

REQUEST FOR PROPOSALS

Mini-Driving Biological Projects (mini-DBPs)

Technology Center for Networks, Pathways and Dynamics of Lysine Modification

Background

The **Technology Center for Networks & Pathways (TCNP) of Lysine Modification**, informally known as the “Special K Project,” plans to add new **mini-Driving Biological Projects (mini-DBPs)** to its program. This is an **NIH Common Fund Center** (formerly Roadmap) based at the Johns Hopkins University School of Medicine in Baltimore, MD. The Center consists of six cores, five of which are funded for a five-year period. Core 2 includes support for collaborative work with groups outside the Center. **Small scale funding is available for approximately 7 mini-DBPs is available between Jan 1, 2011 - July 31, 2011. The TCNP is now soliciting proposals for new mini-DBPs. Please consider applying!**

For detailed information about our TCNP, please see our web site:

<http://www.hopkinsmedicine.org/ibbs/research/TCNP/index.html>

The TCNP of Lysine Modification is structured around six cores, and takes advantage of the High Throughput Biology Center (the HiT Center) facilities at Johns Hopkins University School of Medicine

http://www.hopkinsmedicine.org/institute_basic_biomedical_sciences/research/research_centers/high_throughput_biology_hit/

An ongoing and very important component of our Center is the **Technology Development** component (Core 1) which consists of 4 distinct and highly complementary technologies. The technology core projects employ a broad spectrum of approaches ranging from relatively clear-cut, step-wise methods of technology development to ones with high-risk components. The projects make use of traditional proteomics areas such as mass spectrometry, as well as innovative approaches such as chemical probes of lysine acetylation and methylation, protein microarrays, microfluidic devices and genetic methods to infer protein functions, networks and pathways.

In the TCNP, the intended use of technologies developed by Core 1 is to solve complex biological problems and better understand dynamic cellular processes. This is done in the context of **Driving Biological Projects (DBPs)**, which make up **Core 2**. We are now expanding this program to include **mini-DBPs**. Mini-DBPs are intended to fund small pilot projects that will enable DBP investigators, possibly together with colleagues in the TCNP, to apply for larger scale funding of new applications of TCNP technologies. This should be a nimble mechanism for supporting exciting new ideas that leverage the TCNP's technologies. **Core 3** is focused on computational infrastructure and modeling and ties together all of our efforts by modeling biological systems using data generated by our TCNP and by other research units. It also supports mass spectrometry infrastructure. **Cores 4, 5 and 6** are focused on training, dissemination, and management, respectively. **Mini-DBP applications should be aimed at using the technologies and computational infrastructure of cores 1 and 3 respectively. These mini-DBP grants**

will typically fund work inside the TCNP to directly advance the research goals of the applicant PI. We prefer this approach to writing new subcontracts.

Mini-DBPs will become part of our TCNP and complement existing research components of the Center. DBPs can be one of two types:

- 1) The DBP can fit with our overall experimental theme (lysine and other protein modifications; histones; chromatin; yeast/human) and use our technologies
- 2) The DBP can have a completely different biological focus, and simply leverage one or more of the TCNP technologies in interesting ways.

Please see our web site for the various core technologies already available. In a nutshell, they include:

Core 1.1: Protein, peptide and antibody microarrays (Heng Zhu, hzhu4@jhmi.edu; Sean Taverna, stavern1@jhmi.edu)

Core 1.2: Barcode microarrays, SLAM (synthetic lethality), yeast Ts mutants, high copy libraries, large-scale histone genetics, microfluidic technology. (Jef Boeke, jboeke@jhmi.edu; Andre Levchenko, alev@jhu.edu)

Core 1.3: Mass spectroscopy with an emphasis on post translational modifications, especially Ubiquitylation, SUMOylation, methylation and acetylation; Post-source Decay MS; quantitative MS/SILAC (Robert Cotter, rcotter@jhmi.edu; Akhilesh Pandey, pandey@jhmi.edu; Yingming Zhao, Univ. of Chicago, Yingming.Zhao@uchicago.edu)

Core 1.4: Chemical probes of acetyl- and methyl-transferases and related enzymes (Phil Cole, pcole@jhmi.edu)

Core 3: Network modeling/databases/molecular interaction modeling (Joel Bader, joel.bader@jhu.edu; Andre Levchenko, alev@jhu.edu)

Eligibility

Mini-DBP Proposals should have a single PI, either inside or outside Johns Hopkins University. Mini-DBP PIs should be currently funded either by NIH or by an organization of similar stature. The ideal proposal uses our Center's Technology(s) to further research already funded by an NIH R01 to the PI, although this is not required. In the event of equally meritorious proposals, preference will be given to non-JHU proposals. Ability to attend monthly TCNP "Special K" meetings held at the JHU School of Medicine in Baltimore, MD is an asset. Non-U.S. applications will be considered.

We welcome and strongly encourage applicants to contact us before writing a proposal. In particular, direct communication with the relevant TCNP Core 1 or 3 directors is essential prior to submission. TCNP cores might need additional manpower or reagents to help your DBP succeed, and these activities will require advance planning.

Guidelines for Proposals

Proposals (Research plan not to exceed 2 pages, NIH Format, exclusive of references) should include the following:

1. Specific Aim
Articulate the main goal of the pilot project and which Core 1/Core 3 technology(s) will be utilized. This is critical. Provide enough background so that readers can grasp the scientific content of the theme and its context. What are the short- and long-term goals of the proposed mini-DBP? (one paragraph)
2. Background and Significance
Provide information for non-specialists to understand proposed research and how it intersects with the existing TCNP and its goals. (one paragraph)
3. Research Design and Methods
Succinctly outline proposed experiments to be used to accomplish the aim.
4. Support letter from collaborating TCNP investigator
This is to document willingness to do the proposed project from the TCNP side. Printout of an email is sufficient. Letter should document experiments to be done by TCNP investigator..

Budget

Use standard PHS398 Year 1 budget form page and give brief justifications. Keep in mind we have approximately \$100,000 available for this budget year and intend to fund 4-8 proposals.

Other

- NIH-style Biosketch for PI
- Other support for PI

We welcome and encourage your inquiries in advance of submission. For general questions about this RFP, or discuss the suitability of your idea(s), please feel free to contact Jef Boeke at 410-955-2481 or jboeke@jhmi.edu.

Deadlines and Evaluation

This is a one-time solicitation. Proposals may be submitted on a rolling basis by emailing them as a single pdf to jboeke@jhmi.edu. We aim to review applications within two months of submission if not faster.

Evaluation will be carried out by an executive committee consisting of Core 1 and Core 3 directors and the Program Manager. Investigators outside the committee may be consulted. Proposals will be evaluated on the basis of scientific merit, responsiveness to RFP, novel applications of TCNP technology, investigator track record, and extent to which TCNP resources will be utilized effectively by the PI. Recommendations of the committee will be forwarded to the TCNP's Science Officer, **Dr. Adam Felsenfeld**, and the Program Administrator, **Dr. Doug Sheeley**, for final approval.

We look forward to receiving your application!