VCU Alcohol Research Center (VCU-ARC)
Call for Pilot Project Submissions
5/15/24

Initial 1 page pre-application submission deadline: 5:00 pm, Thursday, 05/30/24

VCU Alcohol Research Center Organizing Principles: Rapid progress in genetic studies, both in humans and in animal models, has begun to identify genes contributing to alcohol use disorder (AUD). Molecular responses to ethanol are shared across species because signaling mechanisms are evolutionarily conserved despite varying anatomical systems and behavioral readouts. The joint analysis of genetic and genomic data across species can better define gene networks mediating ethanol responses and inform candidate gene selection for development of future therapeutic approaches than would be possible by the examination of any single species. The VCU Alcohol Research Center (VCU-ARC) has developed a cross-species based strategy combining genetics, genomics, and behavioral neurobiology to identify and validate novel gene networks involved in the neurobiology of AUD and to understand how they impact risk in human populations. The VCU-ARC includes five research projects involving worms, flies, mice, and humans. Two of the projects focus on human genetic studies in AUD, including gene x environment interactions. A mouse genomic project utilizes behavioral genetics, gene targeting and genomic analyses to identify gene networks modulating ethanol behaviors in mice. Two invertebrate projects, using *C. elegans* and Drosophila, utilize high-throughput screening methods to characterize the effects of single gene perturbations on ethanol sensitivity or adaptation in those organisms, as well as non-biased genetic screens for novel genes modifying ethanol phenotypes. Overall, our goals are to provide a highly integrated approach to both gene discovery and functional interpretation for the genetics of AUD such that we identify novel strategies for future therapeutic approaches in AUD. As part of this mission, the VCU-ARC solicits pilot grant applications that complement or extend our existing strategies for cross-species genetic studies relevant to AUD.

Submission overview: The VCU ARC is especially interested in encouraging investigators new to alcohol research to submit applications. Pilot proposals that focus on exploration of gene or gene network influences on alcohol behaviors, the mechanisms of such actions, or that examine how such genes or genes networks might impact the risk of illness in human populations are particularly welcome. Human or animal model projects will be considered. Priority will be placed on innovative new projects. While genetic approaches underlie current Center projects, they are not required for pilot applications.

Funding: Up to 2 pilot projects, each funded at up to $43,000 for one year, dependent on the exact amount of NIH yearly renewal funding. A targeted start date for the work is 8/01/2022.

Restrictions: All VCU faculty (assistant professor or above) interested in alcohol research are invited to submit pilot project proposals as outlined below. Investigators who have previously received VCU-ARC pilot grant funding within the past 4 years, or are currently lead or co-lead investigators on any project or core of the VCU-ARC P50, are not eligible for this submission.

Proposal guidelines: Initial submission -- There is a two-step application process. The initial application is a one-page description of the project to be submitted by 05/30/24. This should take the form of a long abstract and include a description of the relationship of the work to existing VCU-ARC goals and projects. Descriptions of VCU-ARC current projects can be found at: https://arc.vcu.edu/center-research/.

Initial submissions should be sent to Drs. Miles and Bettinger (michael.miles@vcuhealth.org, jill.bettinger@vcuhealth.org).

Full proposal submission -- After the initial review, up to five proposals will be invited for full submission that will consist of the following elements (maximum page limits listed): 1) A cover page with the project

title, PI name, address, phone, and e-mail address; 2) Abstract and list of personnel on the standard PHS-398 abstract page form (1-page); 3) Detailed budget page with justification on standard PHS budget forms (2-pages); 4) Description of the research proposal including specific aims, background, preliminary data, significance, methods, experimental plan, and references. **THERE IS A RIGID 3-PAGE LIMIT FOR THIS SECTION** (excluding references); 5) Relationship of pilot project to VCU-ARC goals (1-page); and 6) Explanation of need for conducting pilot project at this time and how the pilot will play a role in future research and pursuit of R-level NIH support (1-page). No supplementary or appendix materials will be accepted. The second phase submission deadline will be in the first week of July, 2024.

Selection criteria: Major emphasis for review will be placed on scientific merit and significance, relevance to the alcohol research field and VCU-ARC goals, novel additional strength the proposal adds to the Center, and the likelihood that findings will lead to submission of an R-type NIH application.

Initial proposal submissions will be evaluated by the VCU-ARC Center Director, Dr. Michael F. Miles and Scientific Director, Dr. Jill Bettinger. Each full proposal will then be reviewed by at least two members of our external scientific advisory board or VCU faculty (that are not VCU-ARC principal investigators but have expertise in the area of the proposal). Based on these reviews and their own evaluations, Center Directors will make recommendations to the VCU-ARC Steering Committee for funding with a targeted starting date of 8/01/24.

Please submit applications to Drs. Michael Miles and Jill Bettinger: michael.miles@vcuhealth.org, jill.bettinger@vcuhealth.org.

Please also circulate this announcement to any VCU faculty you think might be interested in participating with the VCU-ARC.