News, Opportunities and Deadlines for May 2024

Funding Opportunity: Academic Research Enhancement Award (AREA) Program

We're pleased to announce that the notice of funding opportunity (NOFO) for the Academic Research Enhancement Award (AREA) R15 program for undergraduate-focused institutions has been reissued as PAR-24-152 (clinical trial not allowed). NIGMS supports R15 grants through this NOFO for research in scientific areas related to our mission.

The AREA program supports investigator-initiated research projects in National Institutes of Health (NIH) mission areas. Its goals are to support meritorious research, to strengthen the research environment at undergraduate-focused institutions/components, and to give undergraduates an opportunity to gain significant biomedical research experience through active involvement in the research. The program is open to faculty at undergraduate-focused institutions that award bachelor's degrees in science and that have received limited NIH support. Eligible institutions—or schools/colleges within that institution—must have an undergraduate enrollment that is greater than the graduate enrollment (additional eligibility requirements are provided in the NOFO).

As stated in the NOFO, applicants may now request up to $375,000 in direct costs, excluding consortium facilities and administrative costs, for the entire project period of up to 3 years.
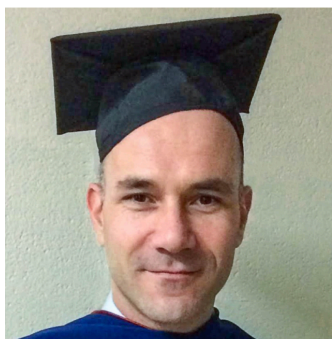
First application receipt date: June 25, 2024
Earliest start date: April 2025

If you have questions, visit the R15 webpage or email us. The R15 webpage also has information on additional R15 NOFOs in which NIGMS does not participate.

LBRN's Achievements

One of LBRN's current Funded PIs, Dr. Nektarios Barabutis of the University of Louisiana at Monroe, has been named Researcher of the Semester for Spring 2024 by the ULM Office

of Sponsored Programs and Research (OSPR).

Dr. Barabutis is an Associate Professor of Pharmacology in the College of Pharmacy at ULM. He joined forces with the School of Basic Pharmaceutical and Toxicological Sciences in October 2017 as a tenure-track Assistant Professor.

His basic research endeavors are focused on elucidating cellular mechanisms involved in human disease in order to try to promote our understanding of disease pathogenesis and contribute to the development of new pharmacotherapies against severe disorders. Special emphasis is given to delineating the molecular network dictating endothelial barrier function since vascular leak is the hallmark of potentially lethal conditions. Based on that expertise, he was invited to participate as an ad-hoc reviewer in The Respiratory Integrative Biology and Translational Research standing study section of the National Institutes of Health.

Since joining the University of Louisiana Monroe, Dr. Barabutis has published 68 manuscripts in peer-reviewed journals, including Endocrinology, American Journal of Physiology - Cell Physiology, Trends in Endocrinology and Metabolism. The investigator was recently invited to submit an article to Trends in Cell Biology (Impact Factor: 19), in order to review and articulate deliberations on the topic of endothelium regulation and advanced therapeutics. He also serves as a Section Editor in Data in Brief (Elsevier) and MethodsX (Elsevier), as an Associate Editor in Frontiers in Pharmacology, and participates in the editorial board of BMC Pulmonary Medicine (Springer Nature). His research program has been continuously funded by extramural resources since 2018, and it is currently supported by the Louisiana Biomedical Research Network (NIGMS/NIH P2O GM103424-21).

2024 LONI Scientific Computing Bootcamp

HPC@LSU will hold the 2024 LONI Scientific Computing Bootcamp on June 4-5, June 10-11 in an online virtual form via Zoom.

Scientific computing is becoming more ubiquitous for all types of research areas. Skills and knowledge that are necessary to take full advantage of the power of computing, however, are often inadequately present in both curricular and extracurricular training. The purpose of this workshop is, by both presentation and hands-on experiences, to help attendants understand the usage of popular scientific computing programming tools and prepare for their future computational study and research career.

In four days, the attendants will learn:

Section 1 (June 4-5): Introduction to Python programming language with its applications in scientific computing

- **Introduction to Python programming language with its applications in scientific computing**.
    - Day 1, participants will delve into Python's syntax, data structures, control flow mechanisms, and functions through a series of hands-on exercises and pragmatic demonstrations.
    - Day 2, building upon the foundation of Python basics, the second day will focus on NumPy, a powerful library for numerical computing, diving into advanced topics such as array manipulation, mathematical operations, and data analysis techniques using NumPy. Through hands-on activities and demonstrations, participants will learn how to leverage NumPy effectively for scientific computing and data analysis tasks in Python.

Date	Time	Topic
June 4	9:00 – 16:00	Introduction to Python
June 5	9:00 – 16:00	Intermediate Python

Section 2 (June 10-11): Introduction to Deep Learning

- **Introduction to Deep Learning**

- Day 3 of our workshop immerses participants in the theoretical underpinnings and background of this transformative field. Through engaging lectures and exercises, attendees will explore the core concepts, architectures, and methodologies that underlie deep learning techniques, providing a solid foundation for further exploration. Topics covered include neural networks, activation functions, optimization algorithms, and common deep learning architectures.
- Day 4, participants will delve into practical application with an Instructor-Led NVIDIA DLI (Deep Learning Institute) Workshop: Fundamentals of Deep Learning. Guided by experienced instructors, attendees will engage in hands-on exercises and projects designed to reinforce key concepts learned on Day 1. Upon successful completion of the workshop and assessment, participants will be awarded an NVIDIA DLI certificate, recognizing their mastery of deep learning fundamentals and bolstering their professional credentials for career advancement in this dynamic field.

Date	Time	Topic
June 10	9:00 – 16:00	Exploring Deep Neural Networks: A Beginner's Guide
June 11	9:00 – 16:00	NVidia Deep Learning Institute: Fundamentals of Deep Learning Visit this link for more information.

Registration deadline: 31st May 2024 @ 4:00

REGISTER FOR EVENT

Training : QIAGEN Ingenuity Pathway Analysis

QIAGEN Ingenuity Pathway Analysis (IPA) new user training:

Large dataset analysis and knowledge base queries using QIAGEN Ingenuity Pathway Analysis (IPA)

- **June 6, 2024 @ 1:00 pm - 3:00 pm (EST)**

  Join us for a 120-minute training session for new users of QIAGEN IPA.

  In this training, you'll learn how to:

• Upload your dataset (RNA-seq, scRNA-seq, proteomics, metabolomics and more) and perform interactive core/pathway analysis in IPA
• Understand the different result types produced (pathways, key regulators, impact on biological functions/diseases and more)
• Compare different experimental conditions (treatments, time points, single-cell clusters, disease types and more) and identify similarities and contrasts
• Generate a network even without a dataset or experimental design for hypothesis generation

For those with IPA licenses: download the installer from the link below to install IPA before or after the training.
https://qiagen.showpad.com/share/CBv30blCPKFDUYHRWtAvI

To learn more about IPA or request a trial: https://digitalinsights.qiagen.com/products-overview/discovery-insights-portfolio/analysis-and-visualization/qiagen-ipa/?cmpid=CM_QDI_DISC_042024webinars-NUT

REGISTER FOR EVENT

Mathematical Modeling of Policy Options
for Evolving Public Health Challenges (MPOPHC)

The National Science Foundation's (NSF) Directorates for Mathematical and Physical Sciences (MPS) and Social, Behavioral, and Economic Sciences (SBE) and the Centers for Disease Control and Prevention's (CDC) Coronavirus and Other Respiratory Viruses Division (CORVD) will jointly support innovative research in modeling policy options for evolving public health challenges. Mathematical modeling can further the public welfare and national security in many ways, notable among them by increasing understanding of biological phenomena and elucidating matters affecting the success of public health measures to prevent or mitigate infectious diseases. The CDC also has an interest in promoting research to strengthen modeling for the prevention and control, through immunization, of disease, disability and death.

This Dear Colleague Letter (DCL) encourages the submission of research projects aimed at mathematical modeling of the transmission of respiratory pathogens among human hosts, the most likely cause of future pandemics, with a focus on policy options for evolving public health challenges. This joint activity will provide support to multidisciplinary teams that work on increasing the quality of mechanistic models capable of evaluating the merits of alternative policies for mitigating public health threats. Proposers are encouraged to explore a wide range of innovations that address various aspects of this challenge and to use different modeling techniques.

SUBMISSION AND REVIEW

Proposals in response to this DCL should be prepared in accordance with the guidance contained in the NSF Proposal & Award Policies & Procedures Guide (PAPPG) and submitted to the Division of Mathematical Sciences (DMS) via the Mathematical Biology Program. The proposal title should begin with "MPOPHC:". Proposals must adhere to all the requirements outlined in the program synopsis for the Mathematical Biology Program and be received prior to June 20, 2024.

NSF will manage and conduct the review process of all proposals submitted in response to this DCL. CDC-designated Program Officers may not participate as reviewers, but may attend NSF review panels as observers and can participate in the award selection process of proposals submitted in response to this DCL. CDC-designated Program Officers may receive copies of proposals and unattributed reviews and panel summaries as part of the review process.

Awards resulting from proposals submitted in response to this DCL will be made by NSF and may be partially supported by funds from the CDC. CDC and its staff are ineligible to participate in any proposals submitted in response to this DCL, including as unfunded collaborators, via letters of collaboration or support, or via any other means.

Recipients funded under this DCL may engage with CDC/CORVD subject matter experts to ensure their research is aligned with CDC program goals.

SuRE R16 NOFO Announcement

SuRE R16 NOFO Announcement

The National Institutes of Health (NIH) has published NOFOs for the SuRE (PAR-24-144) and SuRE-First (PAR-24-145) R16 grant mechanisms. Notable changes include:

Deadlines
Beginning in 2024, each SuRE R16 grant now has two annual submission deadlines, with the due dates being the same for each. The next due date for both SuRE and Sure-First applications is May 29, 2024.

- 2024: May 29 and Sept 27
- 2025: May 28 and Sept 29
- 2026: May 27 and Sept 28

PEDP Attachement
The NIH now requires that an attachment called a Plan for Enhancing Diverse Perspective (PEDP) be included with all R16 submissions. This is a summary of strategies to advance the scientific and technical merit of the proposed project through inclusivity. The PEDP is submitted as a one-page "Other Attachment" to be included in grant applications. You may learn more by visiting this NIH page on PEDPs.

News from Fogarty International Center at NIH

NIA releases Notice of Special Interest on U.S. Health in the International Perspective

This NOSI expresses NIA's interest in research that examines mechanisms and causes

behind the increasing U.S. health disadvantage, which refers to worsening life expectancies and health outcomes in the U.S. compared to other countries. Applications proposing analysis of existing data collected in LMICs are welcomed, as LMICs often have greater variation and speed of change in their policy contexts compared to high-income countries.

- [Notice of Special Interest (NOT-AG-24-004)](#)
- First Available Due Date: June 5, 2024
- Expiration date: May 8, 2027

Fogarty to host G11 Pre-Application Webinar

The Fogarty International Center will hold two free pre-application interactive Q&A webinars for the [Fogarty Infrastructure Development Training Programs for Critical HIV Research at Low-and Middle-Income Country Institutions (G11)](#) funding opportunity.

- Webinar dates:
    - April 22, 2024 - 8:30-10a.m. ET (USA) - [Register](#)
    - May 22, 2024 - 2:00-3:30pm. ET (USA) - [Register](#)
- Application deadline: August 22, 2024

NIH funding opportunities for which foreign organizations and/or foreign components of U.S. organizations may apply:

- [Exploring Proteogenomic Approaches to Unravel the Mechanisms of Mis-Folded Protein Accumulation in Tauopathies (R01 Clinical Trial Not Allowed)](#) (RFA-AG-25-017)
  Application due date: Multiple dates, see announcement.
- Research on the Neuro-Immune Axis in the context of HIV and Substance Use funding opportunities:
    - [Research on the Neuro-Immune Axis in the context of HIV and Substance Use (R01 Clinical Trial Not Allowed)](#) (RFA-DA-25-004)
      Application due date: Multiple dates, see announcement.
    - [Research on the Neuro-Immune Axis in the Context of HIV and Substance Use (R21 Clinical Trial Not Allowed)](#) (RFA-DA-25-005)
      Application due date: Multiple dates, see announcement.

NIH funding opportunities for which foreign components may apply:

- [Utilizing Equipment to Study Environmental Extrinsic Factors and Enhance Rigor and Reproducibility of Animal Research (R24, Clinical Trials Not-Allowed)](#) (PAR-24-167)
  Application due date: Multiple dates, see announcement.
- [Center of Excellence for Systems Modeling of Infection and Immunity across Biological Scales (U54 Clinical Trial Not Allowed)](#) (RFA-AI-23-077)
  Application due date: Multiple dates, see announcement.

The Next Gen. Conversations at Louisiana Tech University

Please join the Next Gen. Conversations.
Albany at Tech
June 11 - 15, 2024
Louisiana Tech University in Ruston

After a very successful 40 year series of Conversations at SUNY Albany,
the Next Gen. Conversations will be held at Louisiana Tech

Additional information is at https://coes.latech.edu/albany-conversations/

Albany 2024 @
Louisiana Tech

June 11-15, 2024
Ruston, LA

The Next Gen.

Conversations.

https://coes.latech.edu/albany-conversations/

NIH Extramural Nexus

- ## Updating NIH Minority Health and Health Disparities Categories to Improve Accuracy and Transparency

We are committed to ensuring accountability and transparency of NIH research spending. To this end, we are sharing how we review and adapt our methodologies to provide accurate reports of NIH expenditures for NIH Research, Condition, and Disease Categorization (RCDC) categories. This year, the categories of Minority Health, Health Disparities, and Biodefense are being replaced with several new categories to improve their accuracy and transparency.

Today, we are focusing on changes made to the minority health and health disparities RCDC categories for fiscal year 2023; these changes reflect switching from manual to automated coding. The manual minority health and health disparities categories are now five new automated categories:

- Health Disparities Research
- Racial and Ethnic Minority Health Research
- Health Disparities and Racial or Ethnic Minority Health Research (combination of the two individual categories but eliminates double counting of projects that are in both of the first two categories)
- Workforce Diversity and Outreach
- Building Research Capacity at Institutions with Limited NIH Funding

Before going further into these new categories, we want to briefly explain why the shifts are made, and how we do it.

Our goal is to transition remaining manual coded RCDC categories to the automated system. This is easier said than done. Each manual category requires its own automated feasibility analysis to consider its complexity and unique characteristics. However, the effort is well worthwhile given the improved reporting accuracy and time saved from future years of repetitive manual coding.

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- ## FDA-NIH Want Your Input on a New Resource for Terminology in Clinical Research

Consider the tomato. Or as some would call it, the "tomahto." The whole tomato-tomahto debate has entered the language as an example of a difference so small, it doesn't change anything. For example, people will generally know what you are referring to no matter how you pronounce it. But what if one group of people thought a tomato was a red plant suitable for making delicious curries and burger toppings, while other thought a tomahto was a green fruit only found in the southern Australia? This misunderstanding would certainly cause some considerable confusion at the family barbeque.

I choose the example above since it provides a good analogy for a problem that NIH and FDA have identified in the clinical research space: critical terms are not being used consistently across the clinical research landscape. This is specifically problematic when discussing innovative clinical trial designs and certain studies using real world data to generate real world evidence. What are some of the perils of having a modern-day Tower of Babel when it comes to clinical research? For starters, if different words mean different things to people, and are operationalized differently in different trials, how can we compare results from or pool data from different trials? Inconsistent usage of terms can also pose specific challenges in understanding the intended meaning and impact of terms. Problems from inconsistently terms can also cause major headaches when trying to describe a study design, communicating the goals of a planned study, or interpreting and describing research results.

To avoid the pitfalls that inconsistent use of terms can lead to, NIH and FDA created an interagency team of experts to study the issue and develop a resource that could be used to assist the research community in effectively communicating about clinical trials. As a result of the team's efforts, NIH and FDA have released a glossary of terms related to clinical research for public comment. Right off the bat, we should make clear that this glossary is not intended to cover the entire landscape of clinical research. The glossary contains 37 terms the team identified as being inconsistently used within the scientific community.

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- ## Webinar Recording Available: Congruence Review (for Studies Involving Vertebrate Animals)

Did you miss this informative webinar hosted by the NIH Office of Laboratory Animal Welfare (OLAW) earlier this year? Congruence review is required prior to award (e.g., grants, cooperative agreements, contracts) for activities that involve the use of live vertebrate animals per PHS Policy IV.D. It is the process that ensures that the information in IACUC protocols is consistent with the application to be awarded, and is an institutional responsibility. This OLAW Online Seminar covers the foundations of congruence review, including definitions, requirements, flexibilities, and answers to common compliance questions.

The webinar recording, slides, transcript, and additional questions are now available on the OLAW website. Find other recent webinars here.

- ## Webinar – Updates to NIH Institutional Training Grant Applications

The NIH institutional training grant application is undergoing changes that take effect for submissions due on or after January 25, 2025. Wondering about the implications for your application preparation? Consider participating in this live, **virtual event on June 5, 2024** where NIH experts will provide insights and updates on these changes, concluding with a live Q&A session. Registration is required, so reserve your spot today!

For more details on the goals of these changes, see the Updates to Training Grant Applications page.

- ## Age of Principal Investigators at the Time of First R01-Equivalent Remains Level with Recent Years in FY 2023

In 2021, we reported that the age at which a researcher is designated on an NIH award for the first time had increased since 1995 and plateaued in the 2010s. We showed that the median age for PhDs first designated on an award remained around 41 in recent years while the median age of MDs and MD-PhDs was 44. There were no appreciable differences between researchers identifying as male or female. Today we are sharing an update on these data for fiscal years (FYs) 2021 – 2023, with the addition of information related to race, ethnicity, and disability status.

We have heard concerns about the rising age at which early career researchers are first supported on an NIH award. Some concerns have centered on the ways competitive funding and academic hiring impact early career scientists pursuing independent research careers.

For simplicity in this post, we refer to investigators receiving awards, but recognize that NIH makes R01-equivalent awards to institutions (not individual researchers).

Table 1 shows the age of investigators upon receiving their first R01-equivalent grant for FYs 2021 through 2023 disaggregated by their terminal degree. Between FYs 2021 and 2023, the median age for PhDs receiving their first award was 41 while the median age for MDs and MD-PhDs remained around 44. The difference between these groups may be due to the additional time spent by physicians in clinical training after receiving their degrees.

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LONI HPC Allocation for LBRN

To support the LBRN / BBC Core community on LONI HPC systems, we have renewed our high-performance computing allocation for 2024.

This can be utilized in lieu of individual investigators having to apply for and acquire their own allocations to access the HPC resources. If any of your campus members need access to high performance computing, please have them interface with Dr. Nayong Kim.

LBRN "Core Bucks"

The BBC Core and MCBR Core offer researchers the opportunity to earn "Core Bucks" to support faculty and students upto $1500. Requests for Core Bucks from Member Institutions must be initiated through the respective Core Contact on campus.

- The Bioinformatics, Biostatistics, and Computational Biology Core (BBC Core)

The BBC Core serves to train and support project investigators and their teams across Louisiana. It works to enable Louisiana Biomedical Research Network project PIs and their teams to employ Louisiana cyberinfrastructure (especially high performance computing), and to provide bioinformatics services, training, and educational support.

The core provides bioinformatics training, conducts workshops, and provides bioinformatics analysis services. The core also provides access to the IBM Delta Cluster and has a dedicated BBC allocation for the high performance computing resources at LSU. The BBC Core maintains software licenses and access to Ingenuity Pathway Analysis (IPA), Partek Flow, DNASTAR, and Ion Torrent analysis software. In addition, several open source tools for bioinformatics such as bowtie, tophat, cufflinks, samtools, GATK, QIIME, DADA2, Phyloseq, etc. are installed and maintained.

Some examples of standard bioinformatics workflows that can be supported through core bucks requests:

- Gene Pathway Analysis
- RNA-Sequencing Processing and Analysis
- 16S rRNA Microbial Community Analysis
- ITS2 Fungal Community Analysis

Other workflows can be developed or adapted from existing software on an as needed basis.

For more information, see: https://lbrn.lsu.edu/cores.html#corebucks

- The Molecular and Cell Biology Resources Core (MCBR Core)

MCBR Core Services include both one-on-one training for faculty and students as well as workshops on topics like bioinformatics and protein purification.

Sample services:
1. Molecular Biology Reagent Equipment and Services

- GeneLab provides conventional and next generation nucleic acid sequencing (NGS), and recombinant DNA Service. NGS equipment includes Torrent PGM, Ion Proton etc
- NGS Services provides a reliable connection between NGS experiments and the analysis of NGS data

2. Protein Production, Purification and Characterization Laboratory

- Protein Purification and Characterization includes semi automated Bio-rad profinia affinity chromatography system, AKTA Explorer FPLC system, and HPLC and ultracentrifugation equipment
- Peptide Synthesis and purification
- Protein-protein interactions are investigated using primarily Surface Plasmon Resonance (SPR) implemented on Biacore and ForteBio SPR equipment. Additional physicochemical characterization of protein-protein interactions is available through collaborations with the LSU Department of Chemistry.
- Gene-to-Protein-to-Antibody Services – you provide the gene, we return an antibody

3. Molecular Immunopathology Laboratory Services

- Pathology Services including necropsy procedures, gross and histopathological examinations and interpretation of immunohistochemistry and special stains performed by veterinarians and histology specialists
- Flow Cytometry and immunophenotyping Services
- Multiplex/Luminex complements immunophenotyping services for rapid and standardized analysis of soluble factors e.g., lymphokines, using bead based array technology.
- Microscopy – contains transmission and scanning electron microscopes, a laser dissection microscope, a Leica TCS SP2 for 3D fluorescence microscope, and a high-throughput digital slide-scanner.

For more information, see: https://lbrn.lsu.edu/cores.html#corebucks

NIH LBRN Acknowledgement

So that we can most effectively communicate the scope and results of our funding support, we would like to know when you are planning news announcements about IDeA awards or program activities and achievements…

When you produce such material, please be sure to identify the IDeA program, not just the INBRE, COBRE or sub-program, and to provide context about the program's goals along the lines of:

The University of _____ has received $XXX from the National Institutes of Health

In journal articles, news releases, or other materials about your program's activities or achievements, please use funding acknowledgement language such as:

• In journal articles, oral or poster presentations, news releases, news and feature articles, interviews with reporters and other communications, acknowledge the IDeA program's full or partial support of the research. The citation in scientific publications should use the following format:

Research reported in this publication was supported by an Institutional Development Award (IDeA) from the National Institute of General Medical Sciences of the National Institutes of Health under grant number P20GM103424-21.

• If you wish to acknowledge NIH/NIGMS funding on your Web site or other communication product, you may use wording such as:

Funded by an Institutional Development Award (IDeA) from the National Institutes of Health.
or
Funded by the LBRN (2P20GM103424-21) *an Institutional Development Award (IDeA) from the National Institute of General Medical Sciences of the National Institutes of Health.*

Please do not use the NIH or NIGMS logo to acknowledge funding, as these logos are only to be used for material produced by NIH and its components.