NIAAA DIRECTOR'S REPORT ON INSTITUTE ACTIVITIES TO THE 167TH MEETING OF THE NATIONAL ADVISORY COUNCIL ON ALCOHOL ABUSE AND ALCOHOLISM

SEPTEMBER 12, 2024
HYBRID MEETING

George F. Koob, Ph.D.

Director

National Institute on Alcohol Abuse and Alcoholism

National Institutes of Health

https://www.niaaa.nih.gov/about-niaaa/advisory-council





INSTITUTE & NIH UPDATES



Dr. George Breese was the John R. Andrews
Distinguished Professor at the Bowles Center for
Alcohol Studies at the University of North
Carolina School of Medicine.

Dr. Breese led seminal studies on the neurochemical and neuroanatomical basis of increased stress emerging from repeated withdrawal from chronic alcohol exposure. Particularly seminal was his work showing an involvement of corticotropin-releasing factor in the central amygdala in the stress responses associated with repeated alcohol withdrawals. Dr. Breese also made important scientific contributions in understanding the role of neuroimmune signaling in alcohol withdrawalinduced stress.

His passion for science was remarkable, and his work will continue to inspire the field.



Dr. Klaus A. Miczek was the Moses Hunt Professor of Psychology, Psychiatry, Pharmacology, and Neuroscience, and served as one of the directors of the Neuroscience Research Center at Tufts University.

His research focused on psychopharmacological and brain mechanisms of aggression, anxiety, social stress, and misuse of alcohol and other substances.

Dr. Miczek received numerous honors, including the Solvay Duphar Award from the American Psychological Association and a MERIT award from NIAAA. Dr. Miczek was a beloved colleague and highly esteemed scientist who left a lasting impact on the neuropsychopharmacology field.



Dr. Daniel E. Rio was a Senior Scientist/Research Physicist in the Section of Brain Electrophysiology and Imaging of the Laboratory of Clinical Studies at NIAAA.

Dan made important scientific contributions in neuroimaging data models and analyses. After departing NIAAA, Dan taught courses in Applied Biomedical Engineering at Johns Hopkins Whiting School of Engineering.

He was known as a brilliant, kind, and patient instructor, and many students are lucky to have benefitted from his commitment to teaching.



Dr. Kenneth Warren was appointed NIAAA Deputy Director in 2008 and served as NIAAA Acting Director from 2008 to 2014. Following 41 years of Federal service, Dr. Warren retired in 2015, after which he continued to serve as a Special Advisor to the NIAAA Director until 2018.

Dr. Warren was a foremost research expert on fetal alcohol spectrum disorders. He was the lead author on the first U.S. government advisory on alcohol and pregnancy in 1977 and helped lead the first Surgeon General's warning on the issue in 1981.

He received numerous honors, including the Lifetime Achievement Award from the Research Society on Alcohol. He was known as an exceptionally smart, kind, and gentle man, and was a wonderful mentor, friend, and colleague.

Budget

- NIAAA is closing out FY 2024 for which NIAAA received a total of \$595.3 million, including a \$1.8 million AIDS transfer.
- The FY 2025 appropriation for NIH and NIAAA has not yet been finalized at this time.

Senior Staff Announcement



Alicia Caffi joined the NIAAA Financial Management Branch as the new Budget Officer.

Her career with the NIH spans more than 19 years working in budget offices of multiple Institutes and Centers.

Ms. Caffi joins NIAAA after serving as the Deputy Budget Officer for the National Human Genome Research Institute. Prior to that position, she

served as the Deputy Budget Officer at the National Institute of Mental Health, the Budget Officer at the Center for Scientific Review, and a Budget Analyst at the NIH Clinical Center.

New Collaboration with NIDCD: National Smell and Taste Center

In July, the National Institute on Deafness and Other Communication Disorders (NIDCD) launched the National Smell and Taste Center (NSTC), a new NIH-wide effort to improve the health and quality of life of individuals affected by these sensory disorders.

- NSTC was formed through collaborations among several NIH research laboratories and clinics to address the need to expand work in smell and taste research—a need that captured national attention during the COVID-19 pandemic.
- This center is led by NIDCD clinical director, Dr. Josh Levy, and NIAAA Section of Sensory Science and Metabolism Chief, Dr. Paule Joseph.



NIAAA's Data Archive

- In 2019, NIAAA established the <u>NIAAA Data Archive</u>. The archive is housed within the National Institute of Mental Health Data Archive and provides a repository for data generated through NIAAA-funded studies in humans.
- This growing archive contains data from over 400 collections representing more than 55,000 research participants.
- Datasets are now available from the National Consortium on Alcohol and Neurodevelopment in Adolescence (NCANDA) as well as from human studies supported through the R21 funding mechanism.
- Questions? Email at NIAAADataArchiveHelp@mail.nih.gov



nda.nih.gov/niaaa

NIAAA Funding Opportunities

(See Director's Report for Complete Listing)

 Specialized Alcohol Research Centers (P50), and Comprehensive Alcohol Research Centers (P60): The overall purpose of the NIAAA Alcohol Research Center program is to provide leadership in conducting and fostering interdisciplinary, collaborative research on a wide variety of topics relevant to the NIAAA mission. These topics include, but are not limited to, etiology, diagnosis, epidemiology, treatment, and prevention of alcohol misuse, AUD, and alcoholrelated end organ diseases, as well as the related biomedical, psychosocial, and economic consequences across the lifespan and across racial/ethnic groups and other health disparity populations. Centers also are regional or national resources that contribute to the development of new research methods, technologies and approaches that sustain innovative goal-directed research. A Plan for Enhancing Diverse Perspectives (PEDP) is required. RFA-AA-24-007 (P50) and RFA-AA-24-008 (P60), Contacts: Greg Bloss, Drs. Li Lin, Qi-Ying Liu, Kathy Jung, Antonio Noronha, Mariela Shirley

Advancing Diversity, Equity, Inclusion, and Accessibility (DEIA) in Alcohol Research

- NIAAA is participating in the Maximizing Opportunities for Scientific and Academic Independent Careers (MOSAIC) Postdoctoral Career Transition Award to Promote Diversity (K99/R00 - Independent Basic Experimental Studies with Humans Required (BESH)), PAR-24-227, (K99/R00 - Independent Clinical Trial Required), PAR-24-226, (K99/R00 Independent Clinical Trial Not Allowed), PAR-24-225.
- Over 20 NIH Institutes and Centers, including NIAAA, will host the 2024 NIH Diversity Supplement Professional Development and Networking Workshop on September 24-25, 2024. This event will bring together diversity supplement scholars conducting research on a variety of IC mission areas, to receive critical NIH resources as well as participate in networking and professional development sessions on a number of research and career-related topics.

What's Ahead



2024 NIDA-NIAAA MINI-CONVENTION

FRONTIERS IN ADDICTION RESEARCH









October 4, 2024 • Marriott Marquis Chicago

Scientific Sessions

- 1. Psychedelics and Empathogens for Treatment of Alcohol and Substance Use Disorders
- 2. GLP-1 Receptor Agonists for the Treatment of Substance Use Disorders
- 3. Habenula as an Anti-Addictive Circuit Hub

For more information: https://apps1.seiservices.com/nida-niaaa/frontiers/Default.aspx

Coming Soon: Native Communities - Alcohol Intervention Review (NativeAIR)

- NIAAA is facilitating the development of a new web resource to assist Native leaders, educators, and health professionals in identifying effective, scientifically evaluated alcohol interventions for their communities.
- NativeAIR will provide information on the:
 - Prevention of alcohol misuse
 - Treatment of alcohol use disorder
 - Prevention of fetal alcohol spectrum disorders
- NativeAIR will be available on NIAAA's website later this year.





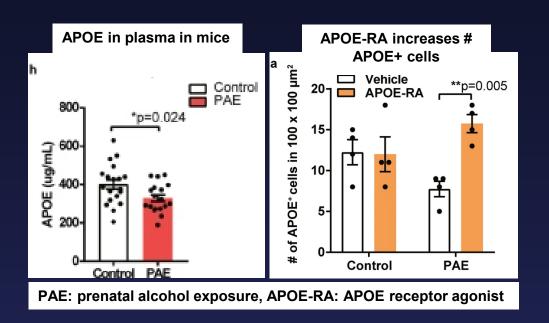
Coming Soon: Request for Information on Harmonization of U.S. and International Alcohol Research Metrics

- There are international differences in measurements and methods used in alcohol research, such as standard drink size, definitions of binge drinking and other harmful alcohol use, and morbidity and mortality indicators. These differences make it difficult to compare research data across countries.
- NIAAA will be soliciting information on commonly used alcohol research methods and measures, whether these support international comparisons, and the level of interest to improve harmonization.
- The overall goal is to enhance the rigor and generalizability of alcohol research findings across the world.

This RFI will be available for comment this Fall.

RESEARCH HIGHLIGHTS

Apolipoprotein E (APOE) Implicated in Neurobehavioral Deficits in FASD

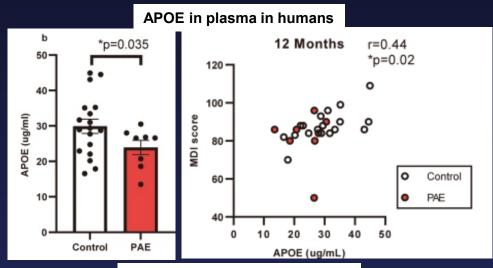


In mice prenatally exposed to alcohol, researchers found changes in chromatin accessibility of the *Apoe* gene locus and decreased levels of apolipoprotein E (APOE) in the brain and peripheral blood. APOE levels were positively correlated with motor learning. Administration of an APOE receptor agonist postnatally increased the number of APOE-positive cells in the motor cortex and mitigated deficits in motor learning and anxiety behavior.

Hwang HM, Yamashita S, Matsumoto Y, Ito M, Edwards A, Sasaki J, Dutta DJ, Mohammad S, Yamashita C, Wetherill L, Schwantes-An TH, Abreu M, Mahnke AH, Mattson SN, Foroud T, Miranda RC, Chambers C, Torii M, Hashimoto-Torii K. Reduction of APOE accounts for neurobehavioral deficits in fetal alcohol spectrum disorders. Mol Psychiatry. 2024 May 11.

Apolipoprotein E (APOE) Implicated in Neurobehavioral Deficits in FASD (cont'd)

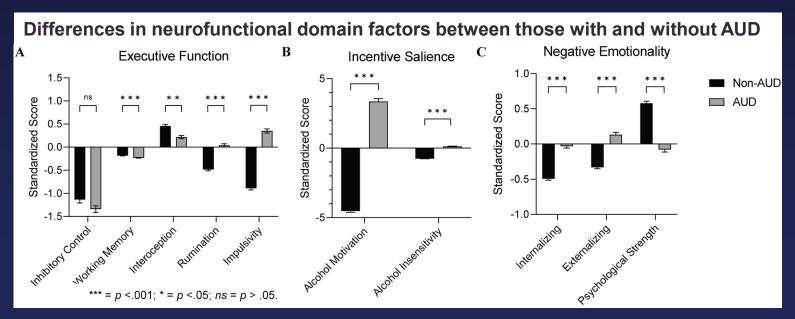
Using data from children prenatally exposed to alcohol, the researchers also found reduced APOE levels in peripheral blood, and reduced levels were associated with lower cognitive performance at 12 months.



PAE: prenatal alcohol exposure

Underlying Factors of Addictions Neuroclinical Assessment Help Classify Individuals With and Without Alcohol Use Disorder

In a prospective sample of adults across the AUD spectrum, researchers tested an assessment battery to study the three domains of the Addictions Neuroclinical Assessment (ANA): incentive salience, negative emotionality, and executive function. Researchers identified a total of 10 factors underlying each of the three ANA domains. Of the 10 factors, alcohol motivation, internalizing, and impulsivity had the greatest ability in classifying individuals with AUD. These results revealed additional dimensionality to the ANA domains, bringing together different constructs from the field into a single cohesive framework.



Gunawan T, Luk JW, Schwandt ML, Kwako LE, Vinson T, Horneffer Y, George DT, Koob GF, Ramchandani VA, Diazgranados N, Goldman D. Factors underlying the neurofunctional domains of the Addictions Neuroclinical Assessment assessed by a standardized neurocognitive battery. Transl Psychiatry. 2024 Jul 2;14(1):271

Negative Affect Mediates the Relationship Between Harassment and Alcohol Misuse in College Students

Among 3,000 college freshman, those who experienced harassment reported more alcoholrelated problems (i.e., higher levels of alcohol problems, binge drinking, and drinking to intoxication) and increased negative affect. This suggests that negative affect may be a mediating mechanism between experienced harassment and subsequent alcohol misuse and alcohol-related problems.

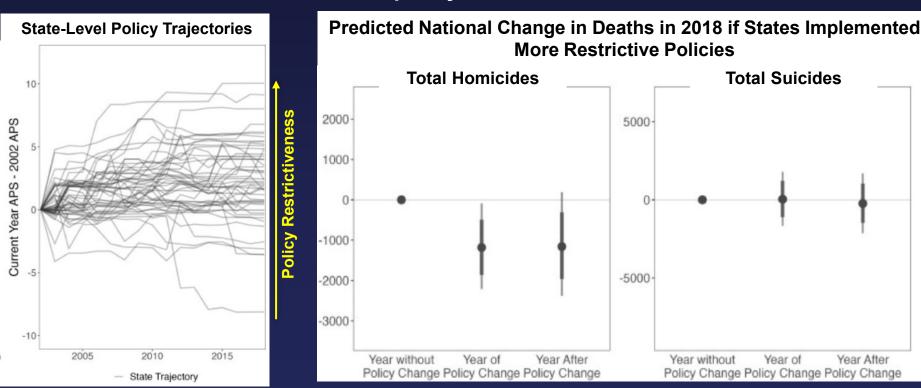
	Summary of path models: Sexual Harassment									
	RAPI Problems Model		Binge Drinking Model		Intoxication Model					
	Negative Affect	RAPI Problems	Negative Affect	Binge Drinking	Negative Affect	Intoxication				
egative Affect		.04 (.01)***		02 (.06)		01 (.06)				
arassment at School	1.29 (.19)***	.31 (.04)***	1.52 (.19)***	1.66 (.38)***	1.51 (.19)***	1.30 (.34)***				
rior Alcohol Use	.30 (.18)**	.46 (.03)***	01 (.01)	.46 (.03)***	01 (.01)	.51 (.02)***				
emale	.04 (.04)	05 (.01)***	.04 (.04)	35 (.08)***	.03 (.04)	33 (.08)***				
lack	.14 (.07)*	06 (.02)**	.13 (.07)	83 (.14)***	.13 (.07)	80 (.14)***				
atinx	.12 (.05)*	03 (.01)*	.12 (.05)**	57 (.10)***	.12 (.05)*	62 (.10)***				
sian	.16 (.05)***	05 (.01)***	.15 (.05)**	97 (.10)***	.15 (.05)**	96 (.09)***				
ther	.15 (.06)*	02 (.02)	.16 (.07)*	44 (.15)**	.16 (.07)*	49 (.15)**				
ndirect Effect		.05 (.01)***		03 (.09)		02 (.09)				

	Summary of path models: General Harassment							
	RAPI Problems Model		Binge Drinking Model		Intoxication Model			
	Negative Affect	RAPI Problems	Negative Affect	Binge Drinking	Negative Affect	Intoxication		
Negative Affect		.03 (.01)**		08 (.06)		07 (.06)		
Harassment at School	.92 (.10)***	.23 (.02)***	1.02 (.09)***	1.15 (.19)***	1.02 (.09)***	.97 (.18)***		
Prior Alcohol Use	.20 (.12)	.44 (.04)***	01 (.01)	.45 (.03)***	02 (.01)	.50 (.02)***		
Female	.12 (.03)***	03 (.01)**	.13 (.03)***	24 (.08)**	.13 (.03)***	24 (.07)***		
Black	.17 (.07)*	05 (.02)*	.15 (.07)*	79 (.14)***	.15 (.07)*	77 (.14)***		
atinx	.17 (.05)**	01 (.01)	.16 (.05)*	52 (.10)***	.16 (.05)**	58 (.10)***		
Asian	.14 (.05)**	05 (.01)***	.12 (.05)*	99 (.09)***	.12 (.05)**	97 (.09)***		
Other	.15 (.07)*	02 (.02)	.15 (.07)*	46 (.16)**	.15 (.07)*	50 (.15)***		
ndirect Effect		.03 (.01)**		08 (.07)		07 (.06)		

Rutgers Alcohol Problems Index (RAPI): Assesses problems with relationships, problems at work or school, and tolerance or withdrawal symptoms.

Alcohol Policies Provide an Opportunity to Reduce Homicides in the U.S.

To understand how alcohol policies influence violence across the U.S., this study used a composite measure of state-level alcohol policies—the Alcohol Policy Scale (APS)—and data on deaths from 2002-2018. The results suggest that alcohol policy restrictiveness is associated with fewer total homicides and firearm homicides. The model predicts that a nationwide increase in alcohol restrictions from the 25th to the 75th percentile would result in a reduction of almost 1,200 homicides annually. There was no clear association of alcohol policy with suicides.



Murphy JP, Smart R, Schell TL, Nicosia N, & Naimi TS (2024). Relationships of state alcohol policy environments with homicides and suicides. American Journal of Preventive Medicine, 67(2), 193–200.

Recommendations to Guide Clinical Trials on Integrated Treatment of Alcohol Use Disorder (AUD) and Alcohol-Associated Liver Disease (ALD)

Few studies have incorporated treatment of AUD in patients with ALD to prevent or reduce liver disease progression. NIAAA convened a multidisciplinary group of experts to develop recommendations for the design and conduct of clinical trials on integrated treatment of ALD and AUD. Among the 28 recommendations made, the group's consensus opinion is to:

- Include addiction medicine experts on the ALD research team to ensure accurate selection of measures for alcohol use and AUD symptoms and accurate reporting of alcohol and AUD-related outcomes.
- Measure alcohol consumption before and during clinical trials in all patients with steatotic liver disease, given the deleterious and potentially confounding effects of alcohol on liver-related outcomes.

Recommendations to Guide Clinical Trials on Integrated Treatment of Alcohol Use Disorder (AUD) and Alcohol-Associated Liver Disease (ALD) (cont'd)

- Assess cardiometabolic risk factors for steatotic liver disease and tailor inclusion and exclusion criteria according to the stage of liver disease.
- Monitor and adjudicate adverse events by a separate hepatic safety committee with well-defined individual and study stopping rules.
- Address stigma and develop other strategies to improve recruitment and retention and ensure validity and generalizability of the findings.

REMINDER OF NIAAA RESOURCES

NIAAA Web Resources For Youth

NIAAA for Middle School: Contains interactive activities to help parents, caregivers, and teachers introduce and reinforce key messages about peer pressure, resistance skills and other topics related to underage drinking.





NIAAA for Teens: A research-based online resource for teens highlighting how alcohol affects your health, warning signs and symptoms, and where to get help for alcohol-related problems.





Resources for the Public and Healthcare Professionals

Rethinking Drinking

Website and print publication for a general audience to help individuals assess their drinking habits and find ways to make a change.



CollegeAIM

Comprehensive information on prevention approaches found to be effective in college environments.



Alcohol Treatment Navigator

Online resource that helps individuals understand and search for treatment options, including telehealth services. It also includes a portal to assist healthcare providers in making referrals for their patients.



Healthcare Professional Core Resource

Online educational resource that covers the basics of what every healthcare professional needs to know about alcohol, including the many ways that alcohol can impact a patient's health, and provides strategies for alcohol screening and interventions.



niaaa.nih.gov

NIAAA Recently Launched a LinkedIn Page to Engage With Researchers and Other Professionals



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National Institute on Alcohol Abuse and Alcoholism

NIAAA is the world's largest funder of alcohol research, focusing on topics that touch the lives of almost everyone.

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