

**Research Project Call for Applications**  
**Chemical Biology of Infectious Disease**  
**NIH Center of Biomedical Research Excellence**  
**University of Kansas**  
(<http://cbid.cobre.ku.edu/>)

Letter of intent due: June 15, 2019, 5 p.m.

***Those selected to submit full applications will be notified July 1, 2019.***

Applications due: August 1, 2019, 12 p.m.

Anticipated Start Date: November 1, 2019

**Summary:** The Center for Chemical Biology of Infectious Disease (CBID) at the University of Kansas provides participating investigators with research support, mentoring and access to Core Lab Services in a collegial, collaborative atmosphere. **We anticipate being able to support one (1) new Research Project at up to \$140,000 direct costs per year for one year, renewable for a second period totaling 18 months, starting November 1, 2019.** Applications must describe a research project that fits well with the scientific theme of our Center and that will make good use of one or more of the CBID Core Labs (<http://cbid.cobre.ku.edu/research-cores>). This competition is open to all full time, tenure-track, or tenured faculty at any State of Kansas Regents University (KU-L, KSU, WSU or KUMC) whose research embraces the chemical biology of infectious disease in the broadest sense. Preference will be given to pre-tenure individuals submitting a competitive application to support the CoBRE mission of developing junior investigators to attain independent investigator status.

## 1. Introduction

**1.1. The COBRE program** is an initiative of the NIH-NIGMS. CoBRE Centers are intended to:

- Focus on a single research area (e.g., chemical biology of infectious disease);
- Augment and strengthen biomedical faculty research capability;
- Provide flexible support to build research capacity;
- Enhance research infrastructure;
- Encourage collaborative research **and research grant applications**;
- Foster health-related research.

The official RFA under which our CoBRE Center is funded may be found at this URL:

<http://grants.nih.gov/grants/guide/pa-files/PAR-14-035.html>

**The CoBRE RFA states:** "For the purpose of eligibility, a junior investigator is defined either as (1) an individual who does not have or has not previously had an external, peer-reviewed Research Project Grant (RPG) or Program Project Grant (PPG) from either a Federal or non-Federal source that names that investigator as the PI or (2) an established investigator who is making a significant change to his/her career. The intent of this FOA is to allow promising investigators whose early career support consists of awards geared toward initiating their intended area of research. Support may be provided to an established investigator who is making a significant change to his/her career goals by initiating a new line of research that is distinctly and significantly different from his/her current investigative program. The current or previous history of independent peer-reviewed research support, which should be indicated in the Biographical Sketch, **in a different investigative area** than that proposed in this application

does not disqualify the investigator. Furthermore, this individual can be of any faculty rank. Note that the intent of this initiative is to allow established investigators the opportunity to initiate and develop a new line of research. However, investigators whose current research is already supported by a RPG or PPG and who are not changing their current research program are not eligible.”

**1.2. CoBRE Research Project Leaders** are full time, tenure-track, or tenured faculty who are developing a promising new line of research that incorporates a significant emphasis on chemical biology of infectious disease, and that will take advantage of both the Center’s Core Labs and the interactivity among Center participants. Research Project Leaders may be junior faculty, former CoBRE awardees, or more established faculty researchers whose active participation will strengthen the Center overall. Research Project Leaders will receive project support of up to \$140,000 per year (direct costs) for one year, renewable for a second year.

**Research areas eligible for funding.** Because CoBRE Centers are expected to have a **thematic** scientific focus, research projects must fit the CoBRE theme of chemical biology of infectious disease. Due to the association with the NIH, the research area should have relevance to human health. Successful applications may incorporate one or more of the following topics in significant depth:

- Investigation of microbial pathogenesis or factors associated with virulence
- Investigation of chemicals or related approaches for a better understanding of biological processes related to infectious diseases
- Investigation of synthetic or natural compounds with applications for infectious diseases (this may be the same as point 2)
- Molecular modeling of biologic components or complexes with experimental validation studies

More information on the overall goals of the Center are provided on the CoBRE website.

### **1.3. Chemical Biology of Infectious Disease Core Facilities and Director Information**

#### **IDAD Core Facility** (Infectious Disease Assay Development)

Director: Anuradha Roy ([anuroy@ku.edu](mailto:anuroy@ku.edu)); <http://idad.cobre.ku.edu/>

The overall goal of the IDAD Core is to provide expertise, facilities, services, and training in the area of HTS assay design, development, validation, small and large-scale screening for organism (cell) based or biochemical infectious disease targets. Core staff will facilitate design, development and validation of assays suitable for automated high-throughput chemical screening. They will also facilitate small- or large-scale screening of compounds (at KU or external sources). The expected outcomes of this core and associated efforts are well developed and validated assays suitable for automated large-scale screening that can be performed internally or externally. Hits generated through successful assay development and limited- or large-scale screening efforts will be directed into CCB and SCB to identify lead compounds for use as molecular probes and pre-therapeutics for infectious diseases.

#### **CCB Core Facility** (Computational Chemical Biology)

Interim Director: David Johnson ([dkjohnson@ku.edu](mailto:dkjohnson@ku.edu)); <http://ccb.cobre.ku.edu/>

Computational Chemical Biology (CCB) Core will provide comprehensive computational support, with capabilities focused on four distinct classes of computational tasks: chemoinformatics, 3D ligand comparisons, structure-based approaches, and protein modeling. These

capabilities will support activities such as virtual screening, lead optimization, target identification, and protein design.

### **SCB Core Facility (Synthetic Chemical Biology)**

Director: Chamani Perera ([chamani@ku.edu](mailto:chamani@ku.edu)); <http://scb.cobre.ku.edu/>

The purpose of the SCB is to provide synthetic chemistry support, including the validation of hit compounds obtained through high-throughput screening, quality control and analysis of compounds, synthesis of compounds unavailable commercially but needed by researchers, structure–activity relationship studies based on HTS campaigns, and optimization of fragment binders.

### **Other associated Core Facilities (<https://corelabs.ku.edu/>)**

- Protein Structure Labs (Director: Scott Lovell) <http://psf.cobre.ku.edu/cores/psl/about>
- Protein Production Group (Director: Philip Gao) <http://psf.cobre.ku.edu/cores/ppg/about>
- Biomolecular NMR Lab (Director: Justin Douglas) <http://psf.cobre.ku.edu/cores/bnmrl/about>
- Genome Sequencing Core (Director: Jennifer Hackett) <http://gsc.ku.edu/>
- Microfabrication facility (Director: Ryan Grigsby) <http://microfab.ku.edu/>
- Microscopy and Analytical Imaging Laboratory (Director: Ed Molinar) <https://mai.ku.edu/>
- Mass Spectrometry and Proteomics Lab (Director: Todd Williams) <http://msl.ku.edu/>

**1.4. Criteria for evaluation of CoBRE applications.** The basic criteria for NIH grant review may be found at <http://grants.nih.gov/grants/peer/peer.htm>.

- ☐ Strength of the science and the quality and clarity of its presentation;
- ☐ Likelihood of the project becoming competitive for independent R01 funding;
- ☐ Likelihood of getting a publishable result within the one-year time frame;
- ☐ Relevance to the CoBRE theme of chemical biology of infectious disease (see above and CBID website);
- ☐ A clear, detailed plan for utilization of one or more CoBRE Core Laboratories;
- ☐ Background, experience and career status of the applicant;
- ☐ A track record of past research, research grant applications and research funding.

**CoBRE Projects must have a single Principal Investigator** who will be responsible for the scientific direction and management of the project. Applications may involve collaborators, but only when they bring complementary investigator strengths and approaches to the project. All collaborators receiving CoBRE funds **must** be from Kansas institutions. A possible exception is a collaborator who provides specialized research services to PIs/clients on an established fee-for-service basis.

### **1.5. General Terms and Conditions of CoBRE CBID Research Project Awards:**

1. New PIs not previously funded by CoBRE are encouraged to apply.
2. In general, priority will be given to projects that make significant use of CoBRE Core Labs.
3. Research project investigators must make an initial minimum commitment of 6 person months annually (this may include summer salary).
4. Funds may be used for consumable supplies, services or small laboratory hardware but not for equipment (i.e. items costing > \$5000). Personnel costs are allowable but preference will be given to applications that name specific individuals who are assured to be present on-site, eligible to work and ready to begin no later than December 1, 2019. Travel costs may include essential research-related travel and participation in national/regional scientific meetings. Tuition costs are allowable as per standard policies.

5. Investigators who receive CoBRE support are **required to participate as fully as possible** in the regular monthly research meetings of the Center, as well as seminars, workshops and other special activities organized or sponsored by the Center.
6. A standard NIH-type progress report (ca. 2 pages in length) is required from each CoBRE project investigator by February 1st of each year.
7. Term and budget adjustments. The CoBRE Director reserves the right to make term and budget adjustments in accordance with the intent of the CoBRE CBID program and NIH policies concerning scientific overlap of projects. For example, if a CoBRE Investigator receives his/her own NIH R01 grant, the CoBRE grant may be reduced to adjust for overlap, up to and including 100% reduction if the scientific overlap is extensive.
8. Unanticipated new requirements: by accepting CoBRE funds, awardees agree to comply with any and all requirements not already mentioned that may be imposed on CoBRE CBID by NIH or other institutional authorities.

Prospective applicants with questions about eligibility, program details, or the “fit” of their project to the CoBRE theme are encouraged to contact Dr. Thomas Prisinza (785-864-3267; [prisinza@ku.edu](mailto:prisinza@ku.edu)).

## 2. The Application Process

### **Step 1 - Send Email Letter of Intent** (These *required* letters help us in planning.)

Letters of intent should be sent as a PDF attached to an email to [kucbid@ku.edu](mailto:kucbid@ku.edu), with a copy to [sandberg@ku.edu](mailto:sandberg@ku.edu). Your letter of intent **must**:

- Be **received** by 5:00 p.m. on June 15, 2019;
- Be no longer than one page, sent by email as a PDF attachment **along with** the applicant’s NIH biosketch;
- Explain briefly how the applicant meets the eligibility criteria set forth in Section 1 above;
- Explain briefly the nature or focus of the research that will be proposed and, if not obvious, how it fits the scientific theme of CoBRE CBID, and
- Explain briefly how the project will utilize one or more of the CoBRE CBID Core Labs.
- Along with your letter, **please also include** a separate listing of **complete** contact information (including website URL if possible) for five (5) potential reviewers for your application. For convenience and familiarity with NIH grant systems, these individuals **must** be located in the U.S., and must NOT currently be serving on an NIH study section.

**Based on your letter, you will be notified by July 1, 2018 if you should prepare and submit a full application.**

### **Step 2 - Prepare and Submit a Complete Application.**

Applications should be prepared in general accord with the NIH PHS 398 application guidelines, (8/2012 revision, available from <http://grants.nih.gov/grants/funding/phs398/phs398.html>). In the Instructions, note particularly Part I, Sections 2.6, 5.5.2, 5.5.3 and 5.5.5. Include:

- ☐ Form Page 1: Face Page,
- ☐ Form Page 2: Project Summary, Relevance, Project/Performance Site(s), Senior/Key Personnel, Other Significant Contributors, and Human Embryonic Stem Cells (include Senior Key Personnel information),
- ☐ Form Page 4: Detailed Budget for Initial Budget Period (and a budget explanation/justification),

- ☒ Biographical Sketch Format Page. Omit the Table of Contents page and the Resources page (unless you have something unique to mention),
- ☒ Research Plan,
- ☒ References,
- ☒ Instead of using PHS Other Support pages, use the alternate instructions “D” and “E” below. Appendices are not allowed.
- ☒ Checklist Form Page.

**In addition, please observe the following CoBRE-specific requirements:**

- A. The research plan **may not exceed six (6) pages** in length including figures and tables but excluding references (which must be complete citations in the NIH style). The Specific Aims section must fit entirely on one page, and is not included in the 6-page limit for the research plan. Include sections 5.5.6 through 5.5.15 **only** if applicable to your application.
- B. Please use 11-point Arial font with **one half (1/2)-inch** margins on all four sides. (Write concisely and limit the amount of general background to the essentials that reviewers will need to be aware of to appreciate the proposed research.)
- C. All figures **and their lettering** must be large enough to be clearly legible.
- D. F&A at 51.5% or lower (as designated by the institution’s federally negotiated rates) will be allowed.
- E. Other Support. Provide a listing of all current research support from all sources. For each source listed, please provide the following information: Name of funding source, title of project, project start/end dates, and amount of direct costs available (or available to you if a multi-PI grant), and percent effort. If you are a junior faculty member, please include the following details of your startup package in this list: amount initially provided, current unspent balance, and expiration date or other restrictions if any.
- F. Provide a listing of all grant **applications** submitted during the past **two** calendar years (i.e. 2017 and 2018). For each application submitted, please provide the following information: Date of submission, name of granting agency, title of project, project start/end dates requested, and amount of direct costs requested.

**You are encouraged to obtain assistance from the appropriate Grant Services agency at your university (required if a KU participant). Suggested contacts are listed below:**

- ☐ **KSU Office of Research and Sponsored Projects** 785-532-6195 [research@k-state.edu](mailto:research@k-state.edu)
- ☐ **KU Higuchi Biosciences Center Proposal Preparation Office** 785-864-4244 or 785-864-8015 [hbcgrant@ku.edu](mailto:hbcgrant@ku.edu)
- ☐ **KUMC Sponsored Programs Administration** 913-588-1251 [spa@kumc.edu](mailto:spa@kumc.edu)
- ☐ **WSU Office of Research and Technology Transfer** 316-978-3285 [proposals@wichita.edu](mailto:proposals@wichita.edu)

### **3. CoBRE Application Package and Checklist**

Please type the applicant's name in the upper right hand corner of every page. Number pages consecutively starting with the face page of the NIH PHS 398 form as page 1.

- ☒ Please use 11 point Arial font and **one half (1/2)-inch** margins on all four sides.
- ☒ Observe the strict six (6)-page limit on the research plan (including figures and tables but excluding references and the one-page Specific Aims section).
- ☒ No appendices or additional email attachments should be submitted with the application.

☐ The last page of the application should be the NIH Checklist page.

**If selected for funding**, applicants will be required to furnish copies of all relevant compliance approvals (radioisotopes, recombinant DNA, vertebrate animals, etc.) to the CoBRE CBID office prior to release of award funds, but **do not** submit these items at this time.

#### **4. Submission of Application Package**

Please submit applications via email on NIH PHS 398 forms, both as a Microsoft Word document AND as a PDF document. Email documents to [kucbid@ku.edu](mailto:kucbid@ku.edu), with a copy to [sandberg@ku.edu](mailto:sandberg@ku.edu).

Applications must be **received** no later than **12:00 p.m., Wednesday, August 1, 2019.**

#### **5. Review of Applications**

CoBRE Research Project applications will be reviewed administratively according to the NIH criteria and the CoBRE-specific criteria mentioned above.