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News, Opportunities and Deadlines for April 2020

Continue to study with Priority on Maintaining Safety

Stay in / Stay safe / Collaborate / Virtually

3rd LBRN-LONI Scientific Computing Bootcamp

HPC@LSU will hold the 3rd LBRN-LONI Scientific Computing Bootcamp on June 1 - 5 in an online virtual form via Zoom.

The LSU Information Technology Services, LSU Center for Computation & Technology, Louisiana Biomedical Research Network (LBRN), Louisiana Optical Network Infrastructure (LONI) are pleased to announce the following workshop:

Due to concern about the COVID-19 pandemic, the workshop will be held in a virtual online form via Zoom. The lectures will be given in every morning and recorded. Attendants can either attend the live sessions or view the recordings later. Online hands-on sessions will be held in every afternoon. More details will follow.

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

In five days the attendants will learn:

- The basics of Python programming language and using it in scientific computing
- Introduction to R programming language with its applications
- Introduction to Deep Learning

Schedule:

Note: This tentative Schedule is subject to change.

All sessions below include online hands-on sessions.

- **June 1: Introduction to Scientific Computing and Python Basics**
- **June 2: Scientific Computing with Python**
- **June 3: Introduction to R**
- **June 4: Intermediate R**
- **June 5: Introduction to Deep Learning**

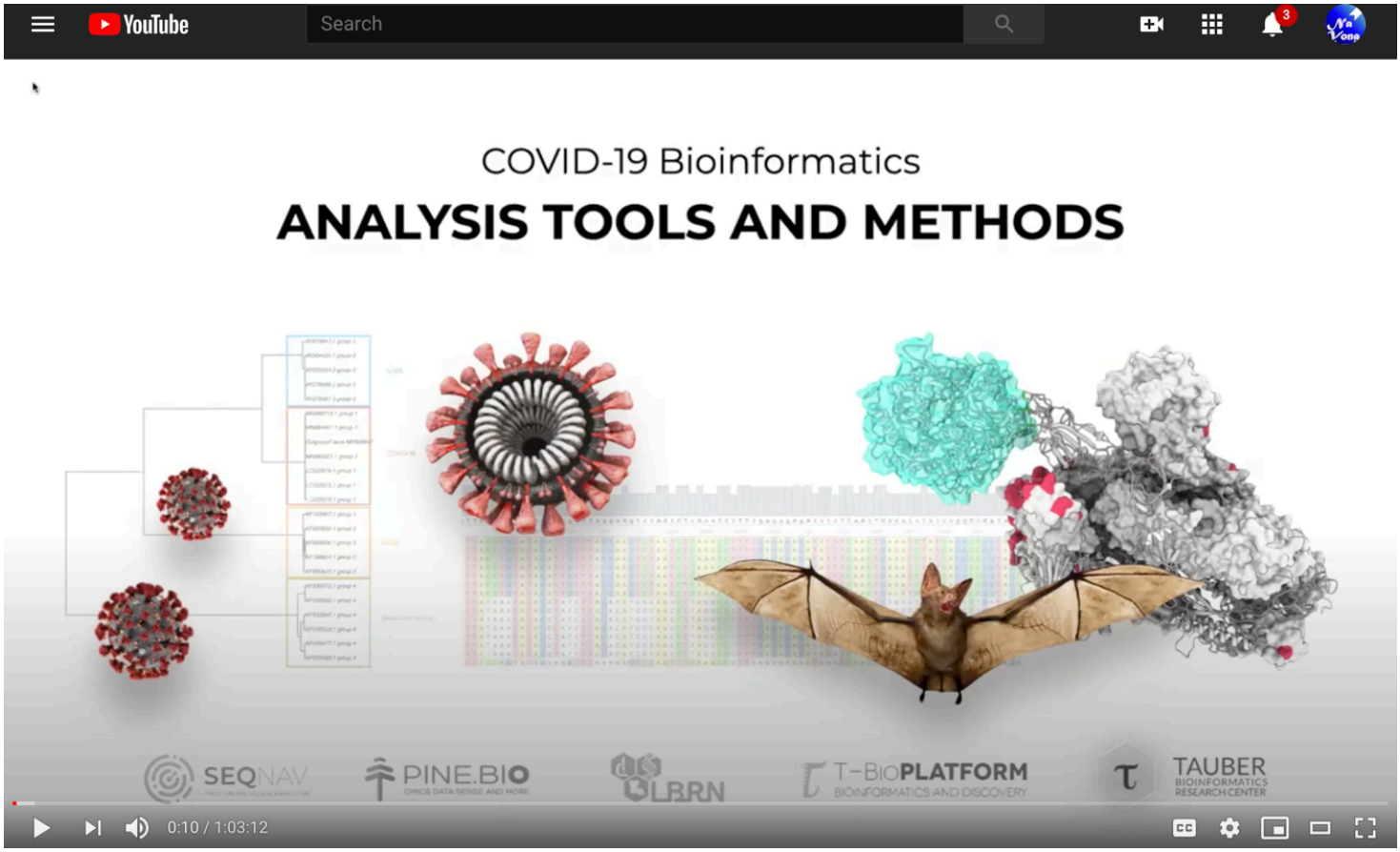
For more information for the schedule and registration, please use this link.

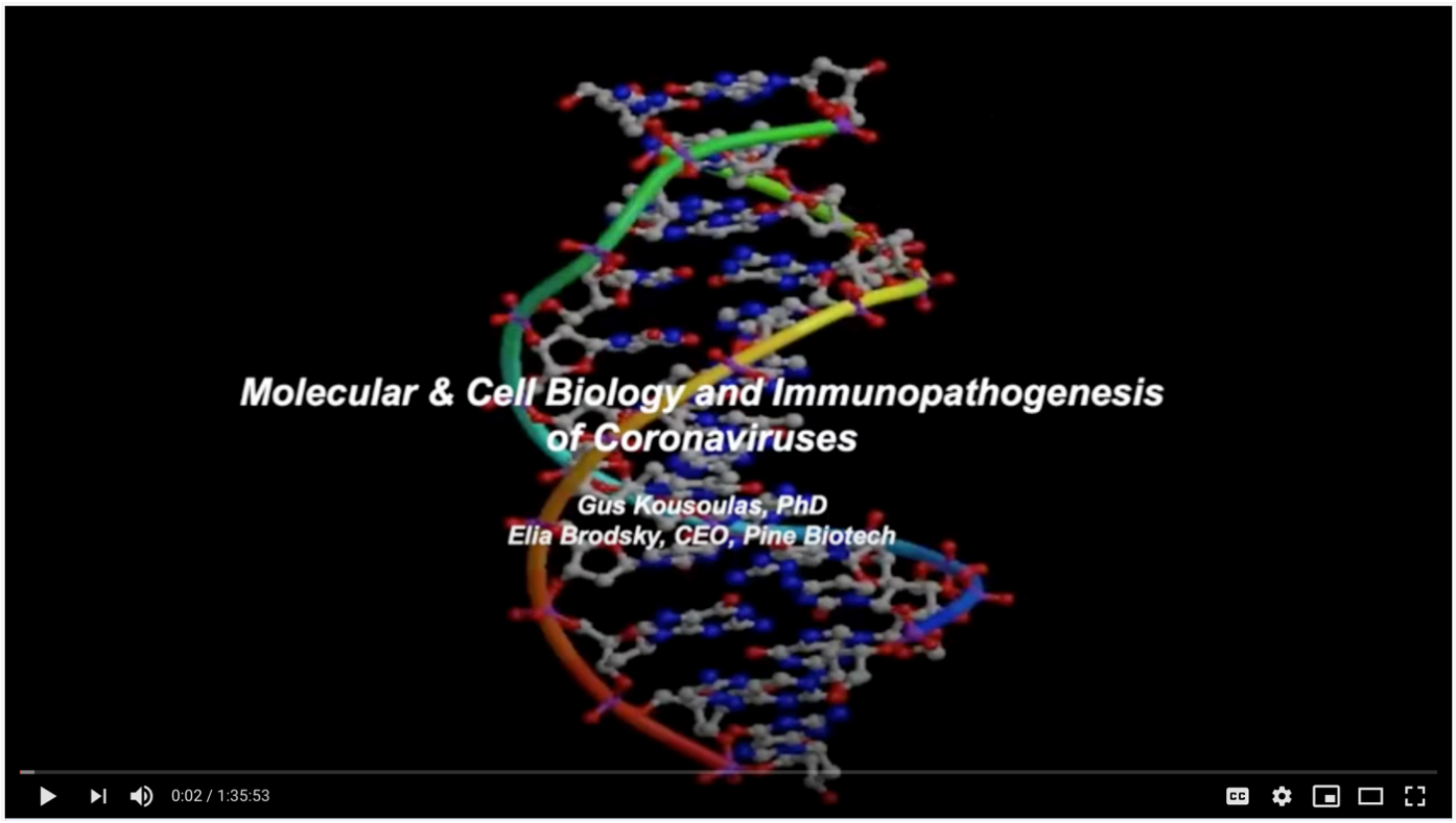
Online Seminars related to coronaviruses and COVID-19

LBRN has been hosting online seminars to date are now online.

First seminar: April 16th, 2020 - Dr. Gus Kousoulas, Principal Investigator of the Louisiana Biomedical Research Network (LBRN) that fosters biomedical research throughout Louisiana and supported by the NIH:NIGMS INBRE program, during his lecture on the Molecular & Cell Biology and Immunopathogenesis of coronaviruses revealed that the drug Nelfinavir mesylate (NFV; brand name Viracept), which was developed as a protease inhibitor in the treatment of the human immunodeficiency virus (HIV), caused a drastic inhibition of Spike (S)-mediated cell fusion (formation of multinucleated cells or syncytia) in cell culture experiments.

Second seminar: April 23, 2020 - Dr. Gus Kousoulas, invited everyone to a follow up lecture given by Elia, Brodsky, CEO of Pine Biotech, Inc in collaboration with the Tauber Bioinformatics Research Center, University of Haifa, Israel and the Louisiana Biomedical Research Network (LBRN).

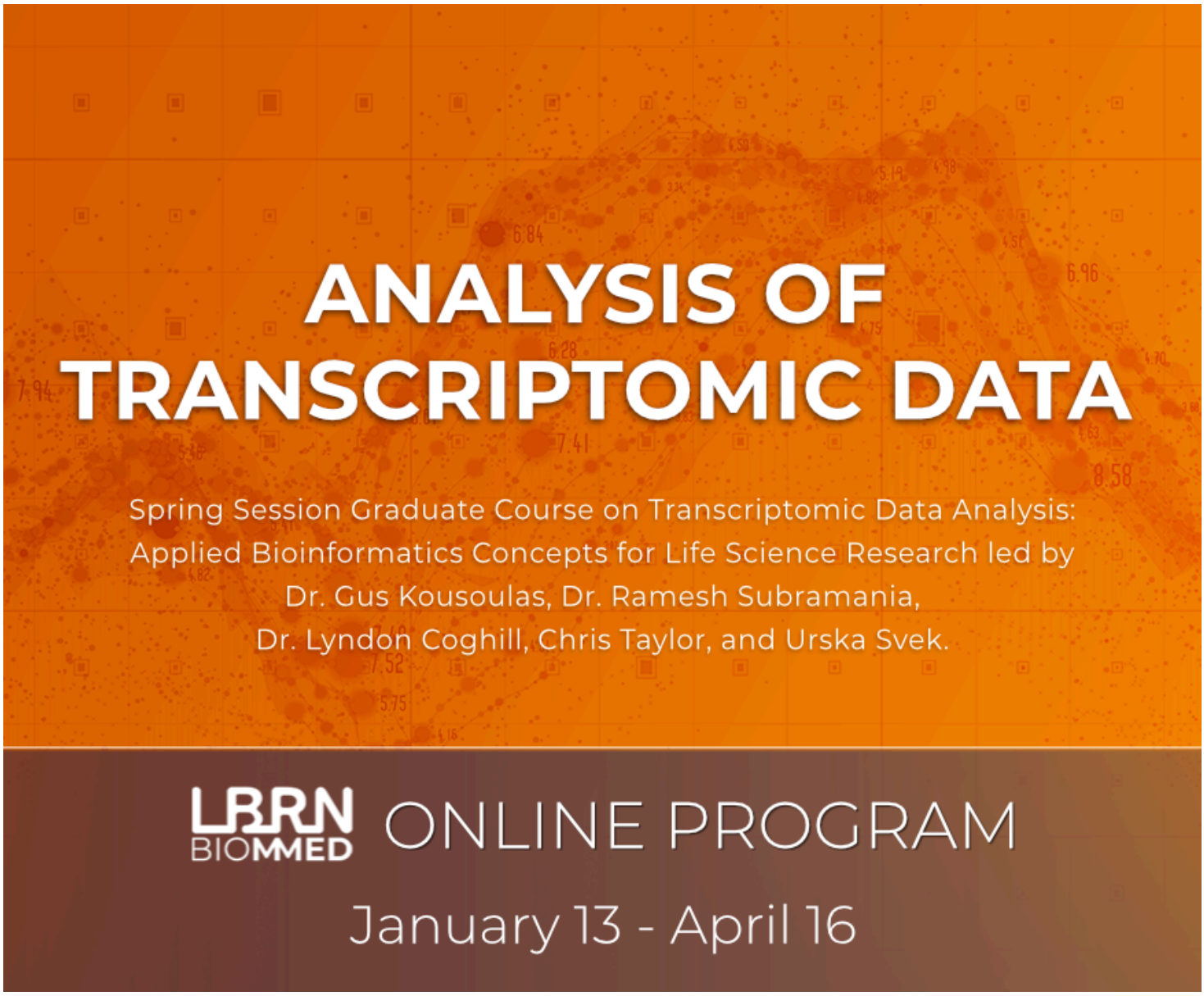




Full Story and Videos are online here: https://lbrn.lsu.edu/LBRN-SARS-2-CoV-Kousoulas.html

LBRN/PBS Graduate Course on Transcriptomics Exams

The final review and exam for the Transcriptomics Graduate Course is now available. The LBRN/PBS graduate course on transcriptomics which started in January is ready for final exams on April 29 with extensive participation of students from LBRN PUI campuses



Course Exam information available here: https://lbrn.t-bio.info/courses/lbrn-transcriptomics-final-exam/

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.

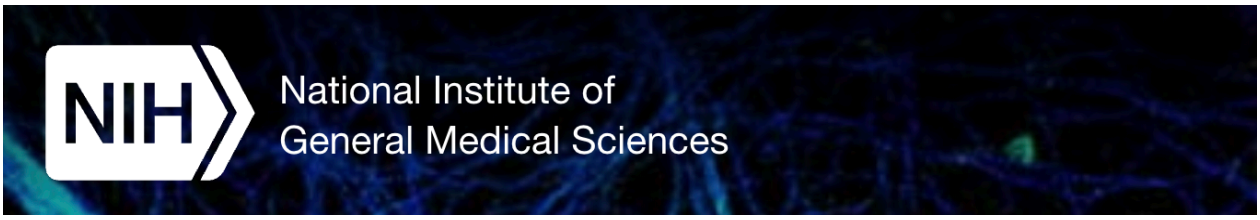
..... More in detail

- **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.

- # COVID-19 Funding and Funding Opportunities

As you can imagine, NIH is devoting significant resources to COVID-19. In addition to dedicating regularly appropriated funds, to date NIH has received emergency funding for COVID-19-related activities in two supplemental bills (available from the NIH Office of Budget website), that together provide:

- $1.532 billion for NIAID
- $103.4 million for NHLBI
- $60 million for NIBIB
- $36 million for NCATS
- $30 million for the NIH Office of Director
- $10 million for NIEHS
- $10 million for NLM

To get funding as quickly as possible to the research community, we are using Urgent and Emergency competing revisions and administrative supplements to existing grant awards. This approach allows us to leverage resident expertise, getting additional funding to those researchers who are already working with other organisms, models, or tools so that they can quickly shift focus to the novel coronavirus. These Urgent and Emergency competitive revision Funding Opportunity Announcements (FOAs) allow NIH to fund applications quickly, often in under three months, sometimes much quicker than that, because evaluation for scientific and technical merit is done by an internal review panel convened by staff of the NIH awarding institute or center rather than by our traditional peer review process.

The Urgent and Emergency competing revision FOAs sound very similar. And they are, but there is an important distinction.

- The Emergency Competitive Revision FOA can only be used for funding available for applications based on a presidentially declared disaster under the Stafford Act, a public health emergency declared by the Secretary, HHS, or other local, regional or national disaster. This means that for COVID-19 funding, it can only be used by those NIH Institutes and Centers I listed above that received special emergency funding.
- The Urgent Competitive Revision FOA can be used to meet immediate needs to help

address a specific public health crisis in a timely manner. This vehicle is used to help address a specific public health crisis that was unforeseen when the application or progress report was submitted.

When responding to these types of funding opportunities, it is important that you understand how they work.

- They require applications to be submitted in response to an Emergency or Urgent Notice of Special Interest (NOSI). We are maintaining a list of COVID-19 specific Notices of Special Interest on our Coronavirus Disease 2019 (COVID-19): Information for NIH Applicants and Recipients of NIH Funding website.
- You need to read the instructions in the NOSI and in the FOA it points to carefully. If the instructions in the NOSI differ from those in the FOA, follow those in the NOSI.
- There are specific review criteria specified in the FOA. Make sure you address those as well as any that might be mentioned in the NOSI. They are how NIH staff will evaluate your application for funding.
- The NOSI will instruct you to include the NOSI number in the Agency Routing Identifier field (Box 4b) of the SF424 (R&R) Form. This information is very important for NIH tracking of spending of emergency award funding. Applications without this information in Box 4b may not be considered for this type of funding.
- Often the due dates are rolling, meaning you should submit the application as soon as it is ready to get it considered for funding as quickly as possible.

NIH is issuing new COVID-19 related NOSIs frequently. Please check back for these and other COVID-19-related information on our Coronavirus Disease 2019 (COVID-19): Information for NIH Applicants and Recipients of NIH Funding website.

Supporting Yourself and Your Trainees During the Coronavirus Pandemic – Online Workshops

While we all want to be highly productive during this period of self-quarantine, the reality for us and for our trainees and research staff may be very different. We are stressed, they are stressed, and all of us are dealing with unique issues that impact our ability to be productive at this time.

My mission, as the director of NIH's Office of Intramural Training and Education (OITE), is to help trainees (summer interns, postbacs, grad students, and postdocs) in the NIH Intramural Research Program develop career and professional skills that will help them succeed on all career paths in the biomedical and behavioral sciences. My concern goes beyond just thinking about trainees in NIH's intramural program. Just last week, I had the honor to talk with the NIH Director, Dr. Francis

Collins, about NIH trainees. Parts of our discussion focus on NIH's intramural program, but his message of hope and NIH's concern for trainees is universal. I also spoke last week with grad and postdoc office leadership across the US to share concerns and strategies.

Since the advent of social distancing a few weeks ago, all of us have had to work through policy issues, help trainees work through their stress, and identify ways to continue to support their learning while not in the lab. For me in my position, and I am sure for many of you, this has also meant needing to rise to the challenge and adapt programming to meet trainee needs.

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• Guidance for NIH-Funded Clinical Trials and Human Subjects Studies Affected by COVID-19

NIH recognizes the significant effects that this emergency is having on NIH-funded clinical trials and other human subjects studies. For details on expanded flexibilities, such as mid-project period extensions and administrative supplements for unanticipated costs, see NOT-OD-20-087.

• Some Thoughts on Cybersecurity – Part 1

Working from home is the new reality for many people these days. As part of this new world, we are using our internet tools more and more, challenging the safety and security of these electronic systems likely to a degree not seen before. It is with that in mind that I would like to take a few minutes in this, and upcoming, posts reminding everybody about the importance of cybersafety in our online lives.

Imagine this scenario: Last night, unknown intruders vandalized the office suite next door. They shattered glass, busted locked doors open, rifled through drawers, and stole some computers. By the elevators, you see shards of shattered glass and "Do Not Cross" police tape.

Are you upset?

Scenario 2: Last night, unknown hackers broke into the computers of the office suite next door. They stole years of priceless, sensitive data. Nobody knows yet that anything happened, though a few employees are calling IT because certain apps aren't working quite right. Otherwise, no one is talking. By outward appearances, nothing is amiss.

Are you upset?

Scenario 3: Last night, someone hacked into your computer. You don't know that you've been

hacked, but you do know that your computer is extraordinarily sluggish and that you are having trouble accessing your files. You call in your top IT person – someone known as “the genius” – and within a few hours, everything appears to be back to normal.

Do you say thank you? And if so, to whom?

Scenario 4: Last night, someone attempted to hack into your computer, but because you and your institution have created a culture that takes cyber safety seriously, the hacker couldn’t get in. Your computer is working just fine – all apps are functioning normally, and you are able to access the information you need to get your work done. You are completely unaware that an attempted attack was ever made.

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- ## NIH Moving Ahead with FORMS-F Grant Application Form Update

Hopefully, you’ve seen our notices (NOT-OD-20-026, NOT-OD-20-077), tweets, and previous Nexus post regarding our pending transition to an updated set of grant application forms we refer to as FORMS-F. If so, you already know that you must use FORMS-F forms for grant application due dates on or after May 25, 2020 and FORMS-E for due dates on or before May 24, 2020. You might have even started preparing your FORMS-F application.

Here are a few updates and tips to help navigate the transition.

- FORMS-F application packages are now available on our active, non-parent funding opportunity announcements (FOAs).
    - Both FORMS-E and FORMS-F packages will be associated with the FOAs for a short transition period. Carefully choose the correct form package based on the targeted due date and Competition ID.
    - All of our FORMS-E packages are planned to sunset on May 24 and, shortly after, will no longer appear as an option on our active opportunities.
- FORMS-F application packages were not added to our parent announcements. Instead, we are in the process of reissuing each parent announcement with a new announcement number, updated opportunity text, and FORMS-F package. Parent FOAs will be reissued 30-60 days prior to their first FORMS-F due dates.
    - Both the FORMS-E and FORMS-F versions of each parent FOA will be active for a short transition period. If you plan to submit using a parent announcement for a due

date on or after May 25, choose the parent announcement posted in 2020 and verify the Competition ID of the form package includes FORMS-F.
    - ASSIST, Grants.gov Workspace and many system-to-system solutions have data copy features. If you want to get started on your application using the FORMS-E FOA and package, you can use the copy feature to move your common data over to FORMS-F later. Just make sure you are on FORMS-F forms and have followed all FORMS-F application instructions before submission.

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Roundup of New COVID-19 Resources for NIH Applicants and Recipients

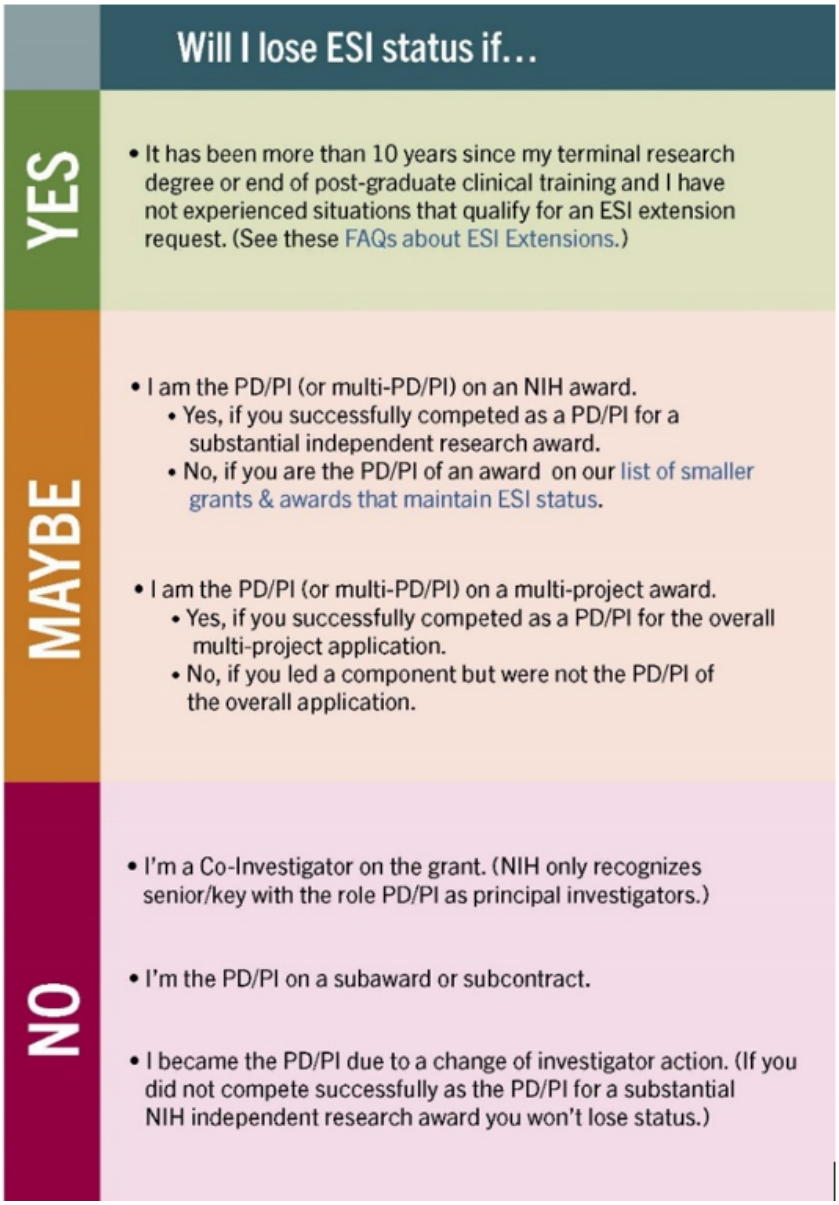
We continue to add new resources to our COVID-19: Information for NIH Applicants and Recipients of NIH Funding webpage. We hope they are helpful in helping you navigate this unprecedented situation. Here is a summary of what's new since the last Nexus:

- An overview of information for NIH applicants and recipients related to COVID-19 (available in PowerPoint and Word document formats)
- Many new and updated FAQs on foreign components, animal welfare, continuous submission, timing of reference letters, salaries, donating PPE, prior approval, contracts, and training, fellowship and career development awards. A listing of specific FAQ changes can be found on our page update history.
- A link to a new webpage, COVID-19 Pandemic Contingency Planning for Animal Care and Use Programs
- A link to a webinar, COVID-19 Pandemic Response Resources and FAQs for Animal Care and Use Programs
- A link to OHRP Guidance on COVID-19
- A link to Virtual NIH Activities for Trainees Outside the NIH
- New funding opportunities specific to COVID-19

We know it can be a challenge to track new information as it becomes available. We are noting changes to the website in the page update history, tweeting from @NIHgrants as things get posted, and we will continue to highlight new resources in the Nexus.

Can ESI Status Be Extended Due to Disruptions From COVID-19?

Yes. Be sure to describe the nature of the disruption to your research in your ESI extension request. We suggest you submit the request once you know how much research time was lost, unless your upcoming application deadline is imminent and an ESI extension is urgently needed. In this case you would be able to submit another extension once you know the full extent of the time lost. ESI extension submission instructions may be found here.



- ## Calendar

April 14 – Workshop: Supporting Yourself and Your Trainees During the Coronavirus Pandemic
April 17-20 – eRA modules unavailable due to cloud migration
May 1 – Grant application deadline for due dates between 3/9/20 and 5/1/20, including

continuous submission (NOT-OD-20-091**)**

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 GM103424-18 and 3 P20 GM103424-15S1.

• 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 P20GM12345.

• 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 (*P20 GM103424-18*) 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.