

# Role of Alcohol Misuse in the Onset and Progression of Alzheimer's Disease and Its Related Dementias (A joint NIA and NIAAA Workshop)

## AGENDA

(All times listed are eastern daylight time)

### DAY 1: July 26, 2023

- 10:00 AM**      **Welcome Remarks**  
Amy Kelley, M.D., Deputy Director, NIA  
George Koob, Ph.D. Director, NIAAA
- 10:10 AM**      **Workshop Objectives**  
Lisa Opanashuk, Ph.D., Division of Neuroscience, NIA  
Changhai Cui, Ph.D., Division of Neuroscience and Behavior, NIAAA
- 10:20 AM**      **Keynotes**  
Neuroimaging signatures of alcohol misuse in the aging brain: implications for dementia  
Edith Sullivan, Ph.D., Stanford University
- 10:50 AM**      **Break – 5 min**
- 10:55 AM**      **Session I: Impact of life course alcohol exposure on cognitive decline and dementia**  
Session Chair: Lisa Opanashuk, Ph.D., NIA
- Is Prenatal Alcohol Exposure a Possible Risk Factor for the Early Onset of Alzheimer's Disease? (*Virtual Presentation*)  
Hermes Yeh, Ph.D., Geisel School of Medicine at Dartmouth
- Impact of prenatal alcohol on cognitive impairment in a vascular dementia model and a transgenic AD model  
Farida Sohrabji, Ph.D., Texas A&M University
- Age-related changes in alcohol expectancy and anxiety: the effects on problem drinking and neural correlates (*Virtual Presentation*)  
Chiang-Shan Ray Li, M.D., Ph.D., Yale University
- Probing early indicators of age-related vulnerability to alcohol  
Sara Jo Nixon, Ph.D., University of Florida
- 11:55 AM**      **Q&A / Moderated Discussion**  
Moderator: Sara Jo Nixon, Ph.D., University of Florida and Rajesh Miranda, Ph.D., Texas A&M University

- 12:25 PM**      **Lunch Break – 30 min**
- 12:55 PM**      **Session II: Neuroinflammation in Alzheimer’s Disease and Alcohol Misuse**  
Session Chair: Lisa Opanashuk, Ph.D., NIA
- Neuroinflammation in Alzheimer’s disease  
M. Kerry O’Banion, M.D., Ph.D., University of Rochester
- Alcohol Promotion of Alzheimer’s Pathology through Immuno-Metabolic Crosstalk  
Leon Coleman, M.D., Ph.D., University of North Carolina at Chapel Hill
- Adolescent binge alcohol exposure enhances Alzheimer’s disease-associated neuropathology in the basal forebrain of adult 5XFAD mice: Reversal through blockade of HMGB1  
Ryan Vetreno, Ph.D., University of North Carolina at Chapel Hill
- NLRP3 inflammasome in the crossroads of alcohol misuse and Alzheimer’s disease  
Gyongyi Szabo, M.D., Ph.D., Harvard Medical School
- 1:55 PM**      **Q&A / Moderated Discussion**  
Moderator: Gyongyi Szabo, M.D., Ph.D., Harvard Medical School
- 2:25 PM**      **Break – 10 min**
- 2:35 PM**      **Session III: Brain functional dysregulations in Alcohol Misuse and AD**  
Session Chair: Antonio Noronha, Ph.D., NIAAA
- Disentangling the relationship between alcohol consumption, structural brain measures, and genetics  
Laura Bierut, M.D., Washington University, St. Louis
- Alcohol interactions with the serotonin system in the early stages of Alzheimer’s disease  
*(Virtual Presentation)*  
Catherine Marcinkiewicz, Ph.D., University of Iowa
- The Impact of Chronic Alcohol Consumption on Cognitive Flexibility in the 5xFAD Mouse Model of Alzheimer’s Disease  
Jun Wang, M.D., Ph.D., Texas A&M University
- 3:20 PM**      **Q&A / Moderated Discussion**  
Moderator: Laura Bierut, M.D., Washington University, St. Louis
- 3:50 PM**      **ADJOURN DAY ONE**

## DAY 2: July 27, 2023

**10:00 AM**      **Welcome to Day Two**

**10:05 AM**      **Session IV: Diverse pathways mediating impacts of alcohol misuse on AD pathophysiology**

Session Chair: Changhai Cui, Ph.D., NIAAA

Moderate and chronic alcohol exposure alters low-density lipoprotein cholesterol-mediated proinflammatory cytokines, apolipoprotein E, and cognitive function in a sex-dependent manner in APP/PS1 transgenic mice

Doo-Sup Choi, Ph.D., Mayo Clinic

Alcohol, mitochondrial oxidant stress, and Alzheimer's-related pathology

Steven Graves, Ph.D., University of Minnesota

Chronic Intermittent Ethanol Alters Cognition and Hippocampal Protein Pathways Associated with Alzheimer's Disease: Insights from Adolescent- and Aged-Exposed Animals

Doug Matthews, Ph.D., University of Wisconsin Eau Claire

Alcohol, Aging, and Oligodendrocytes

Heather Richardson, Ph.D., University of Massachusetts

**11:05 AM**      **Q&A / Moderated Discussion**

Moderator: Doo-Sup Choi, Ph.D., Mayo Clinic and Doug Matthews, Ph.D., University of Wisconsin Eau Claire

**11:35 AM**      **Break – 10 min**

**11:45 AM**      **Session V: Cellular Mechanisms of Alzheimer's disease and alcohol misuse**

Session Chair: Changhai Cui, Ph.D., NIAAA

The SEA-AD consortium: Identifying cellular vulnerabilities and disease trajectories in Alzheimer's disease (*Virtual Presentation*)

Ed Lein, Ph.D., Allen Institute

A $\beta$  burden in the brains of those with alcohol-use disorders

Rajesh Narendran, M.D., University of Pittsburgh

Alcohol, motivation, and tauopathy

Zoe McElligott, Ph.D., University of North Carolina at Chapel Hill

Imaging Neuroimmune and Neurovascular Alterations During Alzheimer's Disease Progression

Abbas Yaseen, Ph.D., Northeastern University

- 12:45 PM**      **Q&A / Moderated Discussion**  
Moderator: Pietro Sanna, M.D., Scripps Research Institute
- 1:15 PM**      **Lunch Break - 30 min**
- 1:45 PM**      **Session VI: Central and peripheral interactions in Alzheimer's disease and alcohol misuse**  
Session Chair: Peter Gao, M.D., NIAAA
- Epigenetic aging associated with alcohol use disorder  
Falk Lohoff, M.D., NIAAA (*Virtual Presentation*)
- Network meta-analysis on the molecular mechanisms underlying exposure to alcohol leading to Alzheimer's disease  
Sulie L. Chang, Ph.D., Seton Hall University
- Alcohol-induced aldehyde toxicity, ALDH2 deficiency and Alzheimer's disease  
Che-Hong Chen, Ph.D., Stanford University
- Modulation of the liver-brain axis by alcohol and its impact on Alzheimer's disease pathology  
Derick Han, Ph.D., Keck Graduate Institute
- 2:45 PM**      **Q&A / Moderated Discussion**  
Moderator: Greg Sutherland, Ph.D., University of Sydney
- 3:05 PM**      **Break - 10 min**
- 3:15 PM**      **Synthesis by Moderators**
- 3:45 PM**      **Final discussion**  
Lisa Opanashuk, Ph.D., NIA and Changhai Cui, Ph.D., NIAAA
- 3:55 PM**      **Closing remarks**  
Eliezer Masliah, M.D., NIA
- 4:00 PM**      **MEETING ADJOURNS**