PLENARY SPEAKERS of the
RSA 46TH ANNUAL SCIENTIFIC MEETING
June 24-28, 2023

MONDAY, JUNE 26

8:00am–8:45am **Plenary Session I – RSA Distinguished Researcher Awardee – 2023**

UNDERSTANDING THE INTERPLAY BETWEEN THE EPIGENOME AND GENOME TO COMBAT ALCOHOL USE DISORDER

Subhash C. Pandey, Ph.D., Center for Alcohol Research in Epigenetics, Dept. of Psychiatry, University of Illinois at Chicago & Jesse Brown VA Medical Center Chicago, IL 60612

Presentation: Acute ethanol produces anxiolysis, but anxiety that appears during withdrawal, is crucial in driving alcohol use disorder (AUD). Using RNA-seq and ATAC-seq, we found that chromatin accessibility and transcriptomic changes in the amygdala are associated with acute ethanol-induced anxiolysis. RNA-seq data identified histone deacetylase 2 (HDAC2) as a critical epigenetic hub regulator of gene network pathways and inhibition of HDAC2 in the central amygdala prevented molecular and behavioral changes during withdrawal after chronic ethanol exposure. Additionally, adolescent alcohol exposure causes long lasting epigenetic reprogramming due to changes in several epigenetic targets and regulates gene expression related to synaptic events in the adult amygdala that are associated with phenotypes of anxiety and alcohol intake. Targeted epigenomic editing of selected genomic regions prevented anxiety and alcohol intake. Some of these findings have also been corroborated in human post-mortem amygdala of AUD subjects. Together, these studies identified several potential treatment modalities for AUD.

Bio: Dr. Subhash Pandey is a Joseph A. Flaherty MD, Endowed Professor of Psychiatry and Director of the Alcohol Research Center at the University of Illinois at Chicago. He is also a Senior Research Career Scientist at the Jesse Brown VA Medical Center in Chicago. He is well known for his scientific contributions towards elucidating the molecular and cellular mechanisms of AUD. Dr. Pandey has received a multitude of honors and awards, and notably, he has been consistently funded by the NIH-NIAAA since 1996 and by the Department of Veterans Affairs (VA) since 1999.

TUESDAY, JUNE 27
8:00am-8:45am **Plenary Session II – INVITED**

BEYOND MAGIC BULLETS: WHITE RACIALIZATION AS SOCIAL DETERMINANT OF THE OPIOID CRISIS

Helena Hansen, M.D., Ph.D., Professor and Interim Chair, Department of Psychiatry and Biobehavioral Sciences, David Geffen School of Medicine at UCLA and Interim Director, Semel Institute for Neuroscience and Human Behavior, Los Angeles, CA

Presentation: This talk examines the ways that the "opioid crisis" of the past two decades came to be seen as white. Based on over a decade of interviews and participant observation in the field of addiction medicine that has evolved in tandem with the marketing of Oxycontin, it reviews several "technologies of whiteness" - neuroscience, new biotechnology development, regulation and marketing - that explain the racial symbolism and demographics of opioids. It ends with a glimpse of alternatives to racial capitalism as the foundation for US healthcare.

Bio: Dr. Hansen, a psychiatrist-anthropologist, is the interim chair of the Department of Psychiatry and Biobehavioral Sciences and interim director of the UCLA Semel Institute for Neuroscience and Human Behavior at UCLA. She is the author of *Whiteout: How Racial Capitalism Changed the Color of Opioids in America (*UC Press 2023)*, Addicted to Christ: Remaking Men in Puerto Rican Pentecostal Drug Ministries* (UC Press 2018), is editor of *Structural Competency in Mental Health and Medicine: a Case Based Approach to Treating the Social Determinants of Health* (Springer 2019).

WEDNESDAY, JUNE 28

8:00am–8:25am **Plenary Session III - RSA Early Career Investigator Awardee – 2022**

THE MODERN ERA OF ALCOHOL GENETICS

Sandra Sanchez-Roige, Ph.D., Associate Professor at the Department of Psychiatry at the University of California San Diego (UCSD), and the Department of Medicine, Division of Genetic Medicine at Vanderbilt University Medical Center (VUMC).

Presentation: Decades of family and twin studies have indisputably established that alcohol use disorders have a familial and heritable component. With the advent of genome-wide association studies, our understanding of the genetic factors influencing alcohol use and misuse has progressed tremendously; hundreds of loci have now been implicated in different aspects of alcohol use, and the list is expanding each year. These risk loci are shared across other psychiatric and even somatic disorders. Such findings demonstrate that our clinical nosology does not align with the underlying biology (as it is often said, “the genes have not read the DSM”) and suggest new ways to define and potentially treat alcohol use disorders. These discoveries have been propelled by several key advances. Perhaps the most important one was the development of “team science” through the formation of large consortia efforts. But we have only seen the tip of the iceberg. New tools, longitudinal and diverse datasets are needed to shed new light on disease psychopathology. The advent of single-cell transcriptomics and other -omics, the availability of new tools for functional and imaging genomics, and the development of methods that account for how genetic variants interact with environmental factors, will provide new windows into the biology of alcohol use disorders possibly sooner than we realize.

Bio: Dr. Sandra Sanchez-Roige has been working in the area of human addiction genetics for over 7 years, and animal addiction genetics for a decade. Her work is focused on understanding causal factors contributing to alcohol and substance use disorders and diseases characterized by high levels of impulsivity. In the past, she used behavioral and pharmacological experiments and molecular analysis to address this question, with special emphasis on translational validity to human studies. Her current research focuses on the quantitative analysis of complex traits in humans, and translating some of the research findings in mouse and rat models. More recently, she uses big data and high-throughput phenotyping to identify individuals with substance use disorders phenotyped by using electronic health records.

WEDNESDAY, JUNE 28

8:30am–8:55am **Plenary Session IV - RSA Early Career Investigator Awardee – 2022**

RELIEF ON TAP: CHARACTERIZING ALCOHOL'S ANALGESIC EFFECTS

Jeff Boissoneault, Ph.D., Associate Professor in the Department of Anesthesiology at the University of Minnesota, Minneapolis, MN

Presentation: Pain and alcohol use are reciprocally related. Chronic heavy alcohol use increases risk for chronic pain. In addition, approximately 25% of people with pain report at least occasionally managing their pain by consuming alcohol, increasing risk for alcohol use disorder and alcohol-related consequences. Although laboratory studies in humans using quantitative sensory testing (QST) consistently find that alcohol intake results in increased pain threshold, decreased pain intensity, and perception of pain relief, biopsychosocial mechanisms underlying these effects of alcohol remain poorly understood. In this presentation, I will share results from several recent experimental studies of the acute effects of alcohol intake on pain using psychophysical, neuroimaging, and behavioral approaches in individuals both with and without chronic pain.

Bio: Jeff Boissoneault is currently an Associate Professor in the Department of Anesthesiology at the University of Minnesota. He completed his doctoral training in cognitive and behavioral neuroscience at the University of Florida in 2012 and a postdoctoral fellowship in pain research at the University of Florida Pain Research and Intervention Center of Excellence in 2015. His research focuses on the application of behavioral, psychophysiological, and neuroimaging approaches to the study of pain, alcohol use and their interaction.