KAHLERT INSTITUTE *for* Addiction Medicine

From Discovery to Recovery

2025 RESEARCH SYMPOSIUM & POSTER SESSION

Wednesday, May 28 | 8 a.m. – 3: 30 p.m.
SMC Campus Center, University of Maryland, Baltimore

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KAHLERT INSTITUTE FOR
ADDICTION MEDICINE

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Kahlert Institute for Addiction Medicine

SYMPOSIUM PROGRAM

8:00 – 8:40 a.m. **BREAKFAST & REGISTRATION**

POSTER SETUP & EARLY VIEWING (ROOM 349)

8:45 – 9:25 a.m. **INTRODUCTION & OPENING REMARKS** (ELM A)

Kelly Dunn, PhD, MBA
Director, Kahlert Institute for Addiction Medicine

Mark T. Gladwin, MD
Dean, University of Maryland School of Medicine
Vice President for Medical Affairs, University of Maryland, Baltimore
John Z. and Akiko K. Bowers Distinguished Professor and Dean

9:30 – 10:30 a.m. **KEYNOTE PRESENTATION** (ELM A)

"Role of the Brain Orexin System in Addiction: Preventing Prescription Opioid Use Disorder"
Gary Aston-Jones, PhD
Director, Rutgers Brain Health Institute
Strongwater Endowed Chair in Neuroscience and Brain Health
Distinguished Professor of Psychiatry, Robert Wood Johnson Medical School

10:40 – 11:30 a.m. **BREAKOUT SESSION**

ELM A

"In vivo recording of central amygdala during drug choice"
Sophia Weber, PhD
Matthew Osborne Fellow, Kahlert Institute for Addiction Medicine

"Modeling of contextual influences on drug use and addiction: A human-research perspective"
David Epstein, PhD
Unit Chief, Real-world Assessment, Prediction, and Treatment Unit, Translational Addiction Medicine Branch, National Institute for Drug Abuse

ELM B

"Prenatal adversity and neurodevelopment: A behavioral and transcriptomic perspective"
Jimmy Olusakin, PhD
Matthew Osborne Fellow, Kahlert Institute for Addiction Medicine

"Craving a Novel Treatment End Point"
Cecilia Bergeria, PhD
Incoming Matthew Osborne Lead Addiction Researcher, Kahlert Institute for Addiction Medicine
Associate Professor, Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine

*SEE **PAGES 13 – 18** FOR SPEAKER BIOGRAPHIES*

SYMPOSIUM PROGRAM

CONTINUED

11:40 a.m. – 12:30 p.m. **LUNCH & DATA BLITZ** (ELM A)

*See **pages 4 – 5** for data blitz titles and presenters*

12:40 – 1:40 p.m. **KEYNOTE PRESENTATION** (ELM A)

"Leveraging Longitudinal and Computational Cognitive Neuroscience Approaches to Advance Addiction Understanding and Treatment"
Anna Konova, PhD
Associate Professor of Psychiatry, Rutgers University
Core Faculty, Rutgers Brain Health Institute and University Behavioral Health Care
Co-Director, Rutgers-Princeton Center for Computational Cognitive Neuro-Psychiatry

1:45 – 3:00 p.m. **POSTER SESSION & NETWORKING** (ROOM 349)

*See **pages 6 – 12** for poster titles and presenters*

3:00 – 3:30 p.m. **POSTER AWARDS & CLOSING REMARKS** (ROOM 349)

*See **page 12** for award description*

DATA BLITZ PRESENTATIONS

IN ORDER OF APPEARANCE

Exploring the Placental Methylome: Identifying Genetic Markers for Severe Neonatal Opioid Withdrawal Syndrome

Fatemeh Abdollahy Biroon

Socioeconomic Status and Economic Hardship Attenuated the Associations Between Early Tobacco or Nicotine Use and Brain Outcomes in Preadolescent Children

Pedro Rodriguez Rivera

A Multidimensional Model of the Opioid Withdrawal Syndrome in Male and Female Rats

Bryan Jenkins

Role of Central Amygdala Protein Kinase C, Corticotropin-Releasing Factor, and Somatostatin Neurons in Opioid-Related Mice Behavior

Lucas Silva Tortorelli

Distinct Prelimbic Cortex Ensembles Encode Response Execution and Inhibition

Rajtarun Madangopal

DATA BLITZ PRESENTATIONS

CONTINUED

WisePath: A Therapeutic App to Address Teen Substance Use

Cindy Schaeffer

Regulation of Metabolism-Related Gene Expression by Cocaine Self-Administration in Mouse Nucleus Accumbens Circuits

Cali Calarco

Acute Effects of Oral Nicotine Pouches and the Influence of Nicotine Dose and Flavor: A Clinical Laboratory Study

Joseph Ciancio

Ethanol Interacts With BDNF-TrkB Signaling in the Nucleus Accumbens to Mediate Ethanol Reward

Chloe Schaefgen

The Role of Olfaction in Drug Choice and Incubation of Craving

Kim Papastrat

POSTER PRESENTATIONS

IN ORDER OF APPEARANCE

(1) **Exposure Heterosexism-Based Stress Elicits Drug Craving Among Sexual Minority Young Adults**

Ethan Mereish

(2) **Geographic and Social Inequities in the Distribution of U.S. Mental Health and Substance Use Treatment Facilities**

Hasan Mirzoyev

(3) **Religion and Spirituality in Recovery: Enhancing Hope Through Faith for Black Americans**

Grace James Onuma

(4) **Increasing Care for Perinatal Populations Impacted by Addiction: Maryland Addiction Consultation Service MOMs Initiative**

Leeza Zavelsky

(5) **CJ-PRISM: Understanding the Impact of Criminolegal System Involvement on a Peer-Delivered Behavioral Activation Intervention to Improve Polysubstance Use and Retention in Mobile Telemedicine Opioid Use Disorder Treatment in an Underserved, Rural Area**

Bradley Murphy

(6) **Effect of Oxycodone-Methamphetamine Combinations on Drug Demand and Opioid Withdrawal**

Jess Harbaugh

(7) **A Comparative Multi-Omic and Spatial Atlas for the Effects of Opioids and Stimulant Drugs in the Ventral Striatum of Humans, Macaques, Rats, and Mice**

Brian Herb

(8) **Does Polysubstance Use in Pregnancy Impact Perinatal Outcomes?**

Ai Alexa Tarui

POSTER PRESENTATIONS
CONTINUED

(9) **Evaluation of Cannabidiol as an Opioid-Sparing Medication in Persons Experiencing Capsaicin-Induced Pain**

Colin Myers

(10) **Evaluating Detection Methods for Impairments from Oral Cannabis, Alcohol, and Their Combination**

Madeleine Wasko

(11) **Disynaptic Circuit Control of Inflexible Alcohol Behaviors**

Eliza Douglass

(12) **Individual Differences in Model-Based, Model-Free, and Exploration Parameters Contribute to Decision-Making and Predict Ethanol Self-Administration in Animal Models**

Colin Johnston

(13) **Chronic Ethanol Exposure Degrades Perineuronal Nets and Induces GABAergic Synapse Elimination in the Dorsolateral Striatum**

Allison Siclair

(14) **Chronic Alcohol Exposure Dysregulates a Claustro-Cortical Cognitive Control Circuitry**

Andreas Wulff

(15) **Gut Microbiome Composition Differs Between Individuals With AUD and Controls and is Affected by Minocycline**

Carolyn Doty

(16) **Effect of Developmental THC Exposure on the Neonatal Amygdala and Juvenile Social Play Behavior in Rats**

Christie Dionisos

POSTER PRESENTATIONS
CONTINUED

(17) **Characterizing the Direct Activity of THC at the Androgen Receptor**

Neema Moin Afshar

(18) **Behavioral and Neurobiological Consequences of Chronic Vaporized Tetrahydrocannabinol (THC) Self-Administration in Rats**

Catherine Moore

(19) **The Effect of Vaporized & Oral, Tetrahydrocannabinol Vs Tetrahydrocannabinol on Pharmacokinetics & Pharmacodynamics in Healthy Adults**

Emma Salazar

(20) **Characterizing Vaporized and Smoked Puff Topography Among Adult Cannabis Users**

Kriti Rastogi

(21) **Effect of Nicotine Dose and Dose Expectancy on Puff- and Bout-Level Analysis of Smoking Topography**

Zachary Pierce-Messick

(22) **Preliminary Characterization of the Behavioral and Physiological Effects of E-Cigarette Withdrawal**

Raina Runk

(23) **Novel Regulation of the Dopamine Transporter by Cocaine-Induced Autophagy**

America Bustos Segura

(24) **Using Flow Cytometry of Synaptoneurosomes (FCS) to Identify Synaptic Ensembles**

F. Javier Rubio

POSTER PRESENTATIONS
CONTINUED

(25) **Molecular Profiling of Cocaine Relapse Ensembles to Inform Drug Repurposing Strategies**

Katherine Savell

(26) **Kratom Use in the Context of Addiction Treatment**

Jack Henningfield

(27) **Recruiting individuals in Jail for a Randomized Controlled Trial of Long-Acting Injectable Medications**

Emily Lamison

(28) **Intervening to Reduce the Impacts of Internalized Stigma Among People Using Medication Treatments for Opioid Use Disorder**

Melanie Bennett

(29) **Comparing Patterns of Hepatitis C Events by Initial Treatment for Opioid Use Disorder Among Medicaid Enrollees**

Uzma Pathan

(30) **Association Between Opioid Use Disorder (OUD) Treatment Modalities and Opioid-Related Hospitalizations Among Older Medicare Beneficiaries, 2010-2019**

John Rizk

(31) **Sleep Architecture and Opioid Withdrawal Symptomatology: Effects of Suvorexant, a Dual Orexin Receptor Antagonist**

Neha Skandan

(32) **Elevated Rate of Intentional Overdose in Individuals with Opioid Use Disorder**

Max Spaderna

POSTER PRESENTATIONS
CONTINUED

(33) **Examining the Relationship Between Drug Demand, Craving, and Withdrawal During a Buprenorphine Taper**

Dhathri Srungaram

(34) **Investigating Placental Inflammatory Cytokines in Opioid-Exposed Pregnancies**

Makeda Turner

(35) **Examining Depressive Symptoms in the Relationship between Adverse Childhood Experiences and Opioid Use Disorder in a National Survey**

Katja Schmid-Doyle

(36) **Effects of Fentanyl on the Development and Functional Activity of Human iPSC-Derived Striatal Neurons**

Bareera Qamar

(37) **The Impact of Perinatal Fentanyl Exposure on Dopamine Circuitry and Behavior**

Jessica McInerney

(38) **Fentanyl Reinforcement History Has Sex-Specific Effects on Multi-Step Decision-Making**

Eric Garr

(39) **Effects of Fentanyl on VTA Dopamine Neurons and in Opioid Associative Learning Using Conditioned Place Preference in Mice**

Krystal Flores-Felix

(40) **Dose-Enhancing Placebo Effect in a Rat Model of Buprenorphine Maintenance Treatment**

Emma Pilz

POSTER PRESENTATIONS
CONTINUED

(41) **Erroneous LAI Buprenorphine Administration to a Patient on High-Dose Methadone and Fentanyl**

Sina Navazi

(42) **Atlas and Transcriptional Signatures of Ventral Pallidum in Forced Abstinence Heroin Self-Administration Model Across Acute and Distal Time Points**

Benjamin Grissom

(43) **A Novel Procedure to Identify Persistent and Effort-Independent Individual Differences in Preference for Heroin Over Rewarding Social Interaction**

Alana Sullivan

(44) **The Impact of Opioid Withdrawal on Volitional Social Interactions in Rats**

Nana Baidoo

(45) **Profiling CGRP Activity in the Parabrachial Nucleus Following Opioid Withdrawal in Mice**

Isaiah Williamson

(46) **Behavioral Measure of Endogenous Opioid Activity as a Predictor of Opioid Response in Healthy Human Subjects**

Natalia Rincon

(47) **Emotional Response is a Stronger Predictor of Objective Response to a Painful Stimulus Than Opioid Exposure**

Kirkland Sugrim

(48) **The Role of Claustrum in Incubation of Opioid Seeking After Electric Barrier-Induced Voluntary Abstinence in Male and Female Rats**

Mona Pishgar

POSTER PRESENTATIONS

CONTINUED

(49) **Low Sensitivity and Specificity and High-False Negative Rates for Xylazine Test Strips Compared to Quantitative Analyses**

Emma Pattillo

(50) **Xylazine Exposure and Association With Early Withdrawal Symptoms in People With Opioid Use Disorder**

Alec Zhang

(51) **A Cerebellar-Thalamic Projection Mediating Social Craving**

Zhengyi Huang

(52) **Social Isolation Induced Behavioral and Immune Changes**

Amanda Pacheco-Spiewak

PRESENTING AUTHORS LISTED

POSTER AWARDS

The Kahlert Institute for Addiction Medicine's 2025 Research Symposium & Poster Session "Rising Star" awards will be given to two early-career investigators with outstanding poster presentations. The committee will select winners based on scientific and/or clinical impact of the research, innovation, and effective presentation and science communication skills. Awardees will be recognized at the Symposium and receive a commemorative plaque.

To be eligible, individuals must participate in the Symposium and present in person for the duration of the poster session. Early career researchers at all levels – undergraduate and graduate students, post-baccalaureate researchers and research staff, and postdoctoral fellows – will be considered.

SPEAKER BIOGRAPHIES

GARY ASTON-JONES, PHD

KEYNOTE PRESENTER

Gary Aston-Jones is the inaugural Director of the Brain Health Institute at Rutgers University, the Strongwater Endowed Chair in Neuroscience and Brain Health and a Distinguished Professor of Psychiatry at Robert Wood Johnson Medical School. He earned his PhD from Cal Tech, and he was a Postdoc at the Salk Institute with Floyd Bloom.

Dr. Aston-Jones uses neurophysiology, neuroanatomy, optogenetics, chemogenetics and behavioral economics methods in animals to study neural mechanisms of motivated behavior. He was first to describe a role for the brain noradrenergic locus coeruleus system in arousal, decision and behavioral flexibility, as well as first to identify a role for orexin/hypocretin neurons in motivation and addiction.

Dr. Aston-Jones has directed a well-funded lab for more than 30 years, chaired the NMB study section, received a MERIT award from NIDA and is a Fellow of the AAAS and ACNP. He has been a keynote speaker at many national and international meetings, was Deputy Editor-in-Chief for the journal Brain Research for 10 years and is the inaugural Editor-in-Chief of the journal Addiction Neuroscience. He has published over 250 articles, and he has trained 54 postdoctoral fellows and 22 PhD students.

SPEAKER BIOGRAPHIES

ANNA KONOVA, PHD

KEYNOTE PRESENTER

Dr. Anna Konova is an Associate Professor of Psychiatry (starting July 2025) at Rutgers University, Core Faculty in the Brain Health Institute and University Behavioral Health Care (the statewide behavioral health service delivery system run by Rutgers) and Co-Director of the Rutgers-Princeton Center for Computational Cognitive Neuro-Psychiatry (CCNP). Dr. Konova's work focuses on risk and resilience factors in addiction escalation, recovery and treatment. This work combines neuroimaging, computational modeling, and cognitive paradigms to examine how motivated learning and decision making is shaped by contextual and emotional influences that give rise to addictive behavior. Of particular interest are behavioral and neuroimaging markers that can directly inform clinical care and she has most recently approached these questions using intensive longitudinal designs in real-world clinical settings.

See more at her lab website: www.konovalab.com.

SPEAKER BIOGRAPHIES

SOPHIA WEBER, PHD

BREAKOUT PRESENTER & MATTHEW OSBORNE FELLOW

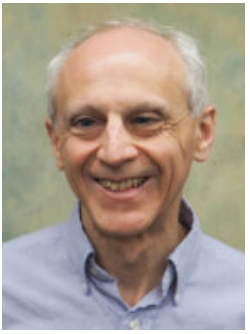
Sophia Weber joined the Venniro Lab as a postdoctoral fellow in July of 2024. Dr. Weber graduated from University of Washington in 2017 with a BS in Biology. During her undergraduate career she worked as first a volunteer then a lab technician in Dr. Jeremy Clark's lab investigating the effect of adolescent alcohol exposure on adult decision making. After graduation, she started a postbaccalaureate internship in the NIDA IRP program, working in the lab of Dr. Bruce Hope assisting postdoctoral fellow Rajtarun Madangopal on his various projects that sought to selectively study and manipulate active neurons during drug related behaviors. Dr. Weber then joined the Behavior and Systems Neuroscience graduate program at Oregon Health & Science University. She worked in the lab of Dr. Marina Wolf investigating the role of dopamine in the incubation of cocaine craving using fiber photometry and behavioral pharmacology. She received her PhD in June of 2024.

Dr. Weber's long-term research interest is in how the brain encodes learning at the synaptic as well as systems level, particularly maladaptive learning that leads to substance use disorder, using translationally relevant preclinical models. In Dr. Venniro's lab, Dr. Weber will pair her experience in in vivo recording with Dr. Venniro's social volitional abstinence model, in which rodents choose to abstain from drugs of abuse in favor of social interaction, to investigate how alternative rewards alter drug seeking and underlying circuits.

SPEAKER BIOGRAPHIES

DAVID EPSTEIN, PHD

BREAKOUT PRESENTER



David Epstein received his doctorate in Biopsychology & Behavioral Neuroscience from the Psychology Department at Rutgers University in 1998. Since then, he has conducted human research at the National Institute on Drug Abuse in Baltimore, where he is a tenure-track investigator. He leads a research group called RAPT: the "Real-world Assessment, Prediction, and Treatment" unit. While overseeing clinical trials of contingency management in the early 2000s, he forged strong ties with colleagues who were developing animal models of components of addiction, and those ties led to bidirectional-translation projects and highly cited commentaries. He also worked with colleagues who study addiction from the perspectives of sociology, phenomenology, philosophy, and ethics. These multidirectional connections, across the life sciences and social sciences, informed Dr. Epstein's core work: real-time, field-based logging of mood and behavior via ecological momentary assessment (EMA). His publications number almost 200 and have been cited over 12,000 times. These publications include the first large-scale deployment of EMA in people who use heroin and cocaine, and more recently the first EMA study of people who use the legal drug kratom (nonmedically, but not always problematically). He is preparing a program of studies on boredom and what he calls its opposites (such as curiosity and psychological richness) as risk/protective factors and mobile-intervention targets for people who use cannabis.

SPEAKER BIOGRAPHIES

JIMMY OLUSAKIN, PHD

BREAKOUT PRESENTER & MATTHEW OSBORNE FELLOW

Jimmy Olusakin is a postdoctoral fellow in the Department of Neurobiology at the University of Maryland School of Medicine, investigating the molecular and behavioral consequences of early-life adversity, including prenatal stress and in utero substance exposure. His research integrates behavioral assays, region-specific transcriptomic profiling, and circuit-based techniques to uncover how these developmental insults shape prefrontal and reward-related brain circuits, with the goal of identifying testable targets for intervention.

Dr. Olusakin earned his PhD in Neuroscience from Sorbonne Université (UPMC) in Paris as an ENP/LaBex fellow under the mentorship of Dr. Patricia Gaspar. His doctoral thesis focused on serotonergic regulation of prefrontal cortex development and revealed critical windows during which SSRI exposure alters emotional circuitry and behavior via 5-HT7 receptor signaling.

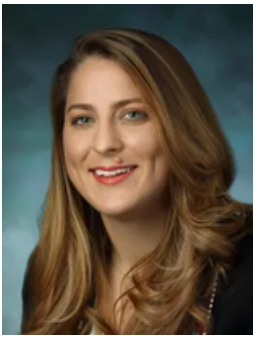
At UMSOM, his current work in Dr. Mary Kay Lobo's lab includes defining sex-specific transcriptional responses to perinatal fentanyl exposure in reward and brain areas and developing a dual-hit rodent model of chronic maternal stress and THC exposure that recapitulates psychosocial adversity.

He has led capacity-building workshops in Africa and remain engaged in trainee development. His long-term goal is to lead a multidisciplinary research program that advances mechanistic understanding of early-life adversity and neurodevelopmental vulnerability.

SPEAKER BIOGRAPHIES

CECILIA BERGERIA, PHD

BREAKOUT PRESENTER & INCOMING MATTHEW OSBORNE LEAD ADDICTION RESEARCHER



Cecilia Bergeria, PhD, is an Associate Professor in the Behavioral Pharmacology Research Unit at Johns Hopkins University School of Medicine. An expert in opioid use disorder, her research focuses on the measurement, mechanisms, and treatment of opioid craving and withdrawal using human laboratory models, qualitative methods and randomized clinical trials.

Dr. Bergeria is the principal investigator on several grants from NIDA, FDA, ACTTION, the Cure Addiction Now Foundation, and industry sponsors, with much of her work aimed at developing an FDA-qualified Patient Reported Outcome Drug Development Tool for opioid craving.

She serves as Member at Large for APA Division 28, is on the Board of Directors for the College on Problems of Drug Dependence and is on the editorial boards of *Experimental and Clinical Psychopharmacology* and *Drug and Alcohol Review*. Dr. Bergeria has recently accepted a position as an Associate Professor at the Kahlert Institute for Addiction Medicine as the Matthew Osborne Lead Addiction Researcher. She is looking forward to collaborating with the team of exemplary addiction scientists and advancing evidence-based interventions to support long-term recovery for individuals with substance use disorders.

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