News, Opportunities and Deadlines for July 2022

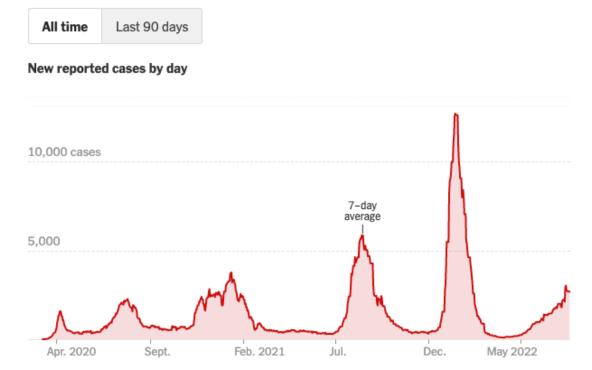
Louisiana Coronavirus (COVID-19) Information

Information from the New York TImes: https://www.nytimes.com/interactive/2021/us/louisiana-covid-cases.html
Updated July 20, 2022

Latest trends

- An average of 2,673 cases per day were reported in Louisiana in the last week. Cases have increased by 46 percent from the average two weeks ago. Deaths have increased by 141 percent.
- Since the beginning of the pandemic, at least 1 in 3 residents have been infected, a total of 1,354,398 reported cases. At least 1 in 266 residents have died from the coronavirus, a total of 17,491 deaths.
- January 2022 was the month with the highest average cases, while April 2020 was the month with the highest average deaths in Louisiana.

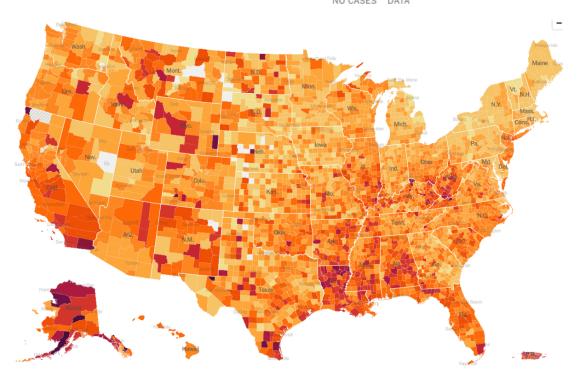
How trends have changed in Louisiana



Hot spots

AVERAGE DAILY CASES PER 100,000 PEOPLE IN PAST WEEK

10 30 50 70 100 250 FEW OR MISSING



	CASES DAILY AVG.	PER 100,000	14-DAY ▼ CHANGE	TEST POSITIVITY	DAILY AVG.	PER 100,000	14-DAY CHANGE	DEATHS DAILY AVG.	PER 100,000	FULLY VACCINATED
United States	124,683	38	+24%	18%	41,449	12	+19%	435.7	0.13	67%
Louisiana >	2,673	58	+46%	29%	544	12	+45%	5.9	0.13	54%

LBRN Achievement



Dr. Cory Coehoorn, Associate Professor of Kinesiology and Health Science at LSU-Shreveport, recently presented three research studies at the <u>2022 American College of Sports Medicine Annual Meeting</u> in San Diego, California. The three presentations were all related to his work with firefighters. The presentations were

titled "Cortisol Responses Among Volunteer and Paid-on-call Firefighters Responding to Calls at Night," "Effect of Sleep and Shift Characteristics on Heart Rate Variability in Wildland Firefighters," and "Subjective and Objective Fatigue in Wildland Firefighting."

- Service, T., Coehoorn, C.J., Gawryluk, J.R., Stuart-Hill, L. (2022). Cortisol Responses Among Volunteer and Paid-on-call Firefighters Responding to Calls at Night. Poster presentation at American College of Sports Medicine Annual Conference in San Diego, CA.
- Stuart-Hill, L., Coehoorn, C.J., Wallace-Webb, J.E. (2022). Effect of Sleep and Shift Characteristics on Heart Rate Variability in Wildland Firefighters. Poster presentation at American College of Sports Medicine Annual Conference in San Diego, CA.
- Wallace-Webb, J.E., Coehoorn, C.J., Stuart-Hill, L. (2022). Subjective and Objective Fatigue in Wildland Firefighting. Poster presentation at American College of Sports Medicine Annual Conference in San Diego, CA.



Job Posting Title: BioMMed Project Coordinator

Position Type: Professional / Unclassified

Department: LSUAM VetMed - Department of Biotechnology and Molecular Medicine (Konstantin G Kousoulas)

Work Location: (LSU Baton Rouge) Veterinary Medicine Building

Pay Grade Type: Professional

Job Description: This is a 12-month project coordinator position in the Division of Biotechnology & Molecular Medicine (BioMMed).

65% - Assists the BioMMED Director for overall project management and business coordination of all BioMMed activities. Assists the Principal Investigator and provides support for management, including all scheduling and scientific aspects, of **LBRN** and other NIH Center projects including time schedules, NIH progress reports, communication with BioMMED and LSU business offices.

20% - Provide management support for molecular and cell biology cores and programmatic needs, including all scheduling and scientific aspects, of NIH-supported cores and Centers managed by BioMMed.

10% - Execute management projects and provide assistance to BioMMED in new projects and activities.

5% - Other duties as assigned.

Minimum Qualifications:

Bachelor's degree in business, management, or other related degree and 1 year of project management experience or evidence for competency in an academic setting.

Specific experience - Some knowledge of biology. Experience with Microsoft suite software including excel and spreadsheets.

Preferred Qualifications:

Master's degree and 1 year of experience in business, project management.

Specific experience - A BS and MS degrees in business or project management with some evidence of knowledge of biomedical sciences.

Special and Physical Qualifications:

Essential Personnel - This position may be required to report to campus in times of emergency and/or closure per PS-18.

Additional Information / Application



LSU HPC SuperMike-3 Launch Workshop July 28, 2022



LSU HPC is pleased to announce that the SuperMike-3 cluster will be in full production on July 28, 2022.

SuperMike-3 is a 1.3 PetaFlop peak performance cluster with the latest CPUs from Intel and GPUs from NVIDIA, comprised of 183 compute nodes connected by 200 Gbps Infiniband fabric:

- 171 regular nodes: two 32-core Intel Ice Lake CPUs, 256 GB RAM
- 8 GPU nodes: two 32-core Intel Ice Lake CPUs, 256 GB RAM, four NVIDIA Tesla A100 GPUs
- 4 bigmem nodes: two 32-core Intel Ice Lake CPUs, 2 TB RAM

To help new and existing HPC users get up to speed on SuperMike-3, LSU HPC will have a one-day virtual launch workshop on July 28, 2022. Below is the tentative schedule:

9:00 - 9:15 Welcome

9:15 - 10:15 System overview

10:15 - 10:30 Break

10:30 - 11:30 Job management with Slurm

11:30 - 12:30 Performance benchmarks and tuning

12:30 - 2:00 Lunch break

2:00 - 4:00 Q&A + On-ramp sessions (breakout sessions)

Please register for the workshop here:



A Zoom link will be sent to the registered attendees before the workshop.

National Resesarch Mentoring Network



As an NRMN mentor, you can attest first-hand to the impact mentoring has on the careers of young scientists. The Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS), one of the nation's largest STEM conferences for scientists from historically marginalized communities, recognizes the importance of mentorship in STEM and actively promotes its benefits to conference attendees. This year, ABRCMS will be held November 9-12 in Anaheim, CA.



ABRCMS is seeking active researchers to serve as mentor judges to the 2,000+ students who present their research at the conference. In addition to mentoring opportunities, judges will have the chance to network with like-minded colleagues who are passionate about increasing diversity in STEM as well as participate in cutting edge scientific sessions.

<u>Travel awards</u> are available to researchers willing to serve as judges.

Apply today!

Deadline to apply is August 4.

Interested in ABRCMS, but can't attend the conference?

- Sign up to be an online abstract reviewer. Active researchers are needed to help review abstracts.
- Submit a session proposal. Share your expertise by <u>submitting a professional development or scientific</u> session proposal.
- Tell your students. Undergraduates, postbaccalaureates, and master's students can submit a <u>poster or oral abstract</u>. Graduate students can submit an oral abstract for participation in the <u>Graduate Symposium</u>. <u>Travel awards</u> for students available.

Questions? Contact abrcms@asmusa.org.



LSU HPC Training



Our next HPC trainings will be held on Wednesday, July 20 and July 27 at 9:00 AM. Due to concern about the COVID-19 pandemic, 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.

Wednesday, July 20, 2022: HPC User Environment 2, Job Management on HPC Clusters

This training provides an overview of the HPC/LONI general account and allocation policies, hardware, and software environments, queuing system, compiling programs, writing submit scripts, running and monitoring jobs

on HPC systems.

This training is the second session of the *mandatory* two-day training event for all HPC/LONI new users held on July 13 and July 20.

Prerequisites: Familiarity with Linux/Unix commands and editors.

Next HPC training:

Wednesday, July 27, 2022: Basic Shell Scripting

For anyone who works in a Linux/Unix environment, a working knowledge of shell scripting is essential and will boost their efficiency and productivity tremendously. For this tutorial, we will focus on bash as it is one of the most popular shells. This tutorial will include topics such as creating simple bash scripts, flow control, command line arguments, regex, grep, awk and sed. This is a practical tutorial, so we will provide examples and/or handson exercises for most of the covered materials.

Prerequisites: Access to a Linux/Unix based environment, i.e. Linux (VirtualBox images), Mac OSX and Windows with Cygwin or Bash installed.

Please visit https://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.

NIGMS - High School and Undergraduate Programs

High School

Research Supplements to Promote Diversity in Health-Related Research (Admin Supp)

PA-21-071; Shakira Nelson; Zuzana Justinova

This program employs the research project grant as the platform for intensive mentored research experiences within the scope of the grant during the continuum from high school to the postdoctoral level and investigators developing independent research careers. The goal is to increase the nation's pool of students from underrepresented groups by preparing them to continue their training and career advancement in biomedical research.

• Community College Student

Bridges to the Baccalaureate (T34)

PAR-22-125; Shakira Nelson; Laurie Stepanek

The goal of the program is to provide structured activities to prepare a diverse cohort of community college students to transfer to and complete a bachelor's degree in biomedical research fields. The program supports institutions that develop and implement effective, evidence-informed approaches to biomedical training and mentoring. This program requires partnerships between two-year post-secondary educational institutions granting the associate degree with four-year colleges or universities that offer the baccalaureate degree.

NIH Common Fund Initiative: The Diversity Program Consortium - Enhancing the Diversity of the NIH-Funded Workforce, Building Infrastructure Leading to Diversity (BUILD)(U54)

RFA-RM-13-016; Edgardo Falcón-Morales; Sydella Blatch; Laurie Stepanek; Consortium contact: Alison Gammie

BUILD awards are designed to implement and study innovative approaches to engaging and retaining students from diverse backgrounds in biomedical research, potentially helping them on the pathway to become future contributors to the NIH-funded research enterprise. BUILD awards differ from other NIH-funded training grants in that they aim to achieve simultaneous impact at the student, faculty, and institutional levels.

NIH Common Fund Initiative: The Diversity Program Consortium - Enhancing the Diversity of the NIH-Funded Workforce, National Research Mentoring Network (NRMN)(U24)

RFA-RM-18-002; RFA-RM-18-003; RFA-RM-18-004; Michael Sesma; Consortium contact: Alison Gammie

The National Research Mentoring Network (NRMN) resource center provides mentoring and networking opportunities for biomedical researchers from diverse backgrounds, including those from underrepresented groups, from the undergraduate level through early career faculty. The NRMN coordination center brings together the NRMN awardees, including the resource center and the research on mentoring, networking and navigating critical transition points.

• Undergraduate Student

Maximizing Access to Research Careers (MARC) (T-34)

PAR-21-147; Patrick Brown; Sydella Blatch

The goal of the program is to develop a diverse pool of undergraduates who complete their baccalaureate degree, and transition into and complete biomedical, research-focused higher degree programs (e.g., Ph.D. or M.D./Ph.D.). MARC is an undergraduate student training program for institutions with research-intensive environments. Eligible institutions must have a 3-year average of NIH research project grant funding greater than or equal to \$7.5 million in total costs per year.

<u>Undergraduate Research Training Initiative for Student Enhancement (U-RISE)(T34)</u>

PAR-21-146; Kenneth Gibbs; Baishali Maskeri

The goal of the program is to develop a diverse pool of undergraduates who complete their baccalaureate degree, and transition into and complete biomedical, research-focused higher degree programs (e.g., Ph.D. or M.D./Ph.D.). U-RISE is an undergraduate student training program for institutions with research-active environments. Eligible institutions must have a 3-year average of NIH research project grant funding less than \$7.5 million in total costs per year.

Weekly Update from DRCB / NIGMS

Updates from DRCB/NIGMS

Issue 90 (7/18/2022)

NIH Funding Opportunity and/or Policy Announcements

- Modern Equipment for Shared-Used Biomedical Research Facilities: Advancing Research-Related Operations (PAR-22-190). Applications due: November 7.
- Alzheimers-Focused Administrative Supplements for NIH Grants that are Not Focused on Alzheimers Disease (NOT-AG-22-025). Applications due: October 1.

Upcoming Events

• NIH Data Management and Sharing (DMS) Policy Webinar Series, August 11, 1:30 – 3:00 PM ET; September 22; 1:30 – 3:00 PM ET. See more information.

Reports/News/Program Messages

- eRA Retirement of All Application Form Versions Prior to FORMS-E (NOT-OD-22-182).
- Call for Papers: Design and Analytic Methods to Evaluate Multilevel Interventions to Reduce Health
 Disparities, from the NIH Office of Disease Prevention. More information found here. Submissions due
 September 1.

See previous Weekly Updates at DRCB website: https://www.nigms.nih.gov/Research/DRCB/Pages/weekly-updates-from-DRCB.aspx

Issue 89 (7/11/2022)

- NIH Funding Opportunity and/or Policy Announcements
- Alzheimers-Focused Administrative Supplements for NIH Grants that are Not Focused on Alzheimers Disease (NOT-AG-22-025).

- Research on Women's Health in the IDeA States (NOT-GM-22-005).
- iEdison to Transition from NIH eRA to NIST (NOT-OD-22-158). Action required by users.
- Reports/News/Program Messages
- Call for Papers: Design and Analytic Methods to Evaluate Multilevel Interventions to Reduce Health
 Disparities, from the NIH Office of Disease Prevention. More information found here. Submissions due
 September 1.

Issue 88 (7/5/2022)

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Reports/News/Program Messages

Call for Papers: Design and Analytic Methods to Evaluate Multilevel Interventions to Reduce Health
Disparities, from the NIH Office of Disease Prevention. More information found here. Submissions due
September 1.

NIH Extramural Nexus

More Early-Stage Investigators Supported in FY 2021

Last summer, we <u>reported</u> that in fiscal year (FY) 2020 NIH supported 1,412 <u>early-stage investigators (ESIs)</u> as first-time Principal Investigators (PIs) on R01-equivalent awards. This all-time high was seen after several years of steady growth in the number of ESIs supported since implementing <u>NIH's Next Generation Researchers</u> <u>Initiative (NGRI)</u> five years ago. Today, we take a look specifically at how ESIs and other targeted groups fared last fiscal year. For more historical NGRI-related data as well as how the various career stage groups and applicants/awardees are defined, please refer to <u>our earlier post</u>.

In FY21, NIH supported 1,513 new ESIs as first-time PIs on R01-equivalent awards. This new all-time high level of support for ESIs represents a 7.2% increase over FY 2020. As there were 5,410 total applicants, this represents a funding rate of 28.0%.

When turning to At-Risk Investigators, fewer (2,026) were supported in FY 2021, compared to 2,108 In FY 2020. This group consists of researchers that received a prior substantial NIH award but, as best we can tell, will have no funding the following fiscal year if they are not successful in securing a competing award this year. The funding rate for this group also fell to 25.4%, compared to 27.0% last fiscal year. That said, it is important to note though that there have been more At-Risk applicants and awardees in FY 2021 compared to when we first

started following this group in FY 2016.

Table 1: PIs on R01-Equivalent Applications and Awards in FY 2021 by Career Stage

Career Stage	Pls on Applications	Pls on Awards	Percent Change in Awardees from FY 2020	Funding Rate
Early-Stage Investigators	5,410	1,513	7.2	28.0%
New, Not Early Investigators	7,694	1,280	-1.6	16.6%
At-Risk Investigators	7,985	2,026	-3.9	25.4%
Established Investigators	11,010	3,392	1.6	30.8%

Continue Reading.....

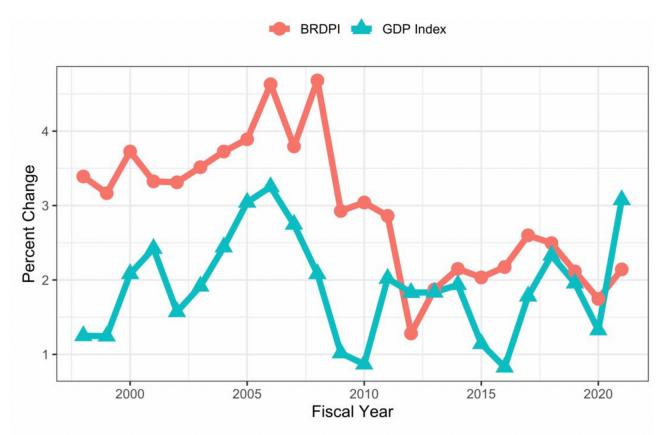
Inflation and NIH Research Project Grants

Here we discuss how inflation has been relevant to NIH Research Project Grants (RPG), the largest component of extramural NIH funding.

We can start with a straightforward question: What is inflation? The <u>US Federal Reserve</u> defines inflation as "the increase in the prices of goods and services over time." Prices for research project grants may increase over time for a variety of reasons:

- Background inflation: Prices increase across the economy due to increases in the money supply and/or
 economy-wide demand and supply stresses; these are reflected in general price indices, such as the <u>Gross</u>
 <u>Domestic Product (GDP) price index</u> and the <u>Consumer Price Index</u>.
- Research-specific inflation: Prices increase specifically in the biomedical research and development enterprise; these are reported as the <u>Biomedical Research and Development Price Index</u> (or BRDPI). The BRDPI measures changes in the weighted average of the prices of all the inputs (e.g., personnel services, various supplies, and equipment) purchased with the NIH budget to support research. The weights used to construct the index reflect the actual pattern, or proportions, of total NIH expenditures on each of the types of inputs purchased. Theoretically, the annual change in the BRDPI indicates how much NIH expenditures would need to increase, without regard to efficiency gains or changes in government priorities, to maintain NIH-funded research activity at the previous year's level. Figure 1 shows the BRDPI and GDP Price Index from 1998 to 2021. Until 2012, the BRDPI was generally higher than the GDP Price Index; since then the BRDPI has been equivalent to or lower, likely due to caps on senior faculty salary support.

Figure 1: Inflation indices FY1998 to FY2021.



BRDPI = Biomedical Research and Development and Price Index. GDP = Gross Domestic Product.

hanges in agency purchasing decisions (or compositional effects): We might imagine an automobile-rental firm that starts one year purchasing 10 mid-size sedans. The following year, it might choose to purchase instead 10 luxury mid-size sedans; costs increase not because of background inflation because of the firm's decisions about what it wants to buy. Alternatively, the firm may purchase 2 large vans, 4 mid-sized sedans, and 4 compact cars. Overall and median costs might not change (compared to the baseline of 10 mid-size sedans), but the firm's management will be acutely aware of the costs of the 2 large Similarly, NIH Institutes and Centers (IC's) may choose to issue investigator-initiated R01 awards, R01 awards that cost more (e.g. >500K in direct costs) because of use of large-scale clinical trials, or different size awards (program project grants, cooperative agreements, or small exploratory R21 or R03 awards).

Continue Reading.....

• Which Training Program Is Right for You?

Thinking about a career in research or wondering how to move forward in your journey to becoming an independent researcher? <u>Browse NIH programs by career path</u> to learn more about eligibility, current funding opportunities, and more.

While you're there, check out these interactive guides that walk you through how NIH programs can support you at different career steps on the path to becoming a:

- Physician-Scientist,
- Veterinarian-Scientist,

- Dentist-Scientist, or
- Research-Scientist.

Continue Reading.....

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

CFA for Short Term Core Projects



Molecular Cell Biology Research Resources Core (**MCBRC**) and Bioinformatics, Biostatistics, and Computational Biology Core (**BBCC**) are calling for proposals to carry out short term projects in collaboration with the Cores. All LBRN researchers can submit a proposal for a defined project that can be carried out in collaboration with the Core facilities listed in the attached Call for Proposals (CFP) on a competitive basis. Each selected project will be allocated \$1,500 to fully or partially offset Core expenses. Please contact your LBRN Steering

Committee Member.

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 2021/2022.

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>.

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 GM103424-20. 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 P20GM103424-20. 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 (2P20GM103424-20) 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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