News, Opportunities and Deadlines for June 2020

2020 LBRN Virtual Summer Program In-Progress

On June 8th, 2020 LBRN was pleased to make available the 2020 Virtual Summer Program for LBRN Participants across the state. This program is in place of our regular summer program which was cancelled due to COVID-19. We have proceeded with the following programs with various virtual/online formats with support from our LBRN PUI campuses and Pine BioTech.

We also provided the following online orientations, thanks to our LSU faculty and Environmental Health & Safety (EHS) Department with the ability to follow up for those who could not view it in real time.

On June 12th, 2020, LBRN hosted a 2 hour orientation online seminar by Dr. Arthur Penn, Professor at LSU School of Veterinary Medicine in Comparative Biomedical Sciences (CBS). The seminar was on "***Responsible Conduct of Research***", or his alternate title: "***how to keep from destroying your career before it gets started***", and "***Lab Notebook/Record Keeping***". This is a seminar we conduct for our regular REU program each summer and is required for LBRN students conducting research. It covered important topics in Responsible Conduct of Research as well as Record Keeping and what participants should and should not be doing and who to report and how to best handle situations in research. Due to the sensitive nature of the session, a recording was not publicly available afterwards but was made available for a short period of time to our participants.

On June 15th, 2020, LBRN hosted a 2nd orientation online seminar about ***Lab Safety and Biosafety*** with Dr. Jason Lejeune, LSU's EHS and Dr. Abigail Fish, also with LSU's EHS. Dr. Jason Lejeune is responsible for conducting routine safety audits and inspections of research laboratories for regulatory compliance as well as compliance with LSU policies and procedures and Dr. Abigail Fish is the Biological Safety Manager at EHS at LSU. The Biological Safety Manager oversees the EHS consultation and laboratory inspection program in support of the biological safety program. These duties include inspection of biological research labs, review of lab protocols, and preparing reports on existing and proposed lab activities, including biosecurity-related and environmental aspects of the research. This is also required for LBRN students in our program participating in lab research. Recordings are available via our Video Repository publicly and directly to our participants.

We are pleased to have participation in the following programs with the following participation from across the state with the approximate numbers:

Program List with participation numbers:

- Pine.Bio:
  - *Omics Logic Basics (29)
  - Bioinformatics for Infectious Diseases (12)
  - SARS-COV2: Genomic Data Analysis (16)
- LSU Shreveport:
  - Information Visualization (4)
  - Computational -Aided Drug Discovery (CADD) of Anti-Viral Therapeutics for COVID-19 (20)
- University of Louisiana at Monroe:
  - Bacteriophage Investigations – in Silico Bacteriophage Annotation Project (7)
- Southeastern Louisiana University:
  - Computer Aided Recognition (CAR) System (6)
  - Southeastern Louisiana University: Quantum Dots Imaging Project (1)

**Pine.Bio Omics may be taken with any other program listed.*

2020 LBRN Virtual Summer Program

(for undergraduate, graduate students, faculty and staff of LBRN Institutions)

The Louisiana Biomedical Research Network (LBRN) Summer Program is Supported by the Louisiana Board of Regents and NIH:NIGMS P20GM103424

Institution	PINE.BIO OMICS DATA SENSE AND MORE			LSUS SHREVEPORT		ULM	SOUTHEASTERN LOUISIANA UNIVERSITY	
								
Program	**Omics Logic Basics**	**Bioinformatics for Infectious Diseases**	**SARS-COV2: Genomic Data Analysis**	**Information Visualization**	**Computational -Aided Drug Discovery (CADD) of Anti-Viral Therapeutics for COVID-19**	**Bacteriophage Investigations – in Silico Bacteriophage Annotation Project**	**Computer Aided Recognition (CAR) System**	**Quantum Dots Imaging Project**
Length (months)	3	2	1	2	2	2	2	2
Number of Students	50	15	15	12	24	15	3	3
Instructor	LBRN / PINE.BIO	LBRN / PINE.BIO	LBRN / PINE.BIO	Dr. Marjan Trutschl	Dr. Elahe Mahdavian	Dr. Ann Findley / Dr. Chris Gissendanner	Dr. Omer Soysal	Dr. Patrick Moyer
Certificate	Course Certificate	Program Certificate	Program Certificate	LBRN Certificate of Completion				
				Invitation to present at either the LBRN annual meeting or Annual Bioinformatics Conference				

Louisiana Biomedical Research Network

Please use the link for more detailed information and registration.

DETAILED INFO

American Association for Cancer Research (AACR) Annual Meeting II - LBRN Graduate Summer Intern 2018 Presenting

Virtual American Association for Cancer Research (AACR) Annual Meeting II, held June 22 - 24, 2020.

Session PO.TB04.07 - Metastasis Therapies

5015 / 2 - γ-Tocotrienol inhibition of metastatic phenotypic behavior is associated with a decrease in galectin-3 expression and distribution in the highly malignant mouse +SA mammary tumor cells

Presenter/Authors

Paul William Sylvester, Jessie Grazier, **Mohammed R. Anwar** (*LBRN Graduate Summer Research Intern'18*). University of Louisiana at Monroe, Monroe, LA

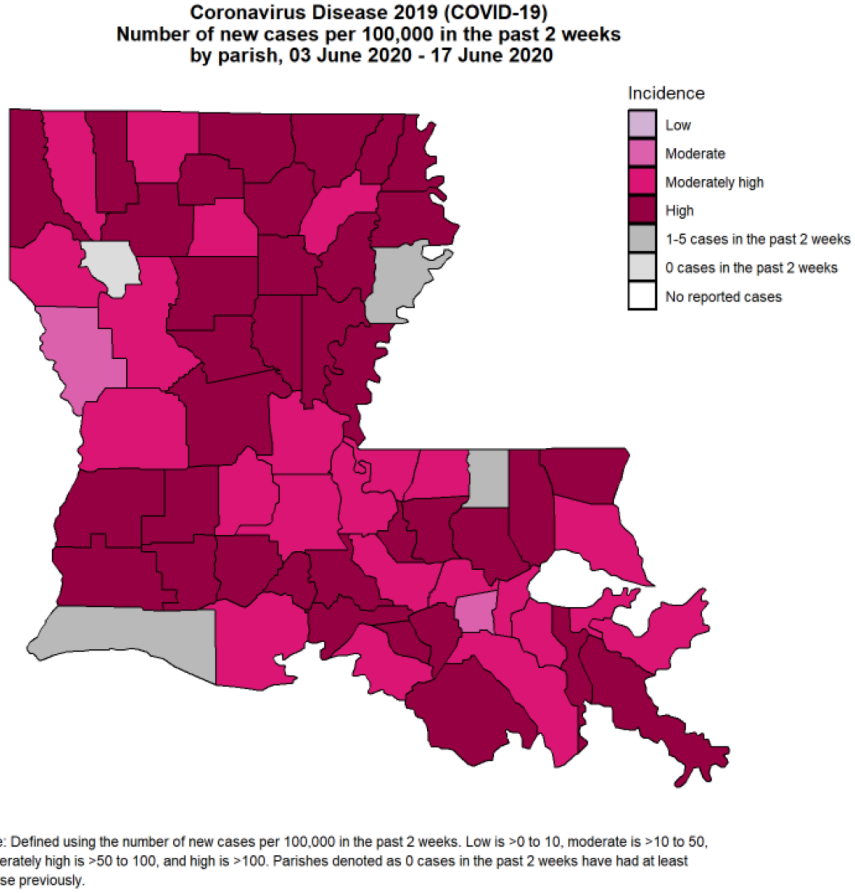
Abstract

γ-Tocotrienol is a rare natural isoform of vitamin E that displays potent apoptotic and anti-metastatic activity against breast cancer. Galectin-3 is a protein that plays an important role in metastasis by binding to glycoconjugates on receptors and extracellular matrix proteins. Studies were conducted to investigate the effects of γ-tocotrienol on galectin-3 expression and activity in highly malignant mouse +SA mammary tumor cells. Computer-aided molecular modeling studies were carried out within the active site of galectin-3 based on the crystal structure (5EXO) obtained from the protein data bank with a known ligand, and anticancer agents (salirasib, γ-tocotrienol, and β-lactose) galectin-3 docking scores and amino acid interactions were determine. Treatment effects on galectin-3 expression and distribution was determined by Western blot analysis and immunocytochemical fluorescent staining, respectively. Treatment effects on +SA cellular migration and invasion was also determined. Results show that salirasib and β-lactose (known inhibitors of galectin-3) that share some pharmacophoric properties with γ- tocotrienol, with protein docking studies showing that salirasib (active binding -2.8) and γ- tocotrienol (active binding -2.87) had a similar binding score and binding moieties. Western blot analysis shows that γ-tocotrienol treatment induces a downregulation of galectin-3 expression, whereas immunocytochemistry studies shows that galectin-3 is highly expressed in +SA cells, and treatment with 5 μM γ-tocotrienol greatly reduced galectin-3 expression in these cells. Furthermore, galectin-3 was found to form globular structures on the outer membrane of +SA cells in the vehicle-treated control group, and +SA group, and a high level of fibronectin on the outside of +SA cells, and γ-tocotrienol greatly attenuated galectin-3 expression and distribution in +SA cells. Furthermore, treatment with 1.5 μM histamine significantly stimulated +SA mammary tumor cell migration, whereas combined treatment with 5 μM γ-tocotrienol completely blocked histamine-induced +SA cell migration. In summary, these results demonstrate for the first time that γ-tocotrienol treatment inhibits extracellular galectin-3 expression and disrupts galectin-3 carbohydrate binding, activation and

migration of +SA mammary tumor cells. These findings also suggest that γ-tocotrienol may provide significant benefits in the prevention and/or treatment of metastatic breast cancer. This study was supported in part by funding from the Louisiana Cancer Foundation.

LBRN Coronavirus (COVID-19) Information

Two-week incidence by parish



Note: Defined using the number of new cases per 100,000 in the past 2 weeks. Low is >0 to 10, moderate is >10 to 50, moderately high is >50 to 100, and high is >100. Parishes denoted as 0 cases in the past 2 weeks have had at least 1 case previously.

Gating Criteria Status - June 22

Region	COVID-like Illness	Cases	Hospitalizations
STATE	Plateau	Increasing	Plateau
Region 1 (New Orleans)	Increasing	Increasing	Plateau
Region 2 (Baton Rouge)	Plateau	Increasing	Decreasing
Region 3 (South Central)	Plateau	Increasing	Decreasing
Region 4 (Acadiana)	Increasing	Increasing	Increasing
Region 5 (Southwest)	Increasing	Increasing	Increasing
Region 6 (Central)	Plateau	Plateau	Increasing
Region 7 (Shreveport/Bossier)	Decreasing	Increasing	Plateau
Region 8 (Monroe)	Plateau	Decreasing	Decreasing*
Region 9 (Northshore)	Plateau	Increasing	Plateau

* Denotes most recent trend is **increasing** for less than 14 days

LOUISIANA DEPARTMENT OF HEALTH

We want to remind everyone to continue practicing safety with regards to prevention of spreading and contracting the COVID-19 virus.

The state of Louisiana, per the Governor, will remain in phase 2. Information here: https://coronavirus.la.gov as announced on June 22, 2020.

We remind everyone of the information provided here on our website: LBRN COVID-19.

The above graphs and images were made by The Louisiana Department of Health at the Louisiana Governor's news on June 22, 2020 and presentation is currently available here.

Summer 2020 HPC Training

HPC HIGH PERFORMANCE COMPUTING

HPC@LSU invites you to attend our weekly training scheduled every Wednesdays, except university holidays. Due to concern about the COVID-19 pandemic, all training sessions are pure Zoom online events from 9:00AM to 11:00AM. The sessions will be available only for remote participants and will

be recorded for later review.

The training sessions are subject to cancellation due to lack of registrations, so please register if you plan on attending. Registration closes in the afternoon on the day prior to the training.

Click on the tutorial topic to obtain more information and registration details. Remote connect links to attend the training will be provided via email to all registered participants.

Note: The Slide and Support Materials links are placeholders until content is added after the tutorial.

HPC User Environment 1

Topic HPC User Environment 1

Date June 24,2020

Time 9:00 AM - 11:00 AM

Place Zoom Online

Description This training provides an overview of the HPC hardware and software environment, queuing system, compiling programs, writing submit scripts, running and monitoring jobs on HPC systems.

Prerequisites

LONI or LSU HPC account

Familiarity with Linux/Unix

Editors such as vi or emacs

SSH client such as Putty for Windows

Slides

For more information for the schedule and registration, please use this link.

Next HPC Training:

Wednesday, July 8, 2020: 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 hands-on 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 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.

LBRN Summer Research Program 2020 Cancelled

Thank you for your interest in the LBRN Summer Research Program. We regret that owing to COVID-19 related issues LBRN Summer Research Program as advertised for 2020 is cancelled.

Plans are underway to have a virtual Summer program with at least four different modules/modes available for participants. We will have more details including registration information posted on the LBRN website soon. We hope to start this virtual summer program on June 8th.

We realize these are unique times that we live in posing a variety of different challenges to all. Rest assured that we at the LBRN are trying our best to provide an enriching summer research/educational experience.

More details coming soon. In the meanwhile sit tight and stay safe.

With best regards, Team LBRN

Newest CDC COVID-19 Recommendations for Pet Owners

CDC has posted new recommendations for pet owners, as well as new QAs, on the CDC COVID-19 website. Main messaging regarding COVID-19 and animals remains the same. New information includes recommendations to limit pets' contact with people and animals outside the household, to wear a cloth face covering if sick and caring for pets, and to contact your vet if sick and your pet gets sick. New QAs cover concerns about what animals can be infected with SARS-CoV-2, pet cats, walking dogs, what to do if a pet gets sick, and testing animals.

See below for a summary of new pet recommendations.

- Until we learn more about how this virus affects animals, treat pets as you would other human family members to protect them from a potential infection.
    - Do not let pets interact with people or other animals outside the household.
    - Keep cats indoors when possible to prevent them from interacting with other animals or people.
    - Walk dogs on a leash, maintaining at least 6 feet (2 meters) from other people and animals.
    - Avoid dog parks or public places where a large number of people and dogs gather.
    - Talk to your veterinarian if your pet gets sick or if you have any concerns about your pet's

health.

- If you are sick with COVID-19 (either suspected or confirmed by a test), you should restrict contact with your pets and other animals, just like you would around other people.
    - When possible, have another member of your household care for your pets while you are sick.
    - Avoid contact with your pet including, petting, snuggling, being kissed or licked, and sharing food or bedding.
    - If you must care for your pet or be around animals while you are sick, wear a cloth face covering and wash your hands before and after you interact with them.

- If you are sick with COVID-19 and your pet becomes sick, do not take your pet to the veterinary clinic yourself.
    - Call your veterinarian and let them know you have been sick with COVID-19.
    - Some veterinarians may offer telemedicine consultations or other alternate plans for seeing sick pets.
    - Your veterinarian can evaluate your pet and determine the next steps for your pet's treatment and care.

Notice of Special Interest : NIH

- **Availability of Administrative Supplements to INBRE Awards to Fund Research Collaborations**

The National Institute of General Medical Sciences (NIGMS) announces the availability of funds for Administrative Supplements to NIGMS-funded Institutional Development Award (IDeA) Networks of Biomedical Research Excellence (INBRE) (P20) awards. These funds are intended for existing INBREs to develop collaborations between investigators at the INBRE partner institutions, including primarily undergraduate institutions (PUIs), community colleges (CCs) and Tribally Controlled Colleges and Universities (TCCUs), and investigators supported by Centers of Biomedical Research

Excellence (COBRE), IDeA-Infrastructure for Clinical and Translational Research (IDeA-CTR), IDeA States Pediatric Clinical Trials Network (ISPCTN) awards or Clinical and Translational Science Awards (CTSA) to institutions located in IDeA states, in research areas that are currently supported by these programs. The goal of this funding opportunity is to encourage collaborations by investigators in IDeA states while providing students a broad continuum of research opportunities. Although in-state collaboration is encouraged, the collaborative projects can also be proposed between programs across the IDeA states.

The collaborative project should be an expansion of a project currently supported by a COBRE, IDeA-CTR, ISPCTN or CTSA award. The project must not constitute a change in scope of the parent INBRE or COBRE/IDeA-CTR/ISPCTN/CTSA awards.

For these supplements, all active INBREs, including those in their final year of funding or in a no-cost extension, are eligible to apply. This applies also to COBRE, IDeA-CTR, ISPCTN or CTSA programs that will collaborate with INBREs.

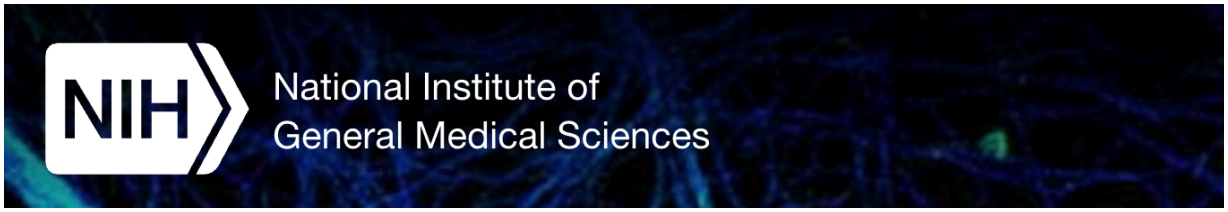
..... More in detail

- **Administrative Supplements for Research on Women's Health in the IDeA States**

The Office of Research on Women's Health (ORWH) and the National Institute of General Medical Sciences (NIGMS), along with Institutes and Centers (ICs) of NIH participating in this Notice, announce the availability of administrative supplements to IDeA awards to expand research and research capability in the IDeA states to address important issues of women's health with a special interest in maternal and infant mortality and morbidity. The proposed research must address at least one of the strategic goals of the 2019-2023 Trans-NIH Strategic Plan for Women's Health Research "Advancing Science for the Health of Women".

..... More in detail

IDeA Co-Funding



The IDeA program managed by NIGMS is pleased to announce the 2020 co-funding opportunity for investigators in IDeA-eligible states whose R01 or R15 applications scored well but fall just outside of an IC's funding range. The IDeA program provides a maximum of $320K in total costs for each of the first two consecutive years of a selected award. Nominations are made by the NIH IC that has the primary assignment for the application. PIs wishing to be considered for IDeA co-funding should contact directly the program officer at the IC assigned to the application.

IDeA co-funding is conducted once per year, and the nomination period will close in early April. Final selections will be made in June of 2020. Please visit https://www.nigms.nih.gov/Research/DRCB/IDeA/Pages/IDeA-Co-funding.aspx for further information about this initiative.

GeneLab Launched Two New Illumina Sequencing Machines

GeneLab (School of Veterinary Medicine - Louisiana State University) is a multi-faceted core laboratory directed by the Division of BIOMMED in the School of Veterinary Medicine at Louisiana State University. GeneLab engages in specific research and training projects, which require expertise in Next-Generation Sequencing, traditional DNA sequencing, gene cloning, PCR, gene expression and other molecular methods. The goal of GeneLab is to facilitate the utilization of the state-of-the-art technologies in genomics research by LSU faculty and researchers nationwide at a competitive price and in a timely fashion.

The primary focus of GeneLab is its portfolio of sequencing capabilities. Currently, two Next Generation Sequencing instruments, the Illumina NextSeq, the Illumina MiSeq and 10X Genomics Chromium Controller along with bioinformatics support for NGS data are provided to the research community and offerring will be extended rapidly as NGS and other emerging sequencing technologies are evolving.

Illumina NextSeq

The Illumina NextSeq System is a desktop sequencer with power and flexibility to carry out applications such as whole genome sequencing, exome sequencing, whole transcriptome sequencing, mRNA-Seq, and others. In one run it can sequence a full human genome at 30x coverage. Users can choose between high output or mid output flow cell configurations. At high output, up to 800 million paired end reads can be generated (at 150 bp read length) to produce up to 120 Gb of data in 29 hours. The Illumina sequencing systems utilize a well-established sequencing by synthesis (SBS) method and patented cluster generation technology in which fluorescently labeled nucleotide bases are detected as they are incorporated into DNA template strands. All four reversible terminator-bound dNTPs are present in each sequencing cycle.

Illumina MiSeq

Cluster generation, sequencing, and analysis are all done on a single instrument. The sequencing process takes place on a flow cell with 1 channel. Multiple samples can be run at once by using indices for each sample. 2x300bp reads are supported on the MiSeq and takes ~3 days to run. With v.3 kits the MiSeq can produce >25 million reads or 15GB per run. With v.2 kits the MiSeq can produce >15 million reads or 7.5 GB per run with standard flow cells. There is also the option of using micro and nano flow cells which produce up to 4 million and 1 million reads per run (1.2Gb & 500Mb). Actual output can vary depending on cluster density.

10X Genomics Chromium Controller

Go beyond traditional gene expression analysis to characterize cell populations, cell types, cell states, and more on a cell-by-cell basis. From assessing tumor heterogeneity and stem cell composition, to dissecting neuronal populations—the technological advancements provided by the Chromium Single Cell Gene Expression Solution allow the creation of high complexity libraries from single cells to maximize insight from any sample type.

Services and collaboration can be delivered through the LBRN cores.

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. More details can be found in the attached CFP.

More details can be found in the attached CFP.

BBC Core Educational Resource

The BBC Core provides introductory educational lecture series on informatics topics that are recorded and streamed. Prior offerings that are available for on demand streaming include;

- An Introduction to Computers and Informatics in the Health Sciences

  http://metagenomics.lsuhsc.edu/lectures/introinformatics/

- An Introduction to Microbial Community Sequencing and Analysis

  http://metagenomics.lsuhsc.edu/lectures/intromicrobiota/

On demand streaming links are available by each lecture along with downloadable lecture slides.

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 2019/2020.

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.

NIH Extramural Nexus (NIH/OD)

National Institutes of Health
Office of Extramural Research

Accepting Preliminary Data as Post-Submission Material and Other COVID-19-Related Application Flexibilities

As our nation looks to begin reopening, NIH continues to track how well our policies are meeting the evolving needs of the research community. In this post, we would like to highlight allowance of preliminary data as a new special exception to our post-submission materials policy and our guidance for reviewers.

Many of you are well aware that COVID-19 mitigation measures have adversely affected the ability of many researchers to generate preliminary data. Now that all 50 states have begun to reopen, and investigators may be better positioned to develop preliminary data, we want to give them the opportunity to have that data considered for this application submission round. The Guide Notice we issued today announces that for applications submitted for due dates beginning May 25, 2020 for the Fall 2020 review meetings/January 2021 Council round, NIH will accept a one-page update with preliminary data as post-submission materials for single component applications, or one page for each component of a multi-component application. A few items to note:

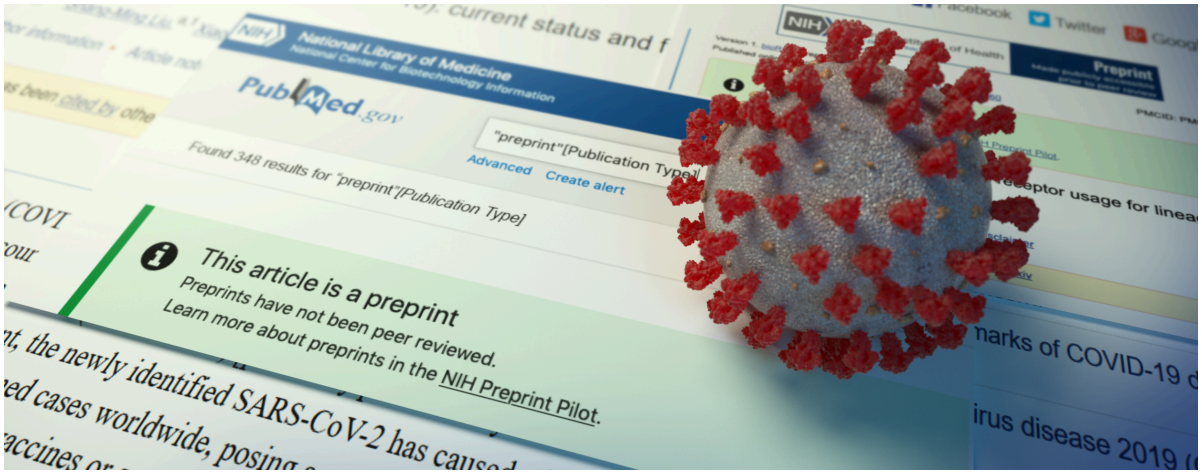
- The FOA must allow preliminary data.
- The deadline for submitting all post-submission materials, including preliminary data, will be 30 days before the study section meeting.
- Emergency competitive revisions and urgent competitive revisions, since they are undergoing expedited reviews, do not allow any type of post-submission materials.

As you are developing your application, you should keep in mind that NIH has issued guidance for reviewers. This guidance makes it clear that reviewers should assume that temporary, emergency situations resulting from the coronavirus pandemic will be rectified and/or dealt with by NIH staff, and therefore should not affect scores. It is the responsibility of NIH staff to request the information needed to resolve issues related to temporary, emergency conditions prior to award, as many of these temporary issues may be resolved before or during the early stages of the award.

We hope that the special exception for post-submission materials, and the guidance for reviewers, will provide our applicant community with some additional support as we all navigate this evolving landscape.

Note: *the guidance for reviewers that is posted is for the summer 2020 meetings. We are developing reviewer guidance for the fall 2020 meetings.*

- # Emerging Research Now Available Through New NIH Preprint Pilot



Preprints – complete, public drafts of scientific documents that are not yet certified by peer reviewed – are playing a key role in accelerating dissemination of research on the SARS-CoV-2 virus and COVID-19, highlighting a need for broader discovery and distribution of early research results in literature searches. Responding to this urgent need, the National Library of Medicine (NLM) has launched the NIH Preprint Pilot, which will test the viability of making preprints searchable in PubMed Central (PMC) and discoverable in PubMed, starting with preprints reporting NIH-supported COVID-19 research. The pilot is expected to run for a minimum of 12 months, and lessons learned during that time will inform future NLM efforts with preprints

The NIH Preprint Pilot builds on the March 2017 NIH Guide Notice (NOT-OD-17-050) which encouraged NIH investigators to use interim research products, such as preprints, to speed the dissemination and enhance the rigor of their work. It also complements PMC's role as the archive for peer-reviewed author manuscripts supported by NIH under the Public Access Policy, seeking to accelerate broad discovery to these results in cases where investigators choose to post a preprint.

NLM's efforts for the first phase build on the work of the NIH Office of Portfolio Analysis iSearch COVID-19 Portfolio. NLM is using this resource to identify preprints reporting on COVID-19 research that are authored by NIH staff or by extramural grantees who acknowledge support of an NIH award. The initial COVID-19 collection of preprints added to PMC is expected to grow as curation workflows are refined and expanded.

In future phases, the NIH Preprint Pilot can be extended across the spectrum of NIH research. To minimize effort required by NIH-funded investigators to make their preprints discoverable via PMC, there will not be a new submission process or system to add preprints to PMC. Rather, NLM will work

directly with preprint servers, and NIH-funded investigators are strongly encouraged to follow the preprint process outlined in the 2017 Guide Notice:

- Make the preprint publicly accessible (See also the "Guidance for selecting interim research product repositories" in the Guide Notice)
- Acknowledge NIH support/funding
- Clearly state the work is not peer reviewed
- Declare any competing interests

The notice also strongly encouraged awardees to select a Creative Commons Attribution (CC-BY) license or dedicate their work to the public domain.

NIH awardees can report preprints on their RPPR and link them to their award in their My Bibliography account. NLM will simplify how to add a preprint citation to My Bibliography in Summer 2020 with the expectation that the pilot will expand to include those preprints reported in My Bibliography as products of NIH awards in PMC. (For guidance on how to currently add a preprint to My Bibliography, see the NIH Preprint Pilot FAQ.)

For investigators looking for preprints, they will be integrated into your usual search results in PMC and PubMed. Both systems will make clear that the articles are preprints and not peer-reviewed journal articles. Prominent banners will explain that the papers have not been peer reviewed and link to information about the pilot for additional context. Users interested in only peer-reviewed articles will be able to filter out preprints from their search results.

In launching this new preprint experiment in PMC, with an initial focus on COVID-19-related preprints, NLM hopes to meet the needs of the research community during the ongoing public health emergency response efforts and to learn more about the impact of accelerated discovery and open sharing of research results on scholarly communications. NLM encourages NIH investigators to explore the pilot FAQs further and send feedback throughout to pmc-preprints@ncbi.nlm.nih.gov.

Anonymizing Peer Review for the NIH Director's Transformative Research Award Applications

Dr. Steven Benner at the Foundation for Applied Molecular Evolution thought the genetic code of life could be expanded beyond its naturally occurring four building blocks. If successful, powerful new systems for developing diagnostics, therapeutics, synthesizing biopolymers, and other still unimagined uses may be possible. In 2019, he and his colleagues came a step closer to this vision. They reported in Science a genetic system with eight building blocks, increasing the amount of information a given stretch of DNA can carry. Moreover, the modified DNA can be transcribed into a modified RNA using a specially engineered RNA polymerase.

Projects like this are perfect for the NIH Director's Transformative Research Award program,

which funded Dr. Benner's idea in 2017 (see the website for a complete list of other supported research). Now, NIH is seeking applications for the 2021 awards through a new funding opportunity (RFA-RM-20-013) recently released on Friday, May 21, 2020.

The Transformative Research Award has supported groundbreaking, unconventional, and creative ideas for over a decade as part of the NIH Common Fund's High-Risk, High-Reward Research program (HRHR). While this kind of research has the potential to overturn fundamental paradigms, it can also be risky. That is why innovation and breadth of impact potential are emphasized more during review than a project's feasibility and preliminary data.

Historically, however, the HRHR applicant and awardee pools have not fully represented the demographic and geographic diversity across the U.S. biomedical workforce (see here on the Common Fund's commitment to diversity). A working group of the Advisory Committee to the NIH Director examined this issue and recommended that the Common Fund prioritize increasing institutional diversity in the program (see their Report here).

Concerns also exist about bias, be it unconscious or otherwise, generally throughout peer review at NIH. As a way to address this issue while also enhancing diversity, the HRHR program is going to anonymize the review of Transformative Research Award applications.

• Don't Forget to Use Updated Grant Application Forms (FORMS-F)

At this point, nearly all grant applications should be using our updated application forms (FORMS-F; NOT-OD-20-026 and NOT-OD-20-077). If you aren't sure how to tell the form version you are using, check out *Do I Have the Right Forms for My Application?*

There are a few notable exceptions:

- NIH will accept FORMS-E application form packages for the following FOAs until they are reissued on or around June 25, 2020 (NOT-OD-20-110)
  - PA-18-589 Successor-in-Interest (Type 6 Parent Clinical Trial Optional)
  - PA-18-590 Change of Grantee Organization (Type 7 Parent Clinical Trial Optional)
  - PA-18-591 Administrative Supplements to Existing NIH Grants and Cooperative Agreements (Parent Admin Supp – Clinical Trial Optional)
  - PA-18-592 Research Supplements to Promote Re-Entry into Biomedical and Behavioral Research Careers (Admin Supp – Clinical Trial Not Allowed
  - PA-18-935 Urgent Competitive Revision to Existing NIH Grants and Cooperative Agreements (Urgent Supplement – Clinical Trial Optional)
  - PA-20-135 Emergency Competitive Revision to Existing NIH Awards (Emergency Supplement – Clinical Trial Optional)

- Applicants have until June 25, 2020 to complete submission of their in progress administrative supplements to promote diversity using FORMS-E application packages and parent FOAs PA-18-906 or PA-20-166.
    - New applications should use FORMS-F application packages and reissued FOA PA-20-222: Research Supplements to Promote Diversity in Health-Related Research (Admin Supp – Clinical Trial Not Allowed).

- A few institutes have issued notices in the NIH Guide extending late application windows for specific opportunities due to COVID-19 impacts (see Late Application Policy Notices section of this page.) Applicants should use FORMS-E application form packages If submitting late applications for due dates on or before May 24, 2020.

A Walk-Through of the PHS Human Subjects & Clinical Trials Information Form

We've updated the Walk-through of the PHS Human Subjects & Clinical Trials Information Form video to align with our latest application form update (FORMS-F). In just six minutes, you'll learn how to use the form and how to complete both delayed onset and full study records. The video describes each of the five sections of a study record and points out which fields are required for human subjects and clinical trial studies. You might even discover a handy tip or two along the way.

For a summary of significant form changes and detailed guidance for completing the form, check out our FORMS-F application instructions.

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…

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