News, Opportunities and Deadlines for February 2023

LBRN Summer Research Program

LBRN Summer Research Program

for Undergraduate and Graduate students May 22—July 28, 2023



AWARDS

- Undergraduate and Graduate students will receive support of \$4,000 and \$6,000 respectively
- · Housing is provided, if needed

APPLICATION DEADLINE

- If you would like to know more about this program, please go to Research Programs at: https://lbrn.lsu.edu/summer-research-program.html
- If you have any questions, please contact **Dr. Brent Stanfield**:

Phone: 225-578-9688
Email: LBRN@lsu.edu
Web: LBRN.lsu.edu



Louisiana Biomedical Research Network

Program Information

Our Summer Research Program is a research based summer program for **faculty**, **graduate students** and **undergraduate students** attending a Louisiana college or university. The program will be held **May** 22 – July 28, 2023.

Deadline for all materials is March 20, 2023.

The Louisiana Biomedical Research Network (LBRN) sponsors a summer research program in support of undergraduate students, graduate students and faculty from any Louisiana institute. The goal of our program and funding is to support biomedical research through an increase in graduate school admissions in these scientific fields and make Louisiana researchers more competitive in obtaining federal funding for research. We encourage applicants to seek mentors at the Louisiana State University A&M Baton Rouge Campus and Pennington Biomedical Research Center to take advantage of training activies and core resources.

The schedule for undergraduate students covers ten weeks during the summer; the summer program dates are May 22 – July 28, 2023. The schedule for graduate students and faculty is more flexible. It is expected that an agreement be reached between the program participant (undergraduate student, graduate student or funded faculty) and the intended mentor. It is expected that the agreement to mentor an LBRN participant is a mutual one between the intended mentor and the funded participant.



The aim of this network is to enhance the quality of biomedical research conducted throughout the state of Louisiana by increasing access to state of the art research infrastructure.

What do students say about the LBRN program?

- Overall great view into the research world that is not given at my home institution.
- Gaining research experience and developing new friendships.
- Learning techniques in lab because that will be something I take with me forever.
- It gives students an opportunity to work in a research lab and it also allows them to determine what career path to follow.
- I've learned so much about research. My mentor has been very effective in delivering post-grad information.
- My research experience has reinforced my plans for the future.

Program Date

May 22 - July 28, 2023



Awards

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- · Housing is provided, if needed

Application Deadline

Monday, March 20th, 2023

If you would like to know more about this program, please go to Research Programs

at: https://lbrn.lsu.edu/summer-researchprogram.html

If you have any questions, please contact Dr. Brent Standfield at lbrn@lsu.edu

Louisiana Biomedical Research Network is supported by an Institutional Development Award (IDeA) from the National Institute of General Medical Sciences of the National Institutes of Health grant number 5P2O GM103424-21, 3P2O GM103424-1551 and the Louisiana Board of Regents for the purpose of improving the competitiveness of Louisiana biomedical researchers.



Who are we?

Louisiana Biomedical Research Network was established in September 2001 with funding by NIH, NCRR's IDeA Networks of Biomedical Research Excellence Program (Grant P20R016456) and National Institute of General Medical Sciences (Grant P20GM103424) and Louisiana Board of Regents, the LBRN program is committed to raising the research competitiveness of Louisiana researchers.

What do we do?

Louisiana State University A&M, in conjunction with the NIH/NIGM, is hosting research opportunities for eligible faculty, graduate and undergraduate students in Bioinformatics, Computational Biology, and Cell and Molecular Biology. Our focus is providing research opportunities to faculty and students from primarily undergraduate institutes in the state of Louisiana. Those interested in working on projects at the interface between the biological and computational sciences are encouraged to apply to this program. Women and members of underrepresented minorities are urged to apply.

Who can apply?

- Full-time undergraduate and graduate students with at least a 3.0 GPA.
- Students enrolled in a College or University in Louisiana (excluding LSU and Tulane).
- Students with research interests in the Biological or Computational Sciences.
- Students who have to completed the appropriate science introductory courses.
- Students interested in attending graduate, medical or professional schools.

What do you get out of the LBRN program?

- Hands on research experience in the laboratory and/or the field.
- Experience using different types of research instruments and techniques.
- Meet other young investigators from across the state and the country.
- Exposure to a wide range of ongoing research projects.
- Tips on scientific writing and presentation.



Where will research be done?

 Work will be done in established laboratories at LSU Baton Rouge, LSU School of Veterinary Science, and Pennington Biomedical Research Center. Please contact the LBRN Program Office for details.

Research Forum

The program culminates in a professional poster session (Summer Undergraduate Research Forum, SURF) where each participant presents the results of their summer project along with participants from multiple REU programs.



Student Scholar Program

Eligible students will have the opportunity to continue their mentored research during the academic year.

Future Plans

Participants are encouraged to attend local or regional science meetings to present their research.

Mailing address

Louisiana Biomedical Research Network School of Veterinary Medicine Louisiana State University VMED 3110, Baton Rouge, LA 70803

Apply LBRN Summer Research:





The schedule for the Spring 2023 HPC Training is available at http://www.hpc.lsu.edu/training/tutorials.php.

Our first HPC training will be held on Wednesday, March 01 at 9:00 AM. Due to concern about the COVID-19, all training sessions are Zoom online events from 9:00AM to 11:00AM. The sessions will be recorded for later review.

Note that all HPC trainings will start at 9:00AM.

March 01, 2023: Introduction to Singularity: Creating and Running Containers on HPC

Containers such as Singularity allow users to pack an application and all its dependencies, including the operation system, into a single image, which makes the application more portable, shareable, and reproducible. For instance, one user can create in his/her own HPC environment a Singularity image for a complex workflow with many software components and their dependencies, then share it with other users, who can run the workflow on other HPC systems, independent of the environment as along as Singularity is supported. In this tutorial, we will show how to build Singularity images and run them on the LSU/LONI HPC clusters.

Prerequisites: Basic knowledge on using HPC environment is assumed but not required.

Next HPC Training:

March 08, 2023: Open OnDemand: Interactive HPC via the Web

This training will provide an introduction to Open OnDemand, a browser based tool now available to all LSU HPC users on campus. Open OnDemand requires only a web browser (no plug-ins) and an LSU HPC account. It features a file browser, command line shell access, job management, and access to interactive Jupyter notebooks and RStudio servers running interactively on SuperMIC's compute nodes. This training will feature an overview of Open OnDemand, and a demonstration of all it's features, including Jupyter Notebook and RStudio.

Prerequisites: LSU HPC account, Some knowledge of using HPC is assumed but not required

Please visit http://www.hpc.lsu.edu/training/tutorials.php for more details and register using the link

provided. Users will be provided with a zoom link in their registration confirmation email. Please see the system requirements at https://support.zoom.us/hc/en-us/articles/201362023-System-Requirements-for-PC-Mac-and-Linux.

Duke University PRIME-PREP Program



It is a new post-baccalaureate program introduced by Dr. Micah Luftig at Duke geared to train students traditionally underrepresented in science that are interested in pursuing graduate studies in the biomedical sciences. This is a yearlong program with lab-based research in an active, collegial environment with extensive career development opportunities and coaching with faculty and peer mentors. For more details please see this link below.

The application deadline is **Feb 17th** and the program begins in July.

Duke Preparing Research scholars In bioMEdical sciences (PRIME) Postbaccalaureate Research Education Program (PREP) is an National Institutes of Health (NIH) funded program that provides an immersive paid research experience in outstanding research facilities with leading investigators at Duke University Medical School.

This one year program also provides comprehensive professional development experiences and workshops to strengthen professional skills in order to excel in research and graduate school. Overall, this experience is designed to prepare individuals for admission into a biomedical sciences PhD program.

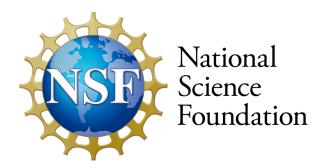
Duke PRIME-PREP provides focused research training opportunities for students from backgrounds historically underrepresented in science and medicine. In this NIH-funded program, we work closely with recent post-baccalaureate students to provide them with the skills necessary to excel in graduate training programs in the life sciences. Our goal is to equip those with the desire and motivation to become the

next generation of life science researchers with the credentials required to achieve this.

For further information, please contact Micah Luftig at micah.luftig(at)duke.edu

Apply Here!

Funding Opportunity from NSF



Building Research Capacity of New Faculty in Biology (BRC-BIO)

Supports pre-tenure faculty in the biological sciences at institutions that traditionally do not receive significant NSF funding in this field, including minority-serving institutions, predominantly undergraduate institutions and R2 institutions.

Synopsis

With a focus on enhancing research capacity and broadening participation of new faculty of biology at minority-serving institutions (MSIs), predominantly undergraduate institutions (PUIs), and other universities and colleges that are not among the nation's most research-intensive institutions, the Directorate for Biological Sciences (BIO) offers the Building Research Capacity of New Faculty in Biology (BRC-BIO) program. The BRC-BIO program aims to a) broaden participation by expanding the types of institutions that submit proposals to BIO, and b) expand opportunities to groups underrepresented in the biological sciences, including Blacks and African Americans, Hispanics, Latinos, Native Americans, Alaska Natives, Native Hawaiians and other Pacific Islanders, and persons with disabilities, especially those serving at under-resourced institutions. Awards will provide the means for new faculty to initiate and build independent research programs by enhancing their research capacity. These projects might also include biology-focused research collaborations among faculty within the same institution, across peer-, or research-intensive institutions, or partnerships with industry or other non-academic partners that advance the candidate's research program. By providing this funding opportunity,

BIO recognizes the national urgency to broaden, strengthen, and diversify the science, technology, engineering, and mathematics (STEM) workforce. In particular, these awards will build capacity for research at institutions that have a primary focus on teaching and undergraduate education, or that have limited capacity for research. Projects should enable the establishment of sustainable research programs for faculty and also enrich undergraduate research experiences and thereby grow the STEM workforce. BRC-BIO welcomes proposals from principal investigators who share NSF's commitment to diversity, equity, and inclusion.

Proposals in response to this solicitation must be submitted to the Division of Biological Infrastructure (DBI) in the Directorate for Biological Sciences (BIO).

Program contacts

BRC-BIO Working Group; BRC-BIO@nsf.gov

Weekly Update from DRCB / NIGMS

Updates from DRCB/NIGMS

Issue 119, 02/13/2023

NIH Funding Opportunity and/or Policy Announcements

- INBRE FOA (PAR-23-100). Applications Due: June 26.
- Administrative Supplements to Support the Exploration of Cloud in NIH-supported Research (<u>NOT-OD-23-070</u>). Applications Due: April 11.
- Collaborative Program Grant for Multidisciplinary Teams (PAR-23-077). Applications Due: April 26.
- Biomedical Research Facilities (<u>PAR-23-045</u>). Applications Due: February 24.
- NRSA Institutional Research Training Grant (PA-23-048). Applications Due: April 25.
- Administrative Supplements for Equipment Purchases for Select NIGMS-Funded Awards (<u>NOT-GM-22-017</u>). Applications Due: March 01.

Issue 118, 02/06/2023

NIH Funding Opportunity and/or Policy Announcements

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Issue 117, 01/30/2023 NIH Funding Opportunity and/or Policy Announcements

- Reminders of January Deadlines:
 - COBRE Phase 1 (PAR-22-250). Applications Due: January 30 (Today).
 - Supporting Data Sciences Research in IDeA States through COBRE Phase 1 Program (<u>NOT-GM-23-011</u>). Applications Due: January 30 (**Today**).
 - Supporting Women's Health Research in IDeA States through COBRE Phase 1 Program (NOT-GM-23-012). Applications Due: January 30 (Today).
 - Administrative Supplements to INBRE Awards to Fund Research Collaborations (<u>NOT-GM-22-001</u>). Applications due: January 31 (**Tomorrow**).
- Reminder: NIH Policy for Data Management and Sharing effective on January 25, 2023 (<u>NOT-OD-23-053</u>).
- NRSA Institutional Research Training Grant (PA-23-048). Applications Due: April 25.
- Administrative Supplements for Equipment Purchases for Select NIGMS-Funded Awards (NOT-GM-22-017). Applications Due: March 01.

LBRN Cores Support Form

LBRN Bioinformatics, Biostatistics, and Computational Biology Core (BBCC) and Molecular and Cell Biology Resources Core (MCBRC) remind you that they are available for questions and contact via our LBRN Cores website. If you're not sure who to reach out to, you can ask via our website Cores Contact form and we will get back to you with the appropriate resource to do the best we can to answer your question. Look for the "Cores Contact" on the Cores page.



Louisiana Biomedical **Research Network**

About Cores Research Training & Education Resources Events







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LBRN Cores

BBC

The Bioinformatics, Biostatistics, and Computational Biology Core (BBCC) of the Louisiana Biomedical Research Network (LBRN) serves to train and support project investigators and their teams across Louisiana, and to lead and support translational research activities at the frontiers of biomedical science. Its team uses both established and custom computational tools, operating at computational scales ranging from the mundane to analyses engaging many hundreds of compute cores.



MCBR

Molecular and Cell Biology Resources Core (MCBRC) provides an essential linkage among important basic fields of biomedical science, such as genetics, developmental biology, structural biology, immunology, neurobiology, and cancer biology. The MCBRC takes advantage of existing highly organized, centralized services and equipment facilities located primarily at the LSU flagship institution in Baton Rouge, effectively uniting these units toward the common goal of supporting biomedical research performed by PUI investigators. The MCBRC will provide technical and logistical support, enabling the ready exchange of information, ideas, technology, and research capabilities among PUI investigators. MCBRC will ensure that PUI researchers have full access to state-of-the-art equipment and modern research techniques and services.



Cores Training & Support



The cores provide one on one training. If you have a question or would like to talk about your training needs, you would like more information about services provided by the cores, or you would like to talk to someone in the core about how someone can assist you, please use Cores Contact link:

Cores Contact

LBRN Cores Contact Form

Please complete the questions below.



Thank you! Your Name * must provide value Your Email * must provide value Your Institution 4 * must provide value Indicate which core(s) that best fits / you'd like to contact: Administrative Core Bioinformatics, Biostatistics, and Computational * must provide value Molecular and Cell Biology Resources Core Other/Not Sure select all that apply Please describe what you would like to ask and the question will get routed to the appropriate person in the core or the administrative core will contact you to try to help who is the appropriate person to contact you. * must provide value Expand Submit

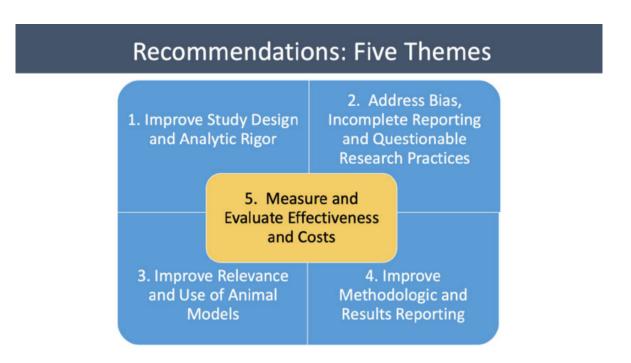
NIH Extramural Nexus

Take Advantage of Our Many Resources for Enhancing the Rigor of Animal Research

"Despite the numerous successes stemming from animal research, concerning reports over the past decade have described biomedical experiments that fail to replicate or to translate in ways that improve human health. All research is not expected to translate to human treatments, as there is no perfect model. Scientific process is as much about failure as it is about success. Yet part of the scientific process is also continual improvement, which includes working to understand what might contribute to unexpected outcomes within animal research."

The Advisory Committee to the NIH Director (ACD) expressed that view in their 2021 final

<u>report</u> recommending ways for NIH to improve the rigor, reproducibility, and translatability of the research we support involving animal models. Former NIH Director, Dr. Francis Collins reinforced this notion when he <u>wrote soon after the ACD report's release</u>, "The ability to reproduce biomedical research findings is foundational to the advancement of science and relies on rigorously designed and performed research studies. When a scientific finding can be reproduced by multiple scientists, it validates the accuracy of the data and ensures the study is ready to progress to the next phase of research."



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NIH Preprint Pilot Expands to Include Preprints Across NIH-funded Research

In 2020, I shared information about NLM's launch of the <u>NIH Preprint Pilot: A New Experiment for a New Era</u> to explore how inclusion of preprints in our literature resources, <u>PubMed Central (PMC)</u> and <u>PubMed</u>, could accelerate the discoverability and maximize the impact of NIH-supported research. Preprints are complete, public drafts of scientific documents that are not yet peer reviewed. We are now expanding into a second phase of the pilot to inform our understanding of the role of preprints in communicating the breadth of NIH-funded research. Coinciding with the designation of 2023 as the <u>Year of Open Science</u>, this second phase will run for a year and encompass all preprints reporting on NIH-funded research and posted to an eligible preprint server on or after January 1, 2023.

A <u>2016 NIH request for information</u> found that scientists post preprints to speed dissemination, increase transparency of their research, and establish priority of <u>discovery</u>. Additional benefits noted include helping junior investigators obtain credit for their work, providing authors with the chance to incorporate feedback into their drafts prior to publication, and even form new collaborations. Preprints can also

facilitate distribution of research results and related data that are not formally published (e.g., negative or null results). In ensuing years, NIH recognized the potential of preprints, predicting in the <u>NIH-Wide</u> <u>Strategic Plan for Fiscal Years 2021-2025</u> that "[n]ew forms of scientific communications, such as preprints, will accelerate clinical research and shorten the evidence-to-practice cycle."

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3 Ways to Prepare for the 2023 NIH Grants Conference

The <u>NIH Grants Conference</u> is just around the corner (February 1-2), but there's plenty to do on the conference site now! This event is absolutely free, so <u>register today</u>. Once registered, visit <u>the site</u> and use our nifty tool to build your own personalized agenda, get a jump on viewing on-demand resources ahead of the conference, or explore the Exhibit Hall and make a plan to engage with staff from the NIH Institutes and programs during the conference. Don't forget to save each of the dates on your calendar now: <u>February 1</u> and <u>February 2</u>.

Here are three ways to prepare now to make the most of the conference and start the year strong, all available after logging in to the <u>conference platform</u>:

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12 Days of Data Management and Sharing Tips & Resources

As we get closer to the January 25, 2023 effective date of the new NIH Data Management and Sharing (DMS) Policy, here are 12 tips and resources we would like to gift you – but you might have to supply your own partridge in a pear tree

- 1-page flyer on the who, what, where, and when of the DMS Policy
- 2-part webinar series on understanding the DMS Policy and digging deeper into what's required
- 3 key steps to implement the DMS Policy
- 4 sample DMS Plans to assist as you develop a plan for your research, and an optional format page
- <u>5 minutes</u> is all it takes to determine what sharing policies apply to your research with this <u>decision</u> tool
- <u>6 elements</u> recommended for a robust DMS Plan, a key component for your funding application
- 7 examples of allowable costs for data management and sharing
- 8+ slides in our Implementing the DMS Policy slide deck
- <u>Fewer than 9 key differences</u> between the 2003 data sharing policy vs. the new DMS policy, illustrated on the policy comparison table
- 10 activities that generally do and do not generate scientific data, including a complete list of

activity codes generally subject to the DMS Policy

- 11+ FAQs to address your questions, and who to contact for more information
- <u>Dozens of NIH-supported data repositories</u> and resources to help you <u>find</u> an appropriate repository for your research

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 2022 / 2023.

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 <u>Dr. Nayong Kim</u>.

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

- 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 slidescanner.

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 (NIH) to support an Institutional Development Award (IDeA) Center of Biomedical Research Excellence. The IDeA program builds research capacities in states that historically have had low levels of NIH funding by supporting basic, clinical and translational research; faculty development; and infrastructure improvements.

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

Research reported in this {publication, release} 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 5 P20 GM103424-21.

• 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.







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