

## Request for Proposals

The NIAID-funded Bioinformatics Resource Center VectorBase invites proposals for Driving Biological Projects (DBP's) that focus on infectious diseases research related to human microbial pathogens and invertebrate vectors of human diseases.

DBPs must include research that uses high-throughput experimental technologies to **functionally characterize** the genome, proteome or metabolome to help elucidate how genes, proteins and metabolites may be involved in pathogenesis, antimicrobial resistance or other biological processes of interest in the study of infectious diseases. HTP approaches to functional characterization of genes and proteins may include, for example, microarrays, mass spectrometry, two-hybrid screenings, RNAi experiments, Chip-Seq and RNA-Seq studies and bioassays.

VectorBase specifically invites research investigations that generate experimental data that can be used to functionally characterize the genome, proteome or metabolome of vectors to help elucidate how genes, proteins and metabolites may be involved in pathogen transmission, resistance or susceptibility of vectors to control interventions, or other biological processes of interest in the study of the role of vectors in the transmission of human pathogens. HTP approaches that improve the usefulness and accessibility of vector genome resources are also encouraged, including those that address such issues as significant improvements in genome assembly (especially physical mapping of sequence supercontigs to chromosomes), experimental data that lead to development of improved and better supported genome annotations, development of novel experimental data that contribute to population level analysis of vectors, and studies that establish the molecular physiologies that underlie key phenotypes that characterize major vectors. Studies that emphasize the importance of model vector species like *Anopheles gambiae*, *Aedes aegypti*, *Culex quinquefasciatis* and *Ixodes scapularis* are particularly encouraged.

All experimental results and data generated by DBPs are to be released into the public domain according to the data release guidelines of VectorBase as posted at:

<http://www.vectorbase.org/DataReleaseGuidelines/>

Staff from the BRC is required by the NIAID to assist with the bioinformatics part of the DBP project. Bioinformatics support may include performing the computational and statistical analysis of the experimental data, generating predictive models of the biological system under investigation, developing algorithms for the analysis or providing the data management system for the project.

For more information about the BRCs program please visit the NIAID site

<http://www3.niaid.nih.gov/LabsAndResources/resources/brc/>

### DBP Program Information

- Type of Award: Cost reimbursement subcontract
- Number of Awards: 2
- Duration of Each Award: up to 24 months

- Maximum total cost per award: \$600,000 for 2 years
- Letters of Intent (LOI) must be submitted by February 28, 2010, two pages max.
- Full proposals due by March 31, 2010, fifteen pages max. Full proposals will be solicited by invitation only.
- Anticipated Start Date: July 1, 2010

Another solicitation for DBPs is expected to occur in 2012.

### Letter of Intent

Submission of a Letter of Intent is required. The LOI should be no longer than 2 pages, and should include the following components.

- PI name, affiliation and contact information
- Project title
- Microbial pathogen or disease vector involved
- Project description
- Description of how the project is expected to utilize as well as complement BRCs resources.

LOI's will be reviewed by the Scientific Working Group (SWG), which is an external group of advisors to the BRC. Projects considered to be competitive by the SWG and by the NIAID, will be invited to submit full proposals.

### Full Proposal

The DBP proposal will be structured as a white paper, and must clearly identify how the DBP will combine and apply high-throughput experimental and bioinformatics techniques to **functionally characterize** the genome, proteome or metabolome of microbial organisms to help elucidate how genes, proteins and metabolites may be involved in pathogenesis, antimicrobial resistance or other biological processes of interest in the study of infectious diseases.

DBP white paper proposals should be no longer than 15 pages and must include:

- a. a description of the project's goals;
- b. expected impact on scientific community served by BRC
- c. a description of the HTP experimental technologies that are necessary to carry out the project and the facilities, equipment and other resources available to the project by the experimental lab;

- d. a description of the bioinformatics support services provided by the BRC and how the project will influence the development of new BRC features;
- e. a delineation of the project's milestones;
- f. expected results and a data release/ data sharing plan for the project that is consistent with the data release guidelines of the BRC;
- g. a list of proposed scientific and technical personnel at the experimental laboratory, and a description of their qualifications, relevant experience and roles in the project. The DBP lead investigator must devote at least ten percent effort to the project;
- h. the budget proposed by the experimental laboratory, broken down into total costs for labor, materials, and other line items, as appropriate for the project.

**Researchers invited to submit full proposals are strongly encouraged to discuss with the BRC the technical feasibility and relevance of the computational support that has to be provided by the BRC.**

Full proposals will be reviewed by the Scientific Working Group of the BRC, based on the following evaluation criteria:

- Technical feasibility;
- Scientific merit;
- Impact on the scientific community served by the BRC;
- Impact on BRC's development of new features.

The NIAID will also review and provide the final approval of the DBPs proposed for award by the SWG.

### Reports

Semi-annual and periodic ad hoc reports will be requested to assist with the review of progress toward stated goals.

### Questions

Direct all questions to: [vector@nd.edu](mailto:vector@nd.edu)

### LOI and Full proposal submissions

The LOI and Full proposal should be submitted electronically to: [vector@nd.edu](mailto:vector@nd.edu)

Optional hard-copy submissions can be mailed to:

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