara**, Ph.D., Scientific Director, NIH/NIMH, Bethesda, MD, USA
“Neurotransmitter transporters & the cellular mechanisms of amphetamines: a presynaptic perspective”

Break 10:30 – 10:45 AM
Symposium 4  
**Blood-Brain Barrier Dysregulation Due to Drugs of Abuse and Pathogens**  
Co-chairs: **Dionna Williams**, Ph.D., John Hopkins University, Baltimore, MD  
**Howard E. Gendelman**, M.D., University of Nebraska Medical Center, Omaha, NE

Talk 1) **Jorge Alvarez**, Ph.D., Univ. of Pennsylvania, Philadelphia, PA  
“The blood meningeal barrier orchestrates the development of neuroinflammatory responses”

Talk 2) **MaryPeace McRae**, Pharm.D., Ph.D., Virginia Commonwealth Univ, Richmond, VA  
“Opiates and HIV-1 perturb the cellular/regional biodistribution of antiretrovirals in the brain by disrupting the blood-brain barrier and efflux transporter function”

Talk 3) **Michal Toborek**, Ph.D., University of Miami, Miami, FL  
“Pericytes and BBB in substance abuse”

Talk 4) **Richard Daneman**, Ph.D., University of California, San Diego, CA  
“Regulation of the Blood-Brain Barrier in Health and Disease”

Lunch (on your own)  
1:00 PM

Exploration of Portland and surroundings  
Afternoon

**Saturday April 13, 2019**

Breakfast  
7:00 – 8:00 AM

Symposium 5  
**Addiction, Genetics and Neuroimmune Signaling**  
Chair: **Tamara Phillips**, Ph.D., VA Portland Health Care System, Research and Development Service, Portland, OR; Department of Behavioral Neuroscience, Portland Alcohol Research Center, and Methamphetamine Abuse Research Center, Oregon Health & Science University, Portland, OR

Talk 1) **Kathleen Grant**, Ph.D. Oregon National Primate Research Center, OHSU, OR  
“Immunoreactive Effects of Long-Term Voluntary Ethanol Consumption in Non-Human Primates”

Talk 2) **Robert Hitzemann**, Ph.D. OHSU, Portland, OR  
“Genetic Findings from Mouse to Macaque to Man: Neuroimmune Function and Excessive Ethanol Consumption”

Talk 3) **William Hoffman**, M.D., Ph.D., VA Portland Health Care System, OHSU, Portland, OR  
“The Relationship Between Interleukin-6 and Functional Connectivity in Methamphetamine Users”

Talk 4) **Jennifer Loftis**, Ph.D., VA Portland Health Care System, OHSU, Portland, OR  
“A Potential Neuroimmune-Based Treatment for Methamphetamine Addiction”

Break  
9:40 – 10:00 AM
Bill Narayan Memorial Lecture  
10:00 – 11:00 AM
  
Introduction: **Howard Fox**, M.D., Ph.D., Univ. of Nebraska Medical Center, Omaha, NE

**Dr. Scott W. Wong**, Ph.D., Vaccine and Gene Therapy Institute & Oregon Health & Science University, Portland, OR, USA
“Herpesvirus- and lentivirus-mediated neuroinflammation in the non-human primate”

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**Symposium 6**  
11:00 – 12:30 PM

**Exosomes in Neuronal Infections and Drugs Abuse**

Co-Chairs: **Santosh Kumar**, Ph. D., UTHSC, Memphis, TN  
**Ling Cao**, M.D., Ph.D., University of New England, Biddeford, ME

Talk 1) **Elena V Batrakova**, Ph.D., UNC, Chapel Hill, NC
“Macrophage-derived extracellular vesicles target inflamed brain and deliver therapeutic proteins for treatment of neurodegenerative disorders”

Talk 2) **Servio Ramirez**, PhD, Temple University, Philadelphia, PA
“Extracellular vesicles: Mediators and biomarkers of pathology along CNS barriers”

Talk 3) **Santosh Kumar**, Ph. D., UTHSC, Memphis, TN
“Circulating plasma exosomal cytochrome P450 and antioxidant enzymes and cellular processes”

Talk 4) **Mikin Patel**, Ph.D.cand., Vanderbilt Univ., Nashville, TN
“Role of exosomes in synapse formation”

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Open Business Meeting / Lunch  
12:30 – 1:30 PM

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**Symposium 7**  
1:30 – 3:30 PM

**SNIP Member Symposium: Neuropharmacology & Neuroimmunology**

Co-Chairs: **Siddappa Byrareddy**, Ph.D., Univ. of Nebraska Med. Ctr., Omaha, NE  
and **Dr. Yu (Woody) Lin**, M.D., Ph.D., NIDA, NIH, Bethesda, MD, USA

Talk 1) **Alejandra Borjabad**, Ph.D., Icahn School of Medicine at Mount Sinai, New York, NY
“Epigenetic Therapy Approach in HIV-mediated Neurocognitive Impairment in Mice”

Talk 2) **Ernest Chivero**, Ph.D., Univ. of Nebraska Med Ctr., Omaha, NE
“Combinatorial effects of HIV Tat and cocaine-mediated activation of microglial NLRP3: Implications for NeuroHIV”

Talk 3) **Rick Meeker**, Ph.D., University of North Carolina, Chapel Hill, NC
“Neuroprotective and anti-inflammatory properties of the neurotrophin receptor ligand, LM11A-31, in animal models of HIV neuropathogenesis”

Talk 4) **Kimberly Williams**, Ph.D., University of Pennsylvania, Philadelphia, PA
“Suppression of Macrophage-Induced Neurotoxin Production via Estrogen Receptor Signaling”
Talk 5) **Ana Sanchez**, A.B., Ph.D., Univ. California San Diego, La Jolla, CA
“Protease Inhibitors Effects on Vascular Smooth Muscle Cells”

Talk 6) **Jay McLaughlin**, Ph.D., University of Florida, Gainesville, FL
“Microglia-mediated neuroinflammation bidirectionally modulates morphine reward”

Talk 7) **Marina Aksenova**, Ph.D., University of South Carolina, Columbia, SC
“Inhibition of the DEAD Box RNA Helicase 3 prevents HIV-1 Tat- and cocaine-induced neurotoxicity by targeting microglia activation”

Talk 8) **Allison Andrews**, Ph.D., Temple University, Philadelphia, PA
“Characterization of differential monocyte subtype responses in cocaine-induced neuroinflammation”

Break 3:30 – 4:00 PM

**Symposium 8** 4:00 – 5:30 PM

**Systemic Mechanisms of Neuroimmune Communication & Glymphatics**

Co-Chair: **Michelle Erickson**, Ph.D., UW, Seattle, WA
**Kelly Jordan-Sciutto**, Ph.D., UPenn, Philadelphia, PA

Talk 1) **William Banks**, Ph.D., UW, Seattle, WA
“The Neuroimmune Axes of the Blood-brain Barrier”

Talk 2) **Jeffrey Iliff**, Ph.D., OHSU, Portland, OR
“Glymphatic and meningeal lymphatic function in health and disease”

Talk 3) **Yisel Cantres-Rosario**, Ph.D., Univ. PR, San Juan, PR
“Macrophage cathepsins as mediators of HAND”

Talk 4) **Michelle Erickson**, Ph.D., UW, Seattle, WA
“Systemic mechanisms of neuroimmune communication from the lungs: implications for Alzheimer's disease and depression”

Break 5:30 – 7:00 PM

**Banquet** 7:00 – 10:00 PM

Opening by SNIP President of 2019 Scientific Conference, **Dr. Johnny He**, Ph. D., Interim Chair & Professor, Microbiology, Immunology & Genetics, University of North Texas Health Science Center, Fort Worth, TX, USA, and transfer of SNIP presidency.

Banquet and Award Ceremony hosted by the next SNIP president, **Dr. Sulie L. Chang**, Ph.D., Professor of Biological Sciences and Director of the Institute of Neuromune Pharmacology, Seton Hall University, South Orange, NJ

Announcement, Adjournment of Conference