BIENNIAL INTERNATIONAL DRUG ALCOHOL RESEARCH SOCIETY

PROGRAM

Recent Advances in Drug Addiction

April 29 – May 3, 2024
Grand Hyatt Rio De Janeiro
Rio De Janeiro, Brazil

Conference Organizers:
Syed Ali, Nick Gilpin, Barbara Juarez, Barbara Mason, Sulie L. Chang, Emmanuel Onaivi, Alex Dopico, Antonio Noronha, and George Koob

Executive Secretary:
Nikki Mullen
The International Drug Alcohol Research Society (IDARS) would like to thank the following organizations for their generous financial support of the meeting:

NIAAA
National Institute on Alcohol Abuse and Alcoholism

Department of Pharmacology, Addiction Sciences and Toxicology, UTHSC, Memphis, TN – Alex Dopico

Eliot Gardner
Sunday, April 28, 2024

REGISTRATION AND WELCOME

3:00 – 6:00 PM
Monday, April 29, 2024

8:00 – 2:00 PM  Registration Desk Open

8:00 – 8:05 AM  Welcome & Opening Remarks in Conference Room
                George Koob

8:05 – 8:10 AM  Travel Award Presentations
                George Koob & Nick Gilpin

8:10 – 9:00 AM  Plenary Lecture I
                Closing the Treatment Gap, and Alcohol Use Disorder Perspective
                George Koob, Director, NIAAA, Baltimore, Maryland, USA
                Moderator: Nick Gilpin, LSU, New Orleans, Louisiana, USA

SESSION I: DRUG AND ALCOHOL EFFECTS ACROSS THE LIFESPAN

Moderators: Tiffany Willis (USA)

9:00 – 9:20 AM  Epigenome-wide association study (EWAS) of cocaine users.
                Rodrigo Grassi-Oliveira, University of Aarhus, DENMARK.

9:20 – 9:40 AM  Binge-drinking during mature adulthood induces behavioral and biochemical indices of cognitive decline in C57BL/6J mice.
                Karen Szumlinski, University of California, Santa Barbara, California, USA

9:40 – 10:00 AM  Early life adversity effects on reward-related behavior and drug intake in developing rats.
                Millie Rincon-Cortes, University of Texas at Dallas, Texas, USA.

10:00 – 10:20 AM  Prenatal alcohol effects on amygdala function and maladaptive behaviors.
                Marvin Diaz, SUNY Binghamton University, New York, USA

10:20 – 10:40 AM  COFFEE/TEA BREAK

SESSION II: TRANSCRIPTIONAL AND EPIGENETIC EFFECTS OF ALCOHOL ON END ORGANS
Moderators:  
Antonio Noronha (USA) and Mohammed Akbar (USA)

10:40 – 11:00:  
Role of Chromatin Modifier Developmental Pluripotency Associated Factor 4 in Mediation of Fetal Alcohol Effects on Neuroendocrine System.  
*Dipak Sarkar*, Rutgers University, USA.

11:00 – 11:20:  
RNA-seq analysis reveals mechanisms underlying binge ethanol-induced differential spleen atrophy in adolescent rats.  
*Sulie Chang*, Seton Hall University, USA.

11:20 – 11:40:  
Adolescent binge drinking disrupts fMRI neuronal networks and cognition through epigenetic priming of neuroimmune signaling and silencing of cholinergic neurons.  
*Fulton Crews*, UNC, USA.

11:40 – 12:00:  
*Subhash Pandey*, University of Illinois-Chicago, USA.

12:00 – 1:30 PM  
LUNCH

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SESSION III: SUBSTANCE ABUSE AND EARLY DEVELOPMENT.

Moderators:  
Anna Bukiya (USA) and Fernando Valenzuela (USA)

1:30 – 1:50 PM  
Fetal cerebral artery mitochondria as a target of maternal alcohol intoxication.  
*Anna Bukiya*, University of Tennessee HSC, USA.

1:50 – 2:10 PM  
Acute exposure to THC alters discrete components of neuromuscular junction transmission in larval zebrafish.  
*Declan Ali*, University of Alberta, CANADA.

2:10 – 2:30 PM  
Effects of prenatal alcohol exposure on behavior in mice with dopamine and microglia cell specific deletion of CB2R.  
*Ana Canseco-Alba*, National Institute of Neurology and Neurosurgery, MEXICO.

2:30 – 2:50 PM  
Effects of developmental alcohol and cannabis exposure on cortical sensory processing.  
*Alex Medina*, University of Maryland, USA.
SESSION IV: FLASH TALKS- STUDENT & POST-DOC.

Moderator: Barbara Juarez, University of Maryland, USA

3:10 – 3:19 PM  Opioid-induced dysbiosis of maternal gut microbiota during gestation alters offspring gut microbiota and pain sensitivity.
Yaa Abu, University of Miami, USA

3:19 – 3:27 PM  Cortical brain areas involved in contextual tolerance to fentanyl in male C57BL/6 mice.
Rosa Serrano, Yale University, USA

Lucas Tortorelli, NIH, USA.

3:36 – 3:45 PM  Neonatal morphine exposure (NME) results in sustained alterations to the gut microbiome contributing to hypersensitivity to thermal pain in adolescence.
Danielle Antoine, University of Miami, USA

Khalin E. Nisbett, NIH, USA

3:54 – 4:03 PM  Binge ethanol exposure in mouse equivalent to third trimester human pregnancy: Impact on neuronal function in the subiculum.
Katalina Lopez, University of New Mexico, USA

4:03 – 3:12 PM  Effect of ketone esters on blood alcohol levels in rats and human.
Janaina Vendruscolo, NIH, USA

4:12 – 4:21 PM  Psilocybin modulation of a cognitive control nucleus.
Maxwell Madden, University of Maryland, USA

4:21 – 4:30 PM  Cell-Type-Specific Analysis of Dopaminoceptive Neurons in Ventral Hippocampus in Cocaine Action.
Veronika Kondev, Mount Sinai University, USA

4:30 – 4:39 PM  Systemic inhibition of mTOR activity does not block the expression of incubated craving for methamphetamine or sucrose.
Fernando Cano, University of California, Santa Barbara, USA
4:39 – 4:48 PM  CCL2 antagonist RS504393 reverses heroin-induced hyperalgesia and place aversion in adult male and female rats.
   Nadia Said, NIH, USA

   Patricia Cavazos-Rehg, Washington University, USA
Tuesday, April 30, 2024

:00 – 2:00 Registration desk open

8:00 – 9:00 AM Plenary Lecture II
Associative and Sensorimotor Basal Ganglia Circuit Roles in Substance Use and Misuse.
David Lovinger, Intramural Scientific Director, NIH/NIAAA, USA

Moderator: Antonio Noronha (USA)

SESSION V: RECENT INSIGHTS ON THE NEUROBIOLOGY OF STRESS EFFECTS ON ALCOHOL- AND COCAINE-RELATED BEHAVIORS.

Moderator: Marcus Weera (USA)

9:00 – 9:20 AM Stress increases voluntary ethanol intake in mice with a history of chronic intermittent ethanol exposure.
Marcelo Lopez, Medical University of South Carolina, USA.

Marcus Weera, Tufts University, USA.

9:40 – 10:00 AM Adult BNST stimulation promotes sex-specific negative affect-like behavior and parabrachial activation in mice with adolescent alcohol history.
Lucas Albrechet-Souza, LSU Health Sciences Center, USA.

10:00 – 10:20 AM Critical role of microglia in stress-induced neuroadaptations in accumbens core and cocaine seeking.
Constanza Garcia-Keller, Medical College of Wisconsin, USA.

10:20 – 10:40 AM COFFEE/TEA BREAK

SESSION VI: EXPLORING MULTILEVEL VULNERABILITIES IN ADDICTION: INSIGHTS AND INNOVATIONS FROM THE COCAINE BIOBANK.

Moderators: Olivier George (USA) and Lieselot Carrette (USA)
10:40 – 11:00 AM  An autophagy-related protein Becn2 regulates cocaine reward behaviors via the brain dopaminergic system.  
Ming Xu, U. of Chicago, USA.

11:00 – 11:20 AM  Identification of gene variants that predict cocaine addiction-like behaviors in heterogeneous stock rats.  
Olivier George, University of California San Diego, USA

11:20 – 11:40 AM  Sex-specific differences in deltaFosB expression promotes neuroadaptation and cocaine self-administration in heterogeneous stock rats.  
Philip Vieira; CSU Dominguez Hills, USA.

11:40 – 12:00 PM  Role of Peli1 expression and microglia activation in cocaine self-administration in heterogeneous stock rats.  
Ming-Lei Guo, Eastern Virginia Medical School, USA.

12:00 – 12:20 PM  Leptin Protects Against the Development and Expression of Cocaine Addiction-Like Behavior in Heterogeneous Stock Rats.  
Lieselot Carrette, University of California San Diego, USA

12:20 – 1:40 PM  LUNCH BREAK

SESSION VII:  THE INTERSECTION OF PAIN-RELATED BEHAVIORS AND SUBSTANCE USE DISORDERS.

Moderators:  Jose Moron-Concepcion (USA)

1:40 - 2:00 PM  Genetic and genomic analysis of mechanisms underlying ethanol-induced analgesia.  
Michael Miles, Virginia Commonwealth University, USA

2:00 - 2:20 PM  Oxytocin effect on hyperalgesia during alcohol dependence in rats.  
Brendan Tunstall, University of Tennessee Health Science Center, USA

2:20 - 2:40 PM  Sex-dependent effect of pain on alcohol drinking behavior in rat models of AUD: role of the CeA-NAc dynorphin projection.  
Lucia Hipolito, University of Valencia, SPAIN

2:40 - 2:50 PM  COFFEE/TEA BREAK
2:50 - 3:10 PM  Dissection of neural circuitry underlying pain-induced aversion leading to abnormal opioid intake.
Nicolas Massaly, University of California, Los Angeles, USA

3:10 – 3:30 PM  Role of sex in pain-induced facilitation of fentanyl intake.
Jose Moron-Concepcion, Washington University, USA

3:30 – 3:50 PM  Elevated dopamine D1/D2 receptor ratio in opioid use disorder recovery.
Peter Manza, NIH, USA

3:50 – 4:10 PM  Dissection of PAG connectivity during osteoarthritis progression for the investigation of potential networks related to opioid addiction.
Joyce da Silva, University of Maryland, USA

4:10 – 5:00 PM  IDARS Business Meeting
Led by Nick Gilpin and Barbara Juarez
Wednesday, May 1, 2024

FREE DAY

CONFERENCE TOUR

NO SCHEDULED CONFERENCE ACTIVITIES
Thursday, May 2, 2024

SESSION VIII: ALCOHOL: FROM GENES TO THE CLINIC.

Moderators: Adolf Pfefferbaum (USA) and Edith Sullivan (USA)

8:20 – 8:40 AM Transcriptomic mechanisms of chronic alcohol exposure.  
Sean Farris, University of Pittsburgh, USA

8:40 – 9:00 AM A role for interleukin-33 in the neuroimmunophysiology of excessive alcohol intake.  
Regina Mangieri, UT-Austin, USA

9:00 – 9:20 AM BK channels enable differential interactions between alcohol and neurosteroids on cerebral artery function.  
Alex Dopico, UTHSC, USA

9:20 – 9:40 AM AUD and aging exert compounded untoward effects on regional thalamic volumes in people living with HIV infection.  
Adolf Pfefferbaum, SRI, USA

9:40 – 10:00 PM COFFEE/TEA BREAK

SESSION IX: TARGETING PEPTIDE RECEPTORS FOR ADDICTION TREATMENT

Moderators: Giordano de Guglielmo (USA) and Roberto Ciccocioppo (ITALY)

10:00 – 10:20 AM Stress effects on kappa opioid receptor responses in dopamine neurons projecting to the dorsal medial prefrontal cortex.  
Elyssa Margolis, University of California, San Francisco, USA

10:20 – 10:40 AM The role of kappa opioid receptor-expressing cells in social defeat stress-escalated alcohol drinking.  
Rajani Maiya, LSU Health Sciences Center, USA

10:40 – 11:00 AM The role of N/OFQ signaling in a rat model of opioid use disorder.  
Giordano de Guglielmo, University of California San Diego, USA
11:00 – 11:20 AM  Coactivation of NOP and classical opioid receptor systems in opioid use disorder.  
Roberto Ciccocioppo, University of Camerino, ITALY.

11:20 – 11:40 AM  Oxytocin signaling in the central amygdala contributes to its therapeutic potential in reducing alcohol consumption.  
Howard Becker, Medical University of South Carolina, USA.

11:40 – 12:00 PM  Hormone control of food versus drug choice behavior.  
Tod Kippin, UCSB, USA.

12:00 – 1:30 PM  LUNCH

SESSION X: CANNABINOIDS AND ENDOCANNABINOIDS

Moderators: Emmanuel Onaivi (USA) and Prakash Nagarkatti (USA)

1:30 - 1:50 PM  Psychiatric Side Effects of the Cannabinoid CB1 Inverse Agonist SR141716 (Rimonabant) were Likely Predictable from Preclinical Animal Models.  
Eliot Gardner, NIH, USA

1:50 - 2:10 PM  Cannabinoid CB2 receptor neuro-immune crosstalk in alcohol induced behavioral effects.  
Emmanuel Onaivi, NIDA-NIH & William Paterson University, USA

2:10 - 2:30 PM  Role of anandamide in the attenuation of acute respiratory distress syndrome through induction of epigenetic pathways and regulation of dysbiosis.  
Mitzi Nagarkatti, University of South Carolina, USA

2:30 - 2:50 PM  Intracellular signaling of SR171416A – A CB1R inverse agonist/anatagonist evoked emesis in least shrew.  
Nissar Darmani, Western University of Health Sciences, USA

2:50 - 3:10 PM  Alcohol induced behavioral and immune perturbations are attenuated by activation of CB2 cannabinoid receptors.  
Aaliyah Roberts, William Paterson University, USA

3:10 – 3:30 PM  Delta-8-tetrahydrocannabinol Attenuates Experimental Multiple Sclerosis Through Modulation of Gut Microbiota  
Prakash Nagarkatti, University of South Carolina, USA

3:30 - 3:40 PM  COFFEE/TEA BREAK
**SESSION XI: CORTICAL CIRCUIT CONTROL OF COGNITION AND ACTION IN ADDICTION.**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter</th>
<th>Institution</th>
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</thead>
<tbody>
<tr>
<td>3:40 – 4:00 PM</td>
<td>Transcranial magnetic stimulation of human PFC effects on behavioral outcomes in AUD patients</td>
<td><em>Abraham Zangen</em></td>
<td><em>Ben Gurion University, ISRAEL</em></td>
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<tr>
<td>4:00 – 4:20 PM</td>
<td>Decoding Neuropeptide S Modulation of OFC-mediated Reward Seeking in an Oral Fentanyl Self Administration Task.</td>
<td><em>Kasey Girven</em></td>
<td><em>University of Washington, USA</em></td>
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<tr>
<td>4:20 – 4:40 PM</td>
<td>Chronic alcohol drinking effects on PFC circuits in non-human primates.</td>
<td><em>Virginia Cuzon-Carlson</em></td>
<td><em>Oregon Health &amp; Science University, USA</em></td>
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<tr>
<td>4:40 – 5:00 PM</td>
<td>Alcohol drinking is governed by anterior cingulate cortex-dependent arousal.</td>
<td><em>Rafiq Huda</em></td>
<td><em>Rutgers University, USA</em></td>
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Friday, May 3, 2024

SESSION XII: ALCOHOL AND OPIOIDS: OVERDOSE, STRESS, AND TREATMENT.

Moderators: Leandro Vendruscolo (USA) and Mohammed Akbar (USA)

8:40 - 9:00 AM Understanding Fentanyl Lethality: Respiratory Depression and Potential Biomarkers of Addiction-like Behaviors. Renata Marchette, NIDA, NIH, USA.

9:00 - 9:20 AM The role of central amygdala astrocytes in ethanol dependence. Judson Chandler; MUSC, USA

9:20 - 9:40 AM The Stress of Addiction: Dysregulation of Psycho-neuro-endocrine Systems in Alcohol and Opioid Dependence Leandro Vendruscolo, NIDA, NIH, USA

9:40 – 10:00 AM A Proof-of-Concept Human Laboratory Study of a Selective Glucocorticoid Antagonist for Alcohol Use Disorder. Barbara Mason, Scripps, USA.

10:00 - 10:20 AM KNX100: A Novel Clinical-Stage Small Molecule Showing Potential for Treating Opioid and Alcohol Use Disorders. Michael Bowen, University of Sydney, AUSTRALIA

10:20 – 10:40 AM COFFEE/TEA BREAK

SESSION XIII: CELLULAR CROSSTALK IN HIV AND DRUG ABUSE-MEDIATED INFLAMMATION

Moderators: Shilpa Buch (USA) and Sabita Roy (USA)

10:40 – 11:00 AM HIV and opiate-mediated AD and senescence in astrocytes. Shilpa Buch. University of Nebraska, USA

11:00 – 11:20 AM HIV and Drugs of Abuse-Mediated Neuroinflammation: Role of miRNAs and inflammasomes. Palsamy Periyasamy, University of Nebraska, USA

11:20 – 11:40 AM Neuroinflammatory overload in methamphetamine misuse and HIV infection.
**Michael Toborek, University of Miami, USA**

11:40 – 12:00 AM  
Single cell RNA sequencing of mouse amygdala under opioid dependent and withdrawal states.  
*Sabita Roy, University of Miami, USA*

12:00 – 12:20 PM  
Lung and brain injury by alcohol and e-cigarettes: Common mechanisms and role of extracellular vesicles in organ crosstalk.  
*Yuri Persidsky, Temple University, USA*

12:20 – 12:30 PM  
CLOSING COMMENTS & DISCUSSION  
*George Koob, IDARS President*

12:30 – 2:00 PM  
LUNCH

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2:00 PM  
CONFERENCE DISMISSED