

## Request for Applications for the Alcohol Research Center Renewal Application

The [Indiana Alcohol Research Center](#) (ARC, P60 AA007611) has been continuously funded for 33 years as a multidisciplinary, translational center for the study of the genetic determinants of alcohol ingestion and responses to alcohol. The center includes research components in both humans and animals, modeling genetics in humans using a family history of alcoholism, and in animals with selected lines of rodents bred for alcohol preference (as supplied by the center's animal production core). The ARC also includes an "outreach" component that has most recently served to educate government policy makers and healthcare providers about the science and treatment of alcohol use disorders.

The ARC is preparing a renewal application for its next 5-year cycle (due December 1, 2021). We invite potential investigators across Indiana University to propose component projects and ideas about how to study "high-intensity drinking" (HID): drinking beyond the established binge threshold of achieving a blood alcohol concentration of 0.08% within two hours.

In 2018 the National Institute of Alcohol Abuse and Alcoholism (NIAAA) convened a panel and identified HID as an emerging area of importance (<https://www.niaaa.nih.gov/news-events/meetings-events-exhibits/high-intensity-drinking-working-group-meeting>). While binge drinking is increasingly prevalent and a precursor of alcohol use disorder, there are added risks with HID. However, the factors that influence a progression to HID are not well understood. Outstanding questions that could be addressed within the ARC's planned brain and behavioral mechanisms of HID theme include (*but are not limited to*):

How might HID behavior be modeled and studied in animals?

How might a human laboratory paradigm study HID, and what paradigms in both humans and animals might lend themselves to studying interventions that reduce HID?

What genetic, biological, and nervous system factors predispose individuals to HID?

How does HID relate to aversion-resistant drinking (persistent intake despite aversive consequences)?

What is the role of rate of rise versus absolute level of alcohol exposure in developing and maintaining HID?

What genetic, biological, and nervous system factors affect sensitivity to absolute level or rate of alcohol's rise? How do subjective responses to alcohol affect HID?

What environments, emotional states, personality traits, or social factors produce HID? How might perceived alcohol availability (competition for access, duration of access, etc) affect HID?

What factors might drive the increasing binge and HID trends in women?

How does high intensity alcohol exposure interact with genetic factors to alter neural circuits required for behavioral control (e.g. impulsivity and emotional regulation)?

Some intend to drink with moderation but express HID after initiating an alcohol exposure: why?

How do innate, acute (within session) and chronic (increasing over time) tolerance affect HID?

What novel techniques and technologies might be brought to bear to understand the brain mechanisms involved in HID?

What legal and policy initiatives might be brought to bear to address HID?

To respond, please submit a one-page prospectus (NIH font/margin/spacing rules). The prospectus should outline potential aims, hypotheses, and a brief description of any supporting preliminary data and methods. The ARC will then convene a meeting to select ideas for further integration into a center proposal. To achieve a fully integrated center with mutually informative research components, some potential investigators who submit a prospectus may also be invited to contribute to larger research components.

Send proposal pages to [dkareken@iu.edu](mailto:dkareken@iu.edu) by Jan 15, 2021.