



National Institute of
General Medical Sciences



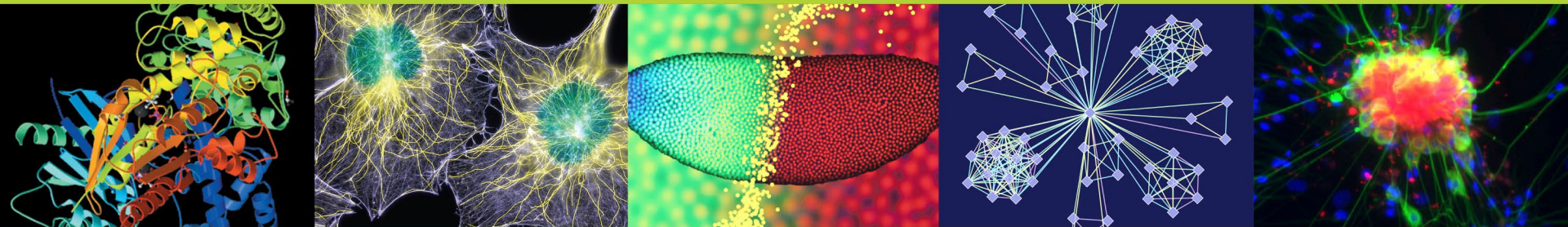
Pre-application Webinar

INBRE Supplements to Develop Research Collaborations (NOT-GM-22-001)

Division for Research Capacity Building, NIGMS

December 20, 2021

2:00 – 3:30 PM



Agenda

Welcome Remarks	Krishan Arora, Ph.D., Branch Chief Networks and Development Programs (NDP) Branch Division for Research Capacity Building (DRCB), NIGMS
Program Overview and Expectations	Yang Zhou, Ph.D. Program Director, NDP, DRCB, NIGMS
Tips for developing applications for collaborative projects	Carolyn Bohach, Ph.D., Professor, ID-INBRE
	Bongsup Cho, Ph.D., Professor, RI-INBRE
	Larry Cornett, Ph.D., Professor, AR-INBRE
Q&A via Chat Window	Moderator: Ming Lei, Ph.D., Director, DRCB <ul style="list-style-type: none">• Krishan Arora• Christy Leake• Yang Zhou

Application Deadline: January 31, 2022. 5 PM local time.

Disclaimer

- The webinar and accompanying slides serve as an overview of the NOSI administrative supplement funding opportunity **NOT-GM-22-001**. They are not meant to be comprehensive in coverage of all required components of an application.

Applicants are responsible for following the instructions in the NOSI and any related Notices included in the NOSI.

Objectives of the INBRE Supplements

- Provide investigators and students from INBRE partner institutions greater access to research activities supported by the IDeA Program at research-intensive institutions
- Encourage investigators supported by collaborating programs* to be involved in mentoring undergraduate students and building a deeper bench of research workforce.

****Eligible collaborating programs:***

- Centers of Biomedical Research Excellence (**COBRE**)
- IDeA Networks for Clinical and Translational Research (**IDeA-CTR**)
- IDeA **co-funded R01s and R15s**
- IDeA States Pediatric Clinical Trials Network (**ISPCTN**)
- National Center for Advancing Translational Sciences (NCATS) Clinical and Translational Science Awards (**CTSA**) to institutions located in IDeA states
- Native American Research Centers for Health (**NARCH**) awards to organizations located in IDeA states

Participation and Collaboration-FY2019-2021 Awards

Participation

Funding Status	2019	2020	2021
Awards/Applications	16/18	13/13	13/15

No. of Submissions	No. of INBREs	%
0	3	13%
1	6	25%
2	5	21%
3	10	42%

Collaboration

Collaborating Program	FY2019	FY2020	Collaborating Institutions	FY2019	FY2020
COBRE	13 (81%)	8 (62%)	Same Ins.	5 (31%)	
CTR	3 (19%)	5 (38%)	Another Ins.	11 (69%)	13 (100%)

Outcomes (FY 2019 and FY 2020 Awards)

- Undergraduate Student Participation
 - 87 student research assistants supported. Avg. 3/award
- Publication
 - Per PubMed: 0.9/award
 - Per RPPR (including papers in prep): 2/award
- Grant
 - Submitted: 0.8 application/award
 - Obtained: 1 NSF Res. Grant, Data Science (HI); 1 R15, Designer Biologics for Treatment of Ulcerative Colitis (AR)

Key Information of the NOSI

	FY2021	FY2022
Eligible Collaborating Programs	COBRE, CTR, ISPCTN, CTSA, and IDeA co-funded R01s/R15s in first 2 years	COBRE, CTR, ISPCTN, CTSA, IDeA co-funded R01s/R15s, and NARCH
Application Due/Award Dates	April 30/July-Sep	January 31/April-May
NOSI Active Period	1 year	3 years
Budget (DC)	\$100K	\$120K
Award Period	1 year	1 year
Minimum \$\$ to INBRE partner institutions	60%	50%
Reporting	Standard	Requesting reports for the 1 st and 2 nd year

Red color: changes in the new NOSI.

Who Are Eligible to Apply?

- **Applicant:** INBRE PI
 - INBRE must be active
- **Project Leads:**
 - Investigators at the INBRE partner institutions &
 - Investigators supported by collaborating programs
 - Must be active
- **Proposed collaborative project:**
 - NEW research objectives
 - Focused collaborative project
 - In-state vs. cross-state collaboration
 - No change in scope

Application and Submission Information

- One supplement request per INBRE

- **Research Strategy section**
 - 6 pages
 - Significance of the project and nature of the collaboration
 - Student involvement

- **Approach section** of the Research Strategy
 - Two 2-page subsections
 - Investigator(s) from the INBRE partner institution
 - Investigator(s) supported by the eligible collaborating program

Application and Submission Information (Cont.)

➤ Budget

- A statement about unobligated grant funds
- No subcontract allowed to an institution in a non-IDeA state

➤ Letters of Support

- INBRE PD/PI
- Collaborating program PD/PI

Reporting Requirements

- What to report in RPPR?
 - Scientific accomplishments, publications, collaborative grant applications submitted, and student involvement and their scholarly activities enabled
- Should report on **the first year** when award is received, and also **the following year** when collaborative research activities continue into the next funding period
- PD/PIs may be contacted after the completion of the grant period for updates on subsequent outcomes

Resources

- [Notice of Special Interest \(NOSI\): NOT-GM-22-001](#)
- [Frequently Asked Questions](#)
- Program Contact: Yang Zhou
Email: yang.zhou@nih.gov



Idaho INBRE

Tips for Supplement Success

Carolyn Hovde Bohach, Ph.D.

University Distinguished Professor &
Director of the INBRE Program
University of Idaho



The Idaho INBRE Network includes 11 institutions

ALMOST 500 miles North to South
VERY few roads

How has Idaho INBRE

- made connections with other programs?
- encouraged investigators to collaborate?
- continued the collaboration beyond the funding periods?

- Are there lessons learned?

- **BOTTOM LINE:**

Faculty in different programs need to know each other and 'INBRE' needs to match and mentor those with compatible research interests that meet the FOA.

(In Idaho, Dr. Minnich, INRBE PC, knows ALL IDeA research)

Collaboration is not a blind date,....it's an arranged marriage set-up by the 'INBRE parents.'

3 Tips from Idaho INBRE
to write successful
administrative supplement proposals

Tip 1. Use the INBRE to develop COBREs

Say What????!?!?

In our 2009 INBRE-3 renewal our Research Core included a “mini-COBRE” model

- One Research Leader with 3-5 investigators in their area of expertise
 - Julie Oxford (matrix biology) at Boise State University
 - Denny Stevens (infectious disease) at IVREF (VA Research Foundation)
- INBRE ‘prepared’ these two investigators to submit COBRE applications
 - In 2013-2014 -- they applied for and were awarded COBREs
- Result: These TWO COBREs are SOLIDLY “in” our INBRE NETWORK

Tip 2. Host INBRE-COBRE and RI-PUI Networking

WOW,.....that's lots of work.....!

What events does INBRE host?

- **Ten-year Investment**

- Treasure Valley Research/Professional Development Meetings
 - FIVE institutions within a 35-mile radius
 - IVREF, BSU, NNU, Col, CWI
 - Invite everyone (faculty, students, staff) from INBRE, Oxford COBRE, and Stevens COBRE
- University of Idaho and Lewis-Clark State College (PUI)
 - 40 miles apart

- **Monthly Dinners - TIME TO SOCIALIZE and 'break bread' in a non-threatening setting**

- At my house
- Private banquet rooms at restaurant/university
- Format includes talks, best practices, panels, etc.

- **Result: Faculty get to know each other**

Tip 3. Use the INBRE supplement application as a mentoring tool.

WOW,.....that's lots of work.....

How does INBRE use the supplement to mentor?

- The INBRE PC knows all research investigators like a coach.....and knows everyone's strengths and weaknesses.
- The supplement applicants are identified.
- They write their proposal.
- Then, the PC and PI do interactive editing of their writing.

- **Result:** The investigators learn how to critically improve their grant writing skills and INBRE has a strengthened network.

Investigators comments about proposal editing:

“I continue to be stunned by what you two can do. I have read this thing approximately 20 times and get bogged down in detail.....you guys just blast through and come-up with simple sentences that summarize complex things. Just amazing. THANK YOU.”

“I know I’m a pretty good writer, but you really polished that up amazingly.”

“WOW, you two are truly MASTERS at grant writing! I am not kidding! First, I appreciate your talent of seamlessly weaving the lung and bone components of the grant. Second, I like how you write to address the supplement call and deliberately talk about the Idaho INBRE program. You make it easy on the reader!”

Supplements are a HUGE amount of work

- We are VERY appreciative of INBRE supplemental funding.
 - The funds have positively impacted every recipient
- It takes us >200-man-hours to apply for each supplement.
 - INBRE PI and PC work closely with applicants to write the proposal
 - Administrative staff on all campuses do much paperwork
 - *It's 'too much work for too little money'.*
- Suggestion..... increase the \$ total in the INBRE.....and exclusively sequester \$ for 'INBRE--other IDeA Program collaborative research' (like the A&R one-time \$.....or the DRP that spans the 5-year award).

Acknowledgements:

Dr. Sam Minnich, Idaho INBRE Program Coordinator

Dr. Julie Oxford, PD/PI COBRE in Matrix Biology

Dr. Denny Stevens, PD/PI COBRE in infectious disease

Idaho INBRE Supplement Awards

1. Dr. Jorcyk and Dr. Warner (BSU)
 - Designing targeted therapeutics to prevent breast **cancer** metastasis
2. Dr. Heggland (College of Idaho)
 - E-cigarette or vaping use-associated lung injury (**Evali**) special interest: cytotoxicity of flavored e-liquid in lung fibroblasts and bone osteocytes.
3. Dr. Daniels and Dr. Beard (College of Idaho and BSU)
 - **Glioblastoma multiforme** and associated blood brain barrier pathology
4. Dr. Robison (UI)
 - **SARS-CoV-2** variant surveillance by genome sequencing
5. Dr. Skibiel (UI)
 - **Women's Health** special interest: mitochondrial adaptations in liver and skeletal muscle during lactation

INBRE Supplements Webinar: Bongsup Cho, Program Director, RI-INBRE

Rhode Island IDeA Programs:

- ❑ 18 Awards: INBRE, CTR, 13 COBRE, 3-R01 Co-funding, ISPCTN --- FY21 \$32M
- ❑ Quarterly RI-IDeA PI & Staff meetings:
 - Program introduction, IDeA business
 - Exchange information, grants, pilot projects, core facilities, seminars, etc
- **RI IDeA Virtual Seminar Series (May 21- August 6, 2020)**
Featuring 10 IDeA PI's and two training grants, including MARC U*STAR

The purpose of this new Seminar Series is to introduce the directors of Rhode Island's NIH program grants to the RI-INBRE Community. By doing so, we recognize their outstanding contributions to improving the biomedical research capacity in Rhode Island.



RI-INBRE VIRTUAL SEMINAR SERIES

FEATURING: SHARON ROUNDS & ELIZABETH HARRINGTON
MULTI-PRINCIPAL INVESTIGATORS, COBRE
CARDIOPULMONARY VASCULAR BIOLOGY

"CARDIOVASCULAR & PULMONARY VASCULAR DISEASES ARE LEADING CAUSES OF MORBIDITY & MORTALITY IN THE U.S."

MAY 28, 2020 • 1:00-2:00 PM

REGISTER NOW FOR WEBEX: roundsandharrington.eventbrite.com

ABOUT SHARON ROUNDS
Sharon Rounds MD is Professor of Medicine and of Pathology and Laboratory Medicine and Associate Dean for Clinical Affairs at the Warren Alpert Medical School of Brown University and staff pulmonary/critical care physician at the Providence VA Medical Center. Dr. Rounds has combined careers in clinical pulmonary/critical care medicine, teaching, and research on the pulmonary circulation. Her research interests include mechanisms of endothelial cell injury and the pathobiology of pulmonary hypertension and ARDS. Current research interests include mechanisms of cigarette smoke priming for acute lung injury and aldehyde-induced lung injury.

ABOUT ELIZABETH HARRINGTON
Professor Harrington received her PhD in Biological Chemistry from Drexel University, Philadelphia. She then did her post-doctoral fellowship at the Beth Israel Deaconess Hospital/ Harvard Medical School. Since

RHODE ISLAND INBRE
Biomedical Research Excellence

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RI-INBRE VIRTUAL SEMINAR SERIES

RUNNING WEEKLY FROM MAY 21 TO AUGUST 6, 2020

Rhode Island IDeA Programs:

- ❑ Virtual North-East Regional IDeA Conference (v-NERIC) hosted by RI-INBRE, August 16-18, 2021, highlighting exciting New IDeAs and New discoveries, 3 keynote speakers, 8 theme sessions, 6 lighting talks for trainees, 650 attendees.
- ❑ RI-IDeA supported v-NERIC (11/14 sponsors)



- ❑ RI ADV-CTR will host Annual Conference featuring all RI-IDeA Programs on June 10, 2022: **“Health Disparities in Clinical and Translational Research.”**

- ❑ *Great Initiative to connect State's IDeA programs collaboratively!!*
- ❑ Alert all RI-IDeA PI/staff about the INBRE Supplemental opportunity.
- ❑ Solicit participation by sending RFA details and FAQ along with a list of current and recent INBRE awards (25 this year) at partner PUI institutions (Salve Regina U, Providence College, Rhode Island College, Roger Williams U, Bryant U).
- ❑ Contact nominated pair to review their potential collaborative plans.
- ❑ Select one to move forward proposal development: help and guide along and package it.
- ❑ Criteria: 'Complementarity', 'Doability', 'Real collaboration', 'Outcome ready.'

2019 INBRE/COBRE Collaboration Supplemental Award:

Dr. Susan Meschwitz, Salve Regina University, **RI-INBRE**

Dr. Beth Fuchs, Rhode Island Hospital, **"COBRE Ctr for Antimicrobial Resistance and Therapeutic Discovery"**

"Quorum sensing antagonistic inhibition of medically important ESKAPE pathogens"

ORIGINAL RESEARCH article
Front. Microbiol., 05 October 2021 | <https://doi.org/10.3389/fmicb.2021.723133>

A Substituted Diphenyl Amide Based Novel Scaffold Inhibits *Staphylococcus aureus* Virulence in a *Galleria mellonella* Infection Model

Biswajit Mishra^{1†}, Rajamohammed Khader^{1†}, Lewis Oscar Felix¹, Marissa Frate², Eleftherios Mylonakis¹, Susan Meschwitz² and Beth Burgwyn Fuchs^{1*}

¹Division of Infectious Diseases, Rhode Island Hospital, Alpert Medical School of Brown University, Providence, RI, United States
²Department of Chemistry, Salve Regina University, Newport, RI, United States

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555 TOTAL VIEWS
Am score 1
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Frontiers

- To publish after one year was a huge accomplishment
- Open doors for future collaborations; Susan's students are still invited to go into the Fuch's lab
- Received May 2021, Office of Research on Women's Health, \$268,789 Supplemental, which will be carried out at Salve Regina University in collaboration with University of Rhode Island investigators (Drs Jodi Camberg and David Rowley).

December 20, 2021

2020 INBRE/COBRE Collaboration Supplemental Award:

Dr. Christopher Reid, Bryant University, **RI-INBRE**

Dr. Joseph Bliss, Women and Infants Hospital of Rhode Island, **"COBRE for Perinatal Biology"**

"Inhibitors of *Candida parapsilosis* virulence informed by cell wall proteomics"

- "Virtual fragment screen to identify inhibitors of fungal transglycosylases" at ACS National Meeting (virtual), April 2021:
- "The surface proteome of *Candida parapsilosis*" at Sigma XI National Meeting (virtual), November 2021
- Also, Dr. Reid received a voucher from the IDeA National Resource for Proteomics (Arkansas INBRE) to analyze surface proteome samples from *Candida parapsilosis*. The Reid Team is about to ship their first batch of samples.

2021 INBRE/COBRE Collaboration Supplemental Award:

Dr. Jamie Towle-Weicksel, Rhode Island College, **RI-INBRE**

Dr. EuiYoung So, Rhode Island Hospital, **"COBRE for Skeletal Health & Repair"**

"Nanoparticle-mediated drug delivery for inflammatory arthritis"

- Setting up the protocol and testing methods for animal experiments.

❑ *Great Collaborative IDeA Program!*

❑ **Wrong Perceptions:**

- Short time-line, e.g., Not a true 1-year project.

Supplement	Notice Release	Submission due	Notice of Award	Grant end date
2019 INBRE/COBRE	3/14/2019	5/31/2019	8/26/2019	4/30/2020
2020 INBRE/COBRE	1/15/2020	4/30/2020	7/27/2020	4/30/2021
2021 INBRE/COBRE	2/8/2021	4/30/2021	8/24/2021	4/30/2022

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Application Deadline: January 31, 2022. 5 PM local time.

Building Research Collaborations in Arkansas



Lawrence Cornett, PhD
Distinguished Professor of Physiology and Cell Biology
Director, Arkansas INBRE
College of Medicine
University of Arkansas for Medical Sciences
Little Rock, Arkansas 72212

Pre-Application Webinar—NOT-GM-22-001
December 20, 2021

Collaboration \ kə-ˌlɑ-bə-ˈrā-shən

“Official definition”

two or more people, entities, or organizations working together to complete a task or achieve a goal

Collaboration \ kə-ˌlɑ-bə-ˈrā-shən

“Official definition”

two or more people, entities, or organizations working together to complete a task or achieve a goal

“Alternative definition”

“Collaboration has been defined as **an unnatural act between non-consenting adults**. We all say that we want to collaborate, but what we really mean is that we want to continue doing things as we always done them while others change to fit what we are doing.”¹



¹Jocelyn Elders, M.D., Former US Surgeon General and Professor Emeritus, UAMS
Rosalynn Carter Mental Health Symposium

Collaboration Basics

--There is a lot of literature available on how to stimulate collaboration and/or team science
a good source:

Collaboration and Team Science: A Field Guide

L. Michelle Bennett

Howard Gadlin

Christophe Marchand

National Cancer Institute

<https://www.cancer.gov/about-nci/organization/crs/research-initiatives/team-science-field-guide>

--Key Elements for a Successful Collaboration

- It's a numbers game, but personalities come into play
- Collaborations can be driven "top-down" or "bottom-up"
- Trust among collaborators is a big deal
- People will often "self-assemble" to collaboratively address a scientific problem
- Support from leadership and funding can greatly improve the chances of success

The Landscape in Arkansas

COBRE Grants

C. O'Brien	Phase 1	Musculoskeletal disease	
A. Tackett	Phase 1	Translational pediatric research	Supplement success!
K. Quinn	Phase 1	Integrative metabolic research	
M. Boerma	Phase 2	Host response to cancer therapy	
J. Weber	Phase 2	Childhood obesity prevention	
M. Smeltzer	Phase 2	Microbial pathogenesis/host response	Supplement Failure

Other Grants

L. James	CTSA	Expanding Translational Research in Arkansas	Supplement success!
J. Snowden/J. Lee	ISPCTN	Data Coordinating and Operations Center	
P. Darden/T. Perry	ISPCTN	Clinical Site: Arkansas Children's Hospital	

Co-Funded Grants

R. Dings	R01	Gut microbiome/cellular immunotherapy in cancer
A. James	R01	Opioid use disorder relapse prevention
J. Xiong	R01	Piezol and bone homeostasis
M. El-Shenawee	R15	Improved imaging for detecting breast cancer margins
J. Xu	R15	Biologics expressed in plants for colitis treatment
J. Wolchok	R15	Treatment of fatty muscle infiltration

Successful Supplement #1

3 P20 GM103429-18S1

NOT-GM-19-025—NOSI: Availability of Administrative Supplements to INBRE Awards to Fund Research in Collaboration with COBRE or IDeA-CTR Awards

Premise

- *Ex vivo* generation of RBCs from hematopoietic stem cells requires erythropoietin (EPO)
- Human EPO is primarily made *in vitro* in mammalian cell culture systems
- Production of EPO in plants is a less expensive alternative

Collaborators



- Jianfeng Xu, Ph.D., assistant professor, Arkansas State University
Arkansas INBRE-funded to develop plant-produced system to produce EPO
Uses tobacco BY-2 cells to produce mammalian proteins



- Jason Farrar, M.D., associate professor, Department of Pediatrics, UAMS
COBRE (GM121293)-funded to study defects in Diamond Blackfan anemia (DBA)
Uses animal models to functionally characterize EPO

-Presentation at 2021 SE Regional IDeA Meeting-

Successful Supplement #2

2 P20 GM103429-19S1

NOT-GM-20-012—NOSI: Availability of Administrative Supplements to INBRE Awards to Fund Research Collaborations

Premise—Insufficient number of clinician scientists nationally

Basis of the Collaboration—Provide undergraduate students with a team-based translational research experience

Project—Determination of optimal treatment strategy to minimize neonatal opioid withdrawal syndrome (NOWS) in newborns (study involves investigators at Arkansas Children’s Hospital, UAMS, University of Louisville, PinPoint Testing LLC)

Collaborative Partner—UAMS Translational Research Institute (CTSA Funded, 5 UL1 TR003107)
Laura James, M.D.--Director

Arkansas INBRE Lead—Andres Caros, Ph.D., Associate Professor, Hendrix College



-Publication in preparation-

Final Thoughts

First and Foremost: Consider “key elements” for successful collaborations

What is being done in Arkansas to stimulate collaboration among IDeA-supported programs?

- Quarterly meetings of IDeA, ISPCTN and CTSA PIs
- COBRE- and IDeA co-funded faculty serve as mentors for Arkansas INBRE-funded faculty
- COBRE-funded faculty serve on Arkansas INBRE DRPP review panels
- Arkansas INBRE DRPP offers collaborative research grants