NIDA Core Center of Excellence in Omics, Systems Genetics, and the Addictome
2019 Call for Pilot Project Applications

The goal of the NIDA Center of Excellence in Omics, Systems Genetics, and the Addictome (OSGA) is to enable NIDA and NIAAA researchers to more easily analyze complex interactions of genetic, epigenetic and environmental factors on drug abuse risk, relapse, and treatment. We focus principally on support of rat genetic models of addiction.

Purpose: This pilot program seeks to encourage early career investigators to explore the role of genetics and genomics of addiction by reducing and eliminating barriers to implementation; and to promote the development of collaborative, inter-disciplinary teams.

Types of grants that will be supported. The Center will fund three general types of pilot grants: 1) pilot grants to investigate new and cutting-edge omics technologies to study addiction, 2) pilot grants to expand current behavioral and exposure rat models to a more genetically diverse population (e.g., heterogeneous stock, recombinant inbred panels, the Hybrid Rat Diversity Panel), and 3) pilot grants to develop statistical methods and bioinformatics tools for analyzing and integrating omics data from large rodent populations.

Nature of grant awards. Applicants may request up to $20,000 per year for two years. For purposes of this project, applicants will also have access to animals and/or tissues from the Hybrid Rat Diversity Panel (HRDP) for only the cost of shipping through Dr. Melinda Dwinell and the Medical College of Wisconsin (ratrequest@mcw.edu). We also encourage applicants to explore publicly available rat resources including 1) tissues from Heterogeneous Stock (HS) rats collected by The NIDA Center for GWAS in Outbred Rats (http://ratgenes.org/sample-sharing/), the Oxycodone BioBank (https://www.oxycodonebiobank.org), and the Cocaine BioBank (https://www.cocainebiobank.org) and 2) omics data from PhenoGen (https://phenogen.org), GeneNetwork2 (http://gn2.genenetwork.org), and the Rat Genome Database (https://rgd.mcw.edu).

Funds are intended for research supplies and reagents, animal housing/maintenance, sequencing cost, or equipment use. Funds should not be used to cover salary of the PI but can be used to support time of a technician, student, or post doc (if the PI is an assistant professor). A written progress report will be required after the first year if two years of support are requested. A final report must be submitted to the Center at the close of the project and data generated as part of the pilot grant should be deposed within the Omics Portal for Addiction Research (OPAR) or an affiliated website, e.g., GeneNetwork or PhenoGen. We highly recommend consulting with the Center Directors (Rob Williams and Laura Saba) or Core Leads (Laura Saba and Saunak Sen) about budget.

Once a pilot grant is funded, it will be assigned to one of the two center directors for logistic coordination. The directors and/or core leads will meet on a quarterly basis with the grant recipients over the phone to discuss progress and particularly what the Center can do to enhance their project. The first meeting will be prior to funding to address any issues about study design that surfaced during the grant review process. Also including

in these discussions will be how their work can be expanded to a larger, longer-term project supported by NIDA. Grant recipients will be asked to present their research at an annual Center meeting. This will be a chance for the grant recipient to garner feedback from a larger systems genetics community.

Eligibility criteria and application requirements. Grant application must include one Principal Investigator (early career scientist) and a collaborator from a different laboratory within the same institution or a different institution. To be eligible to participate in the Center's Pilot program, the PI must be a postdoctoral fellow or an assistant professor within 5 years of their appointment. The applicant must outline their research question and specifically how the Center will support the proposed research.

Application Procedure:

The application should contain the following components:

1. Specific Aims
2. Background/Significance
3. Research Strategy
4. Plan for use of current omics databases such as GeneNetwork and PhenoGen and plan for sharing data with the Omics Portal for Addiction Research (OPAR).
5. Future Directions including how the pilot data generated can be used to justify a larger NIH-funded study.
6. References
7. Budget Justification
8. Biosketches for all investigators involved.

4-page maximum length, not including references, budget justification, or biosketches. We are now requesting proposals for pilot projects to be initiated on a rolling basis. Applications will be reviewed if received prior to September 1st, 2019. Funding decisions will be made within 2 months of receipt of application.

Please send one PDF of the completed submission to Laura Saba at Laura.Saba@ucdenver.edu.

Review Procedures. Grants will be reviewed by the Directors of the Center and a member of our Internal Review Board. The applications will be evaluated on (1) the strength of the cross-institute collaboration proposed, (2) the utility of the generated data and how it contributes to the rat addictome data, and (3) the use or development of novel technologies, systems genetics methods, or behavioral models.

Additional queries can be directed to:

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