



Research Development & Grant Writing Newsletter

Issue for April 15, 2023

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About Us

Research Development & Grant Writing News © has been published monthly since 2010 for faculty and research professionals by [Academic Research Funding Strategies, LLC](#)

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Lucy Deckard, BS/MS

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Katherine E. Kelly, PhD

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Topics of Interest URLs

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User Note: URL links are active on date of publication, but if a URL link breaks or changes a Google search on the key words or titles, as below, will typically take you to a working link.

FY2023 Federal Research Budget/Funding Agency & Miscellaneous

- [Biden backs science in his 2024 budget plan. But don't bank on those numbers](#)
- [NSF VIRTUAL GRANTS CONFERENCE - June 5-8, 2023](#)
- [National Science Foundation Graduate Research Fellowship Program Administrative Guide Effective March 28, 2023](#)
- [Interested in Becoming a Hydrogen and Fuel Cell Project Reviewer?](#)
- [PhRMA Foundation Postdoctoral Fellowship](#)
- [PhRMA Foundation Faculty Starter Grant in Drug Delivery](#)

National Science Foundation & Related

- [Dear Colleague Letter: Bioinspired Design Collaborations to Accelerate the Discovery-Translation Process \(BioDesign\)](#)
- [Dear Colleague Letter: Research Collaboration Opportunity in Europe for NSF Awardees](#)
- [Dear Colleague Letter: Interdisciplinary REU Sites at the Intersection of Computing and Communication Foundations and Mathematics and Statistics](#)
- [Mid-scale Research Infrastructure-2 \(Mid-scale RI-2\)](#)
- [Frequently Asked Questions \(FAQs\) On Proposal Preparation and Award Administration Related to the NSF Proposal & Award Policies & Procedures Guide \(PAPPG\) \(NSF 23-1\).](#)
- [Dear Colleague Letter: Post-Associate and Post-Baccalaureate Research Experiences for LSAMP Students \(PRELS\) Supplemental Funding Opportunity](#)
- [DCL: Civil Infrastructure research for climate change Mitigation and Adaptation \(CLIMA\)](#)
- [DCL: NEXT GENERATION SUPPLY CHAINS](#)
- [DCL: Expanding Institutional Diversity in Support of STEM Research and Education Capacity](#)
- [DCL: Planning Proposals for Partnerships for Research and Education in Chemistry Program](#)
- [DCL: Supporting Knowledge Mobilization PreK-12 Informal STEM Learning and Teaching](#)
- [DCL: INCLUDES Alliances - Strengthening and Scaling Systems Transformation](#)
- [DCL: Computer and Information Science and Engineering Graduate Fellowships](#)

NIH Health Sciences & Related

- [12 Days of Data Management and Sharing Tips & Resources](#)
- [NIAID Paylines and Budget Data Updates from March 2023](#)

- [Understand the Peer Review Process to Inform Your Next Application](#)
- [Speak Up on Proposed Revisions to the NIH Public Access Policy](#)
- [Don't Leave Your Mentorships to Chance—Tips for Inviting Support](#)
- ["Have NIAID's extramural research priorities changed since Dr. Fauci's retirement?"](#)
- ["Can a notice of funding opportunity \(NOFO\) change its requirements after publication?"](#)
- [NIAID Final Payline for Career Development Awards](#)
- [Exploratory Grants for Climate Change and Health Research Center Development \(P20 Clinical Trial Optional\)](#)
- [New FY 2022 Categorical Spending Data Are Now Available](#)

USDA/NIFA & Related

- [AFRI Bioenergy, Natural Resources and Environment Program Area Technical Assistance Webinar](#)
- [Integrated Research, Education, and Extension Grants Program - Organic Transitions](#)
- [Supplemental and Alternative Crops](#)
- [Beginning Farmer and Rancher Development Program](#)
- [Higher Education Challenge Grants Program](#)
- [Rural Health and Safety Education Competitive Grants Program](#)
- [Equipment Grant Program](#)
- [The Gus Schumacher Nutrition Incentive Program - Nutrition Incentive Program](#)
- [The Gus Schumacher Nutrition Incentive Program Nutrition Incentive Program - Training, Technical Assistance, Evaluation, and Information Centers](#)
- [Distance Education Grants for Institutions of Higher Education in Insular Areas](#)
- [Spurring Innovation in Food and Agriculture: A Review of the USDA Agriculture and Food Research Initiative Program](#)
- [The Future Role of Pesticides in US Agriculture](#)
- [Understanding American Agriculture: Challenges for the Agricultural Resource Management](#)
- [Science Breakthroughs to Advance Food and Agricultural Research by 2030](#)
- [Toward Sustainable Agricultural Systems in the 21st Century](#)
- [Agriculture Innovation Mission for Climate \(AIM for Climate\) Summit](#)

National Academies and Other Scientific Associations

- [Native Americans—and their genes—traveled back to Siberia, new genomes reveal](#)
- [Landmark study on history of horses in American West relies on Indigenous knowledge](#)
- [Finding Collective Advantage in Shared Knowledge](#)
- [Strengthening the Nation's Native Seed Supply](#)

- [Protecting the Integrity of Survey Research](#)
- [Toward a 21st Century National Data Infrastructure: Enhancing Survey Programs by Using Multiple Data Sources](#)

Miscellaneous Federal Agency and Foundation News & Funding

- [National Endowment for the Arts Announces First Round of Fiscal Year 2023 Grants](#)

Federal Agency Research Funding Links

- AFRL: <https://www.afrl.af.mil/AFOSR/>
- ARL: <https://www.arl.army.mil/>
- CDMRP: <https://cdmrp.army.mil/funding/prgdefault>
- DARPA: <https://www.darpa.mil/work-with-us/opportunities>
- IARPA: <https://www.iarpa.gov/>
- ONR: <https://www.onr.navy.mil/en/work-with-us/funding-opportunities>
- DHS: <https://www.dhs.gov/how-do-i/find-and-apply-grants>
- DOJ: <https://www.justice.gov/grants>
- NASA: <https://nspires.nasaprs.com/external/>
- NEH: <https://www.neh.gov/>
- NEA: <https://www.arts.gov/>
- NIH: <https://grants.nih.gov/funding/index.htm>
- HHS: <http://www.hhs.gov/asrt/og/aboutog/grantsnet.html>
- NSF: <https://www.nsf.gov/funding/index.jsp>
- DOC: <https://www.commerce.gov/work-with-us/grants-and-contract-opportunities>
- NIST: <https://www.nist.gov/oaam/grants-management-division/nist-nofo-information>
- NOAA: <https://www.noaa.gov/organization/acquisition-grants>
- DoED: <https://www2.ed.gov/fund/grants-apply.html?src=go>
- DOE/OS: <https://www.energy.gov/science/office-science-funding/office-science-funding-opportunities>
- EERE: <https://www.energy.gov/eere/funding/eere-funding>
- DOE: <https://www.energy.gov/energy-economy/funding-financing>
- USDA: <https://www.nal.usda.gov/waic/funding>
- NIFA: <https://www.nifa.usda.gov/grants>
- EPA: http://www.epa.gov/ogd/competition/open_awards.htm
- NCER: <http://epa.gov/ncer/listserv/>
- FBO/BETA SAM: <https://fbohome.sam.gov/>
- Federal Register: <https://www.federalregister.gov/>
- Grants.gov: <https://www.grants.gov/web/grants/search-grants.html>
- CFDA: <https://www.investopedia.com/terms/c/catalog-of-federal-domestic-assistance-cfda.asp>

April 2023 Select List of Humanities, HSS, and Arts Opportunities & News

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by Katherine E. Kelly, PhD [article subtitle style]

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Check with organizations' websites for most current information

Due Date	Opportunity
4/30/23 Victor Pinchuk Foundation--The Future Generation Art Prize	This biannual global contemporary art prize is designed to discover, recognize and give long-term support to a future generation of artists. The Prize supported the artistic development and production of new works of over 100 artists in exhibitions at the Pinchuk Art Centre in Kyiv and at official collateral events at the Venice Biennale in 2011, 2013, 2017 and 2019. Exhibition dates: October 22, 2023 - August 1, 2024. No entry fee. Eligibility: International (aged 35 and younger); all media. https://futuregenerationartprize.org/
5/3/23 (optional draft due); 6/14/23 (final deadline) NEH Digital Projects for the Public (for organizations).	This program supports projects that interpret and analyze humanities content in primarily digital platforms and formats, such as websites, mobile applications and tours, interactive touch screens and kiosks, games, and virtual environments. Three types of grants are available: \$30,000 (Discovery grants); \$100,000 (Prototyping grants); \$400,000 (Production grants). All Digital Projects for the Public projects should: present analysis that deepens public understanding of significant humanities ideas; incorporate sound humanities scholarship; involve humanities scholars in all phases of development and production; include appropriate digital media professionals; reach a broad public through a realistic plan for development, marketing, and distribution; create appealing digital formats for the general public; and demonstrate the capacity to sustain themselves. Applicants may choose to identify particular communities and groups, including students, to whom a project may have particular appeal. A prerecorded webinar will be posted here by April 26, 2023: https://www.neh.gov/grants/public/digital-projects-the-public?utm_medium=email&utm_source=govdelivery
<u>5/9/23 NEH Humanities Initiatives at:</u>	<u>Colleges and Universities; Historically Black Colleges and Universities; Hispanic-Serving Institutions; Tribal Colleges and Universities; and Community Colleges. For overview and links to specific information for each program type, go to: https://www.neh.gov/sites/default/files/inline-files/Humanities%20Initiatives%202023.pdf?utm_medium=email&utm_source=govdelivery Humanities Initiatives strengthen the teaching and study of the humanities at institutions of higher education by developing new or enhancing existing programs, resources (including those in digital format), or</u>

courses that explore, interpret, and preserve the diversity of human cultures, ideas, and practices, past and present. All programs share guidelines and criteria, but some procedures may be distinct to each type of project. All projects must address a core topic or set of themes drawn from humanities areas such as history, philosophy, religion, literature, or humanities-informed composition and writing skills. For more information and to view examples of successful submissions for each type of award, see: (1) Colleges and Universities at <https://www.neh.gov/program/humanities-initiatives-colleges-and-universities> (2) Historically Black Colleges and Universities at <https://www.neh.gov/grants/education/humanities-initiatives-historically-black-colleges-and-universities> (3) Hispanic-serving Institutions at <https://www.neh.gov/grants/education/humanities-initiatives-hispanic-serving-institutions>; (4) Tribal Colleges and Universities at <https://www.neh.gov/grants/education/humanities-initiatives-tribal-colleges-and-universities> and (5) Community Colleges at <https://www.neh.gov/grants/education/humanities-initiatives-community-colleges>. N.B. Ensure your SAM.gov and Grants.gov registrations and passwords are current. It may take up to one month to register with SAM.gov and Grants.gov. NEH will not grant deadline extensions for lack of registration.

**5/12/23 US Dept.
of Education:**

ED-GRANTS-032823-001 Office of Postsecondary Education (OPE): International Foreign Language Education (IFLE): International Research and Studies Program—Research, Studies and Surveys; and Specialized Instructional Materials, Assistance Listing Number 84.017 The

Department will hold a pre-application meeting via webinar for prospective applicants. Detailed information regarding the webinar, including date and time, will be provided on the website for the IRS program at <https://www2.ed.gov/programs/iegpsirs/applicant.html>. In this competition, applicants may request support for either a Research, Studies, or Surveys Project or a Specialized Instructional Materials Project. In section 15 of the SF 424 Application for Federal Assistance, applicants must clearly identify the type of IRS project for which funding is requested. Additional submission details are included in the application package. Purpose of Program: The IRS program provides grants to public and private agencies, organizations, institutions, and individuals, to conduct research, studies, or surveys, or to develop specialized instructional materials, to improve and strengthen instruction and enrollment in modern foreign languages and related area studies. <https://www.grants.gov/web/grants/search-grants.html?keywords=ED-GRANTS-032823-001>

**6/26/23 (target
date)* NSF
Centers for
Research and
Innovation in**

The U.S. National Science Foundation seeks to build research capacity and infrastructure to address complex and compounding national and global crises whose solutions require a human-centered approach. To help generate effective and long-lasting solutions that benefit the entire U.S. public, NSF is providing this funding opportunity to inform possible future Centers for

Science, the Environment and Society (CRISES)	Research and Innovation in Science, the Environment and Society (CRISES). The envisioned centers will catalyze new research and research-based innovations to address seemingly intractable problems that confront our society. They will develop evidence-based solutions that address fundamental quality-of-life issues, such as those involving the environment, extreme weather and sustainability; workforce and the economy; equity and access to opportunities; and well-being. Any proposal submitted in response to this funding opportunity should be submitted in accordance with the NSF Proposal & Award Policies & Procedures Guide (PAPPG) that is in effect for the relevant due date to which the proposal is being submitted. The NSF PAPPG is regularly revised and it is the responsibility of the proposer to ensure that the proposal meets the requirements specified in this solicitation and the applicable version of the PAPPG. Submitting a proposal prior to a specified deadline does not negate this requirement. *Target dates refer to dates after which proposals will still be accepted, although they may miss a particular panel or committee meeting. https://beta.nsf.gov/funding/opportunities/centers-research-innovation-science-environment
7/3/23 (hereafter 7/1) Archaeology Program Senior Research Awards (NSF).	The Archaeology Program supports anthropologically relevant archaeological research to increase understanding of past behaviors. This means that the value of the proposed research can be justified within an anthropological context. It is the responsibility of the investigator to explain convincingly why the focus of their research is significant and has the potential to contribute to anthropological knowledge. The program sets no priorities by either geographic region or time period or by theoretical orientation or question. https://www.nsf.gov/pubs/2023/nsf23566/nsf23566.htm?WT.mc_ev=click&WT.mc_id=utm_medium=email&utm_source=govdelivery
9/1/23 NEH Dialogues on the Experience of War (for organizations) NB:	The following description of this program dates from 2022. This can be used until NEH posts the 2023 description at the site listed below. This program supports the study and discussion of humanities sources that address the experiences of military service and war from a wide variety of perspectives. Project teams should include humanities scholars, military veterans, and individuals with relevant experience. Dialogues projects may take a wide variety of forms, including: Bridge programs for veterans seeking to further or resume their education; Community discussion series hosted by veterans' organizations and cultural institutions such as museums or theaters; Undergraduate or graduate courses that train students to lead discussions on campus or in the local community; Seminars for members of the public; Reading and discussion programs for veterans in the justice system or in group housing, etc. To play a recorded you tube webinar and/or to read successful narrative proposals for this program, visit the link below. The webinar provides examples and explanation in support of the Notice of Funding Opportunity guidelines for the 2022 funding cycle:

https://www.neh.gov/grants/education/dialogues-the-experience-war?utm_medium=email&utm_source=govdelivery

9/7/23 NEH The Dialogues on the Experience of War

(As due date approaches, check for possible updated information.) This program supports the study and discussion of humanities sources that address the experiences of military service and war from a wide variety of perspectives. In recognition of the importance of the humanities in helping Americans to understand the meaning and experiences of military service and war, Dialogues projects encourage veterans and civilians to reflect collectively on such topics as civic engagement, veteran identity, the legacies of war, service, and homecoming. Project teams should include humanities scholars, military veterans, and individuals with relevant experience. Dialogues projects must include: (1) Discussion programs: The convening (in person or virtual) of at least two sustained discussion series focused on humanities resources and themes that address the experiences of war and military service. Dialogues discussion groups may include exclusively veterans (including a subset of veterans such as students or residents of a group facility); civilians; military-affiliated persons; or any mix of these groups; and (2) Preparatory programs: The creation of an in-person or virtual preparatory program to recruit, train, and mentor a sufficient number of individuals to serve as discussion leaders for the series. For more program resources, including a webinar devoted to this program and sample narratives, go to: https://www.neh.gov/grants/education/dialogues-the-experience-war?utm_medium=email&utm_source=govdelivery

9/20/23 NEH Summer Stipend

Program is intended to stimulate new research and publication in the humanities. Summer Stipends support continuous, full-time work on a humanities project for a period of two consecutive months. NEH funds may support recipients' compensation, travel, and other costs related to the proposed scholarly research. Applicants holding tenured or tenure-track positions at institutions of higher education **must be nominated by their institutions** unless they are exempt from this requirement. Advanced graduate students may seek funding for a project based on a completed dissertation. In such cases, the proposal narrative must acknowledge that the proposal is to revise a dissertation and explain how the new project moves beyond the original. NB: Ensure your Grants.gov registration and password **are current**. NEH will not grant deadline extensions for lack of registration. For sample narratives and more information, go to: <https://www.neh.gov/grants/research/summer-stipends>

10/18/23 (anticipated deadline; optional Optional Draft Review: Submit draft materials to spotlight@neh.gov

Check website for exact dates) NEH The Spotlight on Humanities in Higher Education program (for organizations) supports the exploration and development of small projects that would benefit underserved populations through the teaching and study of the humanities at small- to medium-size two- and four-year institutions of higher education. NEH especially welcomes applications from Native American and Indigenous institutions, Historically Black Colleges and Universities, Hispanic-Serving Institutions, Asian American

by September 28, 2022 to receive feedback from program officers before the final deadline. You do not need to have a fully developed program idea or near complete application to submit materials for review and feedback.

and Native American Pacific Islander-Serving Institutions, Tribal Colleges and Universities, minority-serving institutions, community colleges, rural colleges and universities, schools that have a majority-minority undergraduate enrollment, and those that serve significant numbers of first-generation and nontraditional students. The Spotlight program supports activities such as curricular or program development, expert consultations, speakers' series, student research, creation of teaching resources, and community engagement. Projects may benefit students, faculty, the institution or organization, and/or the community. The Spotlight program features a simplified application and streamlined application process. You may **request support at one of two levels: Exploration or Development**. For more information and to view a pre-recorded webinar about the program, go to: https://www.neh.gov/program/spotlight-humanities-higher-education?utm_medium=email&utm_source=govdelivery

11/2/23 ACLS announces a new HBCU Faculty Fellowship and Grant Program.

This program supports the work of humanities and interpretive social sciences faculty at Historically Black Colleges and Universities by providing awards that attend to the specific teaching, research, and service contexts of their institutions. The program will offer two types of awards: (1) Grants of up to \$10,000 for research project development, with a grant term of 12 to 15 months, and (2) Fellowships of up to \$50,000 to support more sustained time and engagement with a significant research project, with an award term of 12 to 27 months. For more information, go to: <https://www.acls.org/programs/acls-hbcu-faculty-fellowship-and-grants/>

NEWS

--(no date) Looking for K-12 classroom resources? EDSITEment offers free resources for teachers, students, and parents searching for high-quality K-12 humanities education materials in the subject areas of history and social studies, literature and language arts, foreign languages, arts, and culture. The EDSITEment experience includes primary-source-rich lesson plans, resources for National History Day projects, teacher's guides full of project ideas, Google Classroom compatible student activities, a database of historic newspapers, and more. All websites linked to EDSITEment have been reviewed for content, design, and educational impact in the classroom.

https://edsitement.neh.gov/?utm_medium=email&utm_source=govdelivery

--4/27-4/28 American Council of Learned Societies Annual Meeting. Speakers include Joy Connelly, Shelly Lowe, and Henry Louis Gates, Jr. To sign up and/or find more information, go to: <https://www.acls.org/annual-meetings/>

NEH Infrastructure/Capacity-Building Challenge Grants

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By Kate Kelly

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These grants are administered through NEH's Office of Challenge Programs, which sets them apart from other types of grants and fellowships. As NEH states (emphasis added), "All applicants (for these grants) **must advance the humanities** by preserving and providing access to collections, developing educational programs for various audiences, conducting scholarship and research, or providing scholarly digital resources." (Note that this Challenge program no longer supports Digital Infrastructure projects; however, capital projects may request digital equipment.) NEH reviewers will be looking carefully at the humanities component of the proposal, so it's a good idea to make it easy for them to see that humanities is central to the application. Tell them how your project promotes or advances the humanities; who is your audience and how will they benefit both long-term and short-term from the project's outcomes? If your organization has a range of functions, such as an arts center or a theater, describe for them the specific humanities activities that will be supported by your project.

These complex grants have many moving parts and require significant advanced planning. Interested applicants should visit the NEH website and view the webinar in which most aspects of the grant process are explained: <https://www.neh.gov/grants/preservation/infrastructure-and-capacity-building-challenge-grants>. This story is intended to introduce these grants and to emphasize some of their unique features; it does not substitute for a careful reading of the NEH's own description of the grants.

Unlike many NEH awards, applicants for these Challenge Grants must be prepared to fundraise. Again, according to NEH (emphasis added), "Fundraising is an important aspect of all Challenge Programs grants. Successful applicants receive awards in matching funds **intended to stimulate additional private, state, and local support for their project. Recipients must raise cash contributions from nonfederal third parties before NEH will release matching funds.**" Preparing to compete for these grants, therefore, must start well in advance of the posted NEH annual deadline and should include targeting and contacting potential matching fund donors, such as major corporations, foundations, local businesses, state grants, and/or private individuals. As the NEH webinar explains, applicants do not need all funds in hand at the time of application; in fact, many applicants take part of the first year of a project to focus on fundraising and project plans. (But note that funds raised **more than five months in advance of the application deadline** will not be allowed.)

Each of the three award levels has its own match ratio: requests of up to \$150,000 must receive a 1:1 match. Awards from \$150,000 to \$500,000 must receive a 3:1 match. The largest and most rare awards, known as Chair's Special Awards of \$500,001-\$1,000,000, must match in a 4:1 ratio. To clarify, the first number shown in the ratio refers to funds that **the applicant** must raise. (Note that **the following institutions are allowed to use a 1:1 match ratio regardless of the amount being requested**: Historically Black Universities and Colleges, Tribal Colleges and Universities, Hispanic-Serving Institutions, Two-Year Community Colleges; federally recognized Native American Tribal governments, and native Hawaiian organizations.) NEH will want to hear about the applicant's fundraising capacity: who will be responsible for fundraising? Tell the NEH which gift types you're pursuing. Ask them to clarify which types are allowed.

And a more recent requirement, in effect since May of 2022, states that all manufactured products and materials used in construction, renovation, or facility infrastructure of ICBCGs must have been produced in the USA.

Project Timelines will typically show several (but fewer than five) months of fundraising; the period of performance—the time during which the project work is to be completed--can stretch several years into the future. The Work Plan, submitted with the application, should show timelines and explain the plans for both fundraising and project activities. Some sample applications are available to review on the NEH website (see URL above) for this award.

Which institutions are eligible to apply for these grants? US nonprofits with 501(c)(3) tax-exempt status; accredited public and 501 (c)(3) institutions of higher education; state and local government agencies; federally recognized Native American tribal governments. In every case, the project for which funds are being requested must be based wholly in the humanities.

Be sure to read the Notice of Funding Opportunity (NOFO) carefully: late or incomplete applications will be declared ineligible. Finally, take advantage of NEH's invitation to send a brief description of the project in its early stage of development to determine whether or not it qualifies for this program (see URL above). Once an early draft has been completed, contact the Office of Challenge Programs Team ([202] 606-8309 challenge@neh.gov) to request comments. These proposals are complex, but NEH is prepared to offer help during the preparation process.

Editing the Research Narrative for Importance

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By Mike Cronan, PE, co-publisher

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When a fourth-year medical student was asked what contributed most to the student's ranking in the top five percentile of the class, the response was that it was not from being smarter than other students but from ***being better able to judge what was important to know and what was not important to know*** for doing well on course examinations, shelf examinations for clinical rotations, and STEP examinations for medical licensing.

This provides a good analogy to the challenges presented by writing a proposal's research narrative/project description. It also resembles the dilemma faced by ***members of research offices who must identify a proposal's weaknesses***. Poorly reviewed proposals share some common characteristics. They tend to ***overemphasize general background information and literature reviews*** with a weak or tenuous relevance to the project's objectives. They also ***fail to establish a clear hierarchy of the importance of information*** presented within the constraints of the page limits. And, finally, a poorly reviewed proposal often contains a narrative description lacking balance and proportionality, with the result that some elements of the narrative "describe *too much what and not enough how*."

These mistakes significantly weaken a proposal by using valuable space within the allowed page limits to offer descriptive details of lesser value to the funding decision. As noted by analogy above, one key to successful proposal writing lies in ***the ability to judge the relative importance of various kinds of information in a proposal. What must reviewers know and what might they forego knowing in the context of*** the funding solicitation guidelines?

A reviewer's alarm bells will go off if, after reading the first page of a research narrative, the broad outlines of the research plan being proposed for the project are not clear. If the introduction to a proposal can be compared to a Scottish moor, ***there are two dangerous bogs to avoid***: the **Background Bog** and the **Literature Review Bog**. Like peat bog mummies going back to 8,000 BC, ***these narrative bogs are well populated by proposals declined for funding***.

If a reviewer is well into reviewing the second page of a proposal and is still reading background and literature review information, they may well throw up their hands and scream, quietly, ***"Why is this relevant!"*** Background and literature reviews need to be used judiciously, and shown to bear directly on advancing the case for funding. ***Too often, background information and literature reviews seem to wander about the first several pages of a proposal in search of relevance***. Moreover, it's wise to assume that some reviewers may know something about the background of the proposed research.

Funding agencies make two reasonable assumptions when issuing solicitations: (1) those submitting proposals will have experience that maps tightly to the project's goals and objectives as defined in the guidelines; and (2) those selected for the review panel(s) will have knowledge and experience relevant to the project's goals and objectives as defined in the guidelines. If proposed research relates to bioinspired design in biomechanics and morphology, the review panel will not

include someone whose research expertise lies in comparative literature and theoretical literacies, or vice versa.

The iconic advice of “**writing to your reviewers**” requires some thought when drafting the project description: what, if any, background and literature review information is needed? Making gross assumptions that result in **burdening reviewers with background information commonly known in the field distracts them and jeopardizes the proposal's fate**. This is particularly the case in some educational proposal solicitations that presuppose an understanding of why a certain funding opportunity is available.

For example, if you are responding to an NSF solicitation to increase the diversity of the STEM workforce, your job in writing the proposal is not to convince NSF and reviewers why such a program is needed—**that determination has already been made**. In this case, your job is to convince NSF and reviewers that how your proposed project will achieve this goal will have the best outcomes. Unfortunately, it is not uncommon for some proposal writers to make long arguments in the proposal explaining why a program is needed while appearing unaware that the funding agency and those selected to review the proposals came to this conclusion some time ago.

In conclusion, determining the descriptive elements of primary importance in the project narrative and those of secondary importance amounts to a critical decision in writing your proposal. **Getting it right is the difference between a funded and a declined for funding proposal.**

U.S. Biotechnology and Biomanufacturing: The White House Vision for a Whole-of-Government Approach

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By Lucy Deckard, co-publisher

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In March, the White House Office of Science and Technology Policy released a report, “**Bold Goals for U.S. Biotechnology and Biomanufacturing: Harnessing Research and Development to Further Societal Goals**,” in response to President Biden’s Executive Order to launch a National Biotechnology and Biomanufacturing Initiative. His Executive Order, entitled “[Advancing Biotechnology and Biomanufacturing Innovation for a Sustainable, Safe, and Secure American Bioeconomy](#),” aims to coordinate a whole-government approach including a research agenda that outlines the foundational and use-inspired R&D needs, along with domestic capacity to make the U.S. the leader in bio-based products that we invent here that will lead to innovation solutions in health, climate change, energy, food security, agriculture, supply chain resilience, and national and economic security. Below, we summarize the main takeaways from this report. For researchers, the goals and strategies outlined provide a useful window into future funding priorities for federal agencies that fund research, especially the co-authors of this report, which include the Department of Energy, the Department of Agriculture, the Department of Commerce, the Department of Health and Human Services, and the National Science Foundation.

Overall Themes and Goals

The report is divided into five sections, each authored by a different agency, and sets broad goals for each section. These are as follows:

CLIMATE CHANGE SOLUTIONS - Authored by the U.S. Department of Energy

Theme 1: Transportation and Stationary Fuels

- **Expand Feedstock Availability** - In 20 years, collect and process 1.2 billion metric tons of conversion-ready, purpose-grown plants and waste-derived feedstocks and utilize >60 million metric tons of exhaust gas CO₂ suitable for conversion to fuels and products, while minimizing emissions, water use, habitat conversion, and other sustainability challenges.
- **Produce Sustainable Aviation Fuel (SAF)** - In 7 years, produce 3 billion gallons of SAF with at least 50% (stretch 70%) reduction in GHG lifecycle emissions relative to conventional aviation fuels, with production rising to 35 billion gallons in 2050.
- **Develop Other Strategic Fuels** - In 20 years, develop technologies to replace 50% (>15 billion gallons) of maritime fuel, off-road vehicle fuel, and rail fuel with low net GHG emission fuels.

Theme 2: Chemicals and Materials

- **Develop Low-Carbon-Intensity Chemicals and Materials** - In 5 years, produce >20 commercially viable bioproducts with >70% reduced lifecycle GHG emissions over current production practices.
- **Spur a Circular Economy for Materials** - In 20 years, demonstrate and deploy cost-effective and sustainable routes to convert bio-based feedstocks into recyclable-by-design polymers

that can displace >90% of today's plastics and other commercial polymers at scale.

Theme 3: Climate-Focused Agricultural Systems and Plants

- **Develop Measurement Tools for Robust Feedstock Production Systems** – In 5 years, develop new tools for measurement of carbon and nutrient fluxes in agricultural and bioeconomy feedstock systems that contribute to a national framework.
- **Engineer Better Feedstock Plants** – In 5 years, engineer plants and manipulate plant microbiomes to produce drought tolerant feedstocks capable of growing on underutilized land with >20% improvement in nitrogen and phosphorus use efficiency.
- **Engineer Circular Food Protein Production Systems** – In 5 years, demonstrate viable pathways to produce protein for food consumption including from biomass, waste, and CO₂ that achieve >50% lifecycle GHG emissions reduction and cost parity relative to current production methods.

Theme 4: Carbon Dioxide Removal

- **Develop Landscape-Scale Biotechnology Solutions** – In 10 years, develop technologies to expand implementation of landscape-scale soil carbon sequestration and management techniques on tens of millions of acres, increasing soil health and drought resilience and supporting U.S. climate targets.
- **Enable Biomass with Carbon Removal and Storage (BiCRS)** – In 9 years, demonstrate durable, scalable biomass CO₂ removal for <\$100/net metric ton, on a path to enabling gigaton-scale removal.

FOOD SECURITY – Authored by the U.S. Department of Agriculture

Theme 1: Transportation and Stationary Fuels

- **Increase Agricultural Productivity** – Over the next 10 years, increase agricultural total factor productivity growth to meet global food and nutrition security needs while improving natural resource use efficiency and conservation, toward the global goal of increasing agricultural productivity by 28% in the next decade.
- **Increase Climate-Smart Feedstock Production and Biofuel Usage** – By 2030, increase climate-smart production of conventional and alternative agricultural and forestry feedstocks for biomanufacturing, biobased products, and biofuels; reduce the lifecycle greenhouse gas intensity of biofuels by 50%; and expand overall biofuel blend rates in U.S. liquid transportation fuels by 50%.
- **Reduce Nitrogen Emissions** – Within the next 5 years, develop technologies to reduce nitrogen emissions from agriculture, including by decreasing the need for applied nitrogen by increasing nitrogen use efficiency in plants and improving fertilizer products and practices.
- **Reduce Methane Emissions** – By 2030, reduce methane emissions from agriculture, including by increasing biogas capture and utilization from manure management systems, reducing methane from ruminant livestock, and reducing methane emissions from food waste in landfills, to support the U.S. goal of reducing greenhouse gas emissions by 50%²⁴ and the global goal of reducing methane emissions by 30%.
- **Reduce Food Loss and Waste** – By 2030, reduce food loss and waste by 50%²⁶, including by developing and commercializing new technologies and encouraging adoption of new and existing technologies.

Theme 2: Improving Food Nutrition, Quality, and Consumer Choice

- **Develop New Food and Feed Sources** - Develop new food and feed sources, including production of novel or enhanced protein and fat sources at scale, to support the United Nations Sustainable Development Goal to eliminate global hunger by 2030.
- **Enhance Nutrient Density in Foods** - Within the next 20 years, enhance nutrient density in agricultural plants and animals, develop underutilized plants and animals that have enhanced nutrient density, and build on traditional ecological knowledge to better utilize and conserve culturally important and nutritionally relevant plants and animals.
- **Reduce Foodborne Illness** - Reduce incidence of foodborne illness, including with new and improved screening tools, toward meeting goals set in Healthy People 2030, such as a 25% reduction in Salmonella illnesses.

Theme 3: Protecting Plants and Animals Against Environmental Stressors

- **Increase Capacity to Detect and Mitigate Pests and Pathogens** - Within the next 5 years, improve capacity to detect and mitigate high-consequence existing and emerging animal and plant pathogens and pests, especially disease-vectoring and damaging pests.
- **Improve Resilience to Biotic and Abiotic Stress** - Within the next 20 years, increase resilience of agriculture and forestry and develop tools that increase resilience to biotic stress (disease and pest threats) and abiotic stresses (including extremes in drought, heat, cold, and precipitation).

SUPPLY CHAIN RESILIENCE - Authored by the U.S. Department of Commerce

Theme 1: Alternative Supply Chain Pathways via Biotechnologies and Biomanufacturing to Promote Economic Security

- **Improving Supply Chains for Critical Drugs** - In 5 years, deploy broad synthetic biology and biomanufacturing capabilities to produce at least 25% of all active pharmaceutical ingredients (APIs) for small molecule drugs.
- **More Sustainable Chemical Production** - In 20 years, produce at least 30% of the U.S. chemical demand via sustainable and cost-effective biomanufacturing pathways.
- **Accelerating Development of Biomanufactured Products** - In 20 years, implement new biotechnologies into biomanufacturing workflows to produce ten new biomanufactured products in each of at least 3 sectors with identified supply chain bottlenecks.

Theme 2: Biomanufacturing Innovation to Enhance Supply Chain Resilience

- **Predictive Capabilities** - In 5 years, enable prediction of at least 50% of supply chain weaknesses and direction of real-time biomanufacturing adjustments to address bottlenecks.
- **Real-time Biomanufacturing Process Adjustments** - In 5 years, operationalize monitoring systems to measure and adjust biomanufacturing parameters in real time.
- **Adaptive Supply Chains** - In 20 years, deploy a suite of advanced biomanufacturing platforms and capabilities to respond to supply chain bottlenecks within one week of identification.
- **Supply Chain Flexibility** - In 20 years, implement 80% of viable biomanufacturing technologies to address domestic production capability needs.

Theme 3: Standards and Data Infrastructure to Support Biotechnology and Biomanufacturing Commercialization and Trade

- **Data Infrastructure** - In 5 years, launch a data infrastructure, including effective and secure data sharing mechanisms, via advances and integration of data standards, tools, and capabilities.

- **Standards Infrastructure** – In 20 years, establish a robust standards infrastructure to enable the rapid development and deployment of biomanufactured products and processes.

HUMAN HEALTH – Authored by the **U.S. Department of Health and Human Services**

Theme 1: Accessible Health Monitoring

- **Identify Bio-Indicators of Health** – In 5 years, leverage novel sensors to identify at least ten next-generation bio-indicators of health that can be monitored as part of standard healthy living and preventative medicine practice, such as immune competency or microbiome composition.
- **Integrated Health Diagnostics** – In 20 years, develop and distribute a simple-to-use, affordable home diagnostic assay kit (“Health Kit”) leveraging novel bio-indicators of health, useful in the clinic and community, and meeting the needs of diverse populations to decrease disparities in health outcomes by 50%.

Theme 2: Precision Multi-Omic Medicine

- **Collect Multi-Omic Data** – In 5 years, collect multi-omic measures in large cohorts with participants from diverse populations and identify which measures are most relevant to the diagnosis and management of at least 50 diseases with high incidence and impact.
- **Enable Personal Multi-Ome** – In 20 years, develop molecular classifications for diagnosis, prevention, and treatment to address leading causes of disease-related mortality in the U.S. and make these actionable with development of the \$1,000 multi-ome.

Theme 3: Biomanufacturing of Cell-Based Therapies

- **Increase Therapeutic Efficacy** – In 5 years, expand the technologies used to develop cell-based therapies to achieve at least 75% cell viability in patients.
- **Enable Scale-Up** – In 20 years, increase the manufacturing scale of cell-based therapies to expand access, decrease health inequities, and decrease the manufacturing cost of cell-based therapies 10-fold.

Theme 4: AI-Driven Bioproduction of Therapeutics

- **Increase Manufacturing Speed** – In 5 years, leverage a national network of resource labs to address barriers in autonomous production and bioproduction of existing biotherapeutics, increasing manufacturing speed of ten commonly prescribed therapeutics by 10-fold.
- **Increase Manufacturing Diversity** – In 20 years, integrate artificial intelligence and machine learning (AI/ML) into the national network of resource labs to design novel biotherapeutics, increasing the speed of novel drug discovery and production by 10-fold.

Theme 5: Advanced Techniques in Gene Editing

- **Increase Editing Efficiency** – In 5 years, further develop gene-editing systems for clinical use to enable, with little to no side effects, cures for ten diseases with known genetic causes.

CROSS-CUTTING ADVANCES – Authored by the **National Science Foundation**

Theme 1: Leverage Biodiversity Across the Tree of Life to Power the Bioeconomy

- In 5 years, **sequence the genomes** of one million microbial species and understand the function of at least 80% of the newly discovered genes.
- In 20 years, **speed discovery** of new gene sequences, metabolisms, and functions by 100-fold over current practice across all types of organisms

Theme 2: Enhance Predictive Modeling and Engineering Design of Biological Systems

- In 5 years, increase the ability to **predictably design** small molecules or enzymes capable of binding selectively to any desired target, and reduce the time needed for this process to 3 weeks.
- In 20 years, leverage multidisciplinary advances in theory to enable high-confidence (90%) **design of purposeful engineered biological systems** at all scales, from molecular to ecosystem level.

Theme 3: Expand Capabilities to Build and Measure Performance and Quality of Biological Systems

- In 5 years, develop the capabilities to **read and write** any genome, epigenome, transcriptome, and expressed proteome to enable the construction and measurement of any single cell within 30 days.
- In 20 years, build a **synthetic minimal plant** that can be used as a chassis for food, feedstock, chemical, or pharmaceutical production.

Theme 4: Advance Scale-Up and Control of Biological Systems

- In 5 years, advance **bioprocess design, optimization, and control tools** to enable predictable scale-up to commercial production of any bioprocess within 3 months with a 90% success rate.
- In 20 years, advance integration of all aspects of **feedstock use, organism design, process design, and end-of-use disposal** with technoeconomic analysis such that sustainability and commercial goals can be achieved for more than 85% of new bioprocesses within the first year of deployment.

Theme 5: Innovate Biomanufacturing Approaches

- In 5 years, reproducibly **manufacture devices that integrate living and non-living components** such as organ-chip or human-robotic interfaces that maintain over 90% viability and connectivity of components, paving the way for innovations in biomanufacturing including the development of human-assistive devices that will enable healthier aging.

Theme 6: Enable Ethical, Safe, and Equitable Co-Generation and Translation of Biotechnology Products

- In 5 years, include broad public and end-user participation; technology co-generation; rigorous assessment; integration of social, behavioral, economic, and socio-technical sciences; and formal evaluations in all biotechnological and biomanufacturing projects from their beginning.

The Rest of the Report

For the themes listed above, the report includes additional context and explanations of the goals, discusses relevant R&D needs, discusses stakeholder consultation, describes opportunities for public-private collaborations, and discusses other considerations. **If your research interests align with any of these themes, it will be worth your time to read through the relevant sections.** This information will help you to understand the context of current funding opportunities and anticipate future funding for your research area.

In addition, **Appendix A** provides a table indicating which agencies have ongoing R&D activities related to each theme.

Congressionally Directed Medical Research Programs

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By Mike Cronan, PE, co-publisher

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The Congressionally Directed Medical Research Programs ([CDMRP](#)) are funded by Congressional appropriations to advance novel approaches to biomedical research important to the public, the military, and Congress. The CDMRP offers a [webinar series](#) on the types of funding opportunities offered and strategies to increase the success of applications submitted to multiple CDMRP programs. See the CDMRP [Funded Investigators Guide](#) and [Search Awards & Publications](#).

The first of these webinars (also offered in text version) is titled "[Funding Opportunities and Strategies for Success](#)." It addresses how to find the latest CDMRP funding opportunities, how to navigate a program announcement (funding opportunity announcement) and use that information to plan, develop and write a competitive application. ***The webinar explains the two-tiered application review process, outlines strategies for success, and reviews pitfalls in grant preparation.***

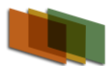
Overall, the [CDMRP website](#) is an excellent source for faculty and research offices seeking to become better informed about the funding opportunities available each fiscal year and the competitive strategies required for funding success.

For example, for FY2023, there are funding opportunities available in the following areas. Each of the below program links ***provides a link to a pdf of the FOA***, submission dates for pre-applications and applications, and related programmatic information, including links to relevant webinars.

- [Amyotrophic Lateral Sclerosis](#)
- [Autism](#)
- [Breast Cancer](#)
- [Epilepsy](#)
- [Lung Cancer](#)
- [Ovarian Cancer](#)
- [Peer Reviewed Alzheimer's](#)
- [Peer Reviewed Medical](#)
- [Prostate Cancer](#)
- [Spinal Cord Injury](#)
- [Tuberous Sclerosis Complex](#)

Additional information on the below is also provided:

- [Synopsis of Open Program Funding Opportunities](#)
- [How to Apply](#)
- [Avoiding Research Duplication](#)
- [Program Funding Opportunities Archives](#)
- [Webinar Series](#)



CDMRP uses the [Electronic Biomedical Research Application Portal](#) (eBRAP) for Submitting Electronic Biomedical Research Applications. The [eBRAP Frequently Asked Questions](#) are also posted along with [Commonly Made eBRAP Mistakes](#).

General Tips for CDMRP Submission Success

- A. Download a copy of the PA/BAA from the [CDMRP website](#) (<https://cdmrp.army.mil/funding/default>), [eBRAP](#) (<https://ebrap.org>), or Grants.gov.
- B. Carefully read the PA/BAA to understand its key elements
- C. Start application **submission early** to allow adequate time to address issues that may arise during the process
- D. Adhere to PA/BAA timelines
- E. Ensure spelling of names and emails are correct and consistent throughout the process
- F. Remember that corrections to the project narrative and budget require the application to be submitted through Grants.gov before the application submission deadline.

Electronic Biomedical Research Application Portal (eBRAP)

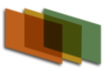
- A. Subscribe to email notifications for specific research programs in **eBRAP**
- B. Register in eBRAP before applying
 - i. User registration for Principal Investigator (PI), Business Official (BO), Account Administrator, Authorized Organizational Representative (AOR)
 - ii. PIs must invite their organization AOR and BO to register if not found in the drop down list
 - iii. PIs must request to be affiliated with their organization (update affiliation as needed)

Step 1: Submit a pre-application in eBRAP (required!)

- A. Choose which of two types of pre-application, depending on award mechanism, should be completed--LOI or pre-proposal
- B. **Pre-application submission is MANDATORY** and must be ON TIME
- C. Choose correct funding opportunity and "option"

Step 2: Submit the application in Grants.gov

- A. If the pre-application was a pre-proposal, **an invitation is required**
- B. Sponsored Program Office (or equivalent) submits through Grants.gov
- C. System-to-system submissions are sometimes problematic, so start early
- D. Application submission must be ON TIME no grace periods allowed
- E. Be aware/note the various Grants.gov requirements, i.e., limitation on file sizes, use of special characters, naming conventions, Adobe software compatibility, etc.



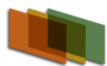
- F. Everyone working on the application package must use the same compatible version of Adobe software

Step 3: Application Verification in eBRAP

Researchers may review and modify allowable Grants.gov application components during the verification period specified in the PA or BAA.

- A. Applicants will receive an auto-email notification after eBRAP has processed the Grants.gov application
- B. Grants.gov validation may take up to 72 hours
- C. After validation and processing, the applicant will receive an email notifying them the application is available for review and modification in eBRAP
- D. Affiliation with the submitting organization is required to be able to view and modify an application
- E. Review and modify allowable components – **eBRAP does not allow changes to the Project Narrative or Budget**
- F. Include eBRAP log number in application (SF424 (R&R) block 4a Federal Identifier)

In conclusion, a nicely organized [CDMRP site map](#) offers extensive additional information on how to be a successful applicant to the program.



CDMRP Program Funding Opportunities

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All pre-applications must be submitted electronically to the Electronic Biomedical Research Application Portal (eBRAP) <https://ebrap.org>. Full applications must be submitted electronically to the Grants.gov website <https://grants.gov>.

Fiscal Year 2023 (FY23) Amyotrophic Lateral Sclerosis Research Program

- [Fiscal Year 2023 \(FY23\) Amyotrophic Lateral Sclerosis Research Program \(ALSRP\)](#) is currently accepting applications for four award mechanisms.

Full details for submission:

[ALSRP Funding Opportunities | Synopsis of ALSRP Award Mechanisms](#)

Fiscal Year 2023 (FY23) Autism Research Program

- [Fiscal Year 2023 \(FY23\) Autism Research Program \(ARP\)](#) is currently accepting applications for three award mechanisms.

Full details for submission:

[ARP Funding Opportunities | Synopsis of ARP Award Mechanisms](#)

Fiscal Year 2023 (FY23) Breast Cancer Research Program

- [Fiscal Year 2023 \(FY23\) Breast Cancer Research Program \(BCRP\)](#) is currently accepting applications for eight award mechanisms.

Full details for submission:

[BCRP Funding Opportunities | Synopsis of BCRP Award Mechanisms](#)

Fiscal Year 2023 (FY23) Epilepsy Research Program

- [Fiscal Year 2023 \(FY23\) Epilepsy Research Program \(ERP\)](#) is currently accepting applications for four award mechanisms.

Full details for submission:

[ERP Funding Opportunities | Synopsis of ERP Award Mechanisms](#)

Fiscal Year 2023 (FY23) Lung Cancer Research Program

- [Fiscal Year 2023 \(FY23\) Lung Cancer Research Program \(LCRP\)](#) is currently accepting applications for four award mechanisms.

Full details for submission:

[LCRP Funding Opportunities | Synopsis of LCRP Award Mechanisms](#)

Fiscal Year 2023 (FY23) Ovarian Cancer Research Program

- [Fiscal Year 2023 \(FY23\) Ovarian Cancer Research Program \(OCRP\)](#) is currently accepting applications for six award mechanisms.

Full details for submission:

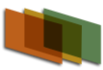
[OCRP Funding Opportunities | Synopsis of OCRP Award Mechanisms](#)

Fiscal Year 2023 (FY23) Peer Reviewed Alzheimer's Research Program

- [Fiscal Year 2023 \(FY23\) Peer Reviewed Alzheimer's Research Program \(PRARP\)](#) is currently accepting applications for three award mechanisms.

Full details for submission:

[PRARP Funding Opportunities | Synopsis of PRARP Award Mechanisms](#)

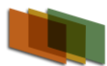


Fiscal Year 2023 (FY23) Peer Reviewed Medical Research Program

- [Fiscal Year 2023 \(FY23\) Peer Reviewed Medical Research Program \(PRMRP\)](#) is currently accepting applications for six award mechanisms.
Full details for submission:
[PRMRP Funding Opportunities | Synopsis of PRMRP Award Mechanisms](#)

Fiscal Year 2023 (FY23) Tuberous Sclerosis Complex Research Program

- [Fiscal Year 2023 \(FY23\) Tuberous Sclerosis Complex Research Program \(TSCRCP\)](#) is currently accepting applications for three award mechanisms.
Full details for submission:
[TSCRCP Funding Opportunities | Synopsis of TSCRCP Award Mechanisms](#)



Fully Respond to the ARPA-(H)eilmeier Questions

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By Mike Cronan, PE, co-publisher

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ARPA-H held a program overview webinar April 4. Below are screen shots of three key slides: Initial Mission Focus Area, **ARPA-(H)eilmeier Questions**, and Organizational Attributes. **Key webinar takeaway: ARPA-H does not fund evolutionary or incremental advance in the state of the art.**

Initial Mission Focus Areas

Health Science Futures	Scalable Solutions	Proactive Health	Resilient Systems
Expanding what's technically possible Accelerate advances across research areas and remove limitations that stymie progress towards solutions. These tools and platforms apply to a broad range of diseases.	Reaching everyone quickly Address health challenges that include geography, distribution, manufacturing, data and information, and economies of scale to create programs that result in impactful, timely, and equitable solutions.	Keeping people from being patients Preventative programs will create new capabilities to detect and characterize disease risk and promote treatments and behaviors to anticipate threats to Americans' health, whether those are viral, bacterial, chemical, physical, or psychological.	Building integrated healthcare systems Create capabilities, business models, and integrations to weather crises such as pandemics, social disruption, climate change, and economic instability. Systems are sustained between crises—from the molecular to the societal—to achieve better health outcomes.

ARPA H

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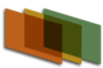
ARPA-(H)eilmeier Questions

Towards a Well-Defined Problem

- 1 What are you trying to do? What health problem are you trying to solve?
- 2 How does this get done at present? Who does it? What are the limitations of present approaches?
- 3 What is new about our approach? Why do we think we can be successful at this time?
- 4 Who cares? If we succeed, what difference will it make?
- 5 What are the risks? That may prevent you from reaching your objectives? Any risks the program itself may present?
- 6 How long will it take?
- 7 How much will it cost?
- 8 What are our mid-term and final exams to check for success?
- 9 To ensure equitable access for all people, how will cost, accessibility, and user experience be addressed?
- 10 How might this program be misperceived or misused (and how can we prevent that from happening)?

ARPA H

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Organizational Attributes

 Nucleus of Org. Facilitating the Future PMs are the nucleus of the organization, and their energy and passion drive the mission. ODs and DIRO "work for" the PMs to facilitate success. PMs are responsible for the full program lifecycle, from new start proposal to transition.	 Radical change Evolutionary proposers need not apply ARPA-H investments should seek to address seemingly impossible barriers in demonstrating "proof of concept" for solutions to major challenges - not incremental advances. Projects should be high-payoff, high-risk, with the most forward-looking science and technology.	 Autonomy Programs are PM directed Workshops, consultations, seedlings are encouraged, but no advisory/guidance committees PMs should practice "full contact" management, with metrics/milestones for program, empowered to stop underperforming projects PMs manage multiple programs, including programs they inherit from departing PMs	 Term limits A "projects" agency, not a career Terms limited to 3 years (renewable once for 6 total years) for PMs, ODs, and DDs, allowing inflow of new ideas Limits create urgency and focus on successful NSPs - aligned with office/agency Limits remove incentives for empires, organization-building, span of control, bureaucracy, etc.
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ARPA-H

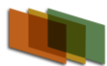
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The **second slide above** is a slightly revised version of the iconic **Heilmeier Catechism** (bullets 9 and 10 have been added to the original list) used by program officers across federal research agencies to enumerate key questions that **must be answered** in proposals selected for funding, ***or are absent in proposals declined for funding***. George H. Heilmeier, a former DARPA director (1975-1977), crafted a set of questions known as the "Heilmeier Catechism" to help Agency officials think through and evaluate proposed research programs.

- What are you trying to do? Articulate your objectives using absolutely no jargon.
- How is it done today, and what are the limits of current practice?
- What is new in your approach and why do you think it will be successful?
- Who cares? If you are successful, what difference will it make?
- What are the risks?
- How much will it cost?
- How long will it take?
- What are the mid-term and final "exams" to check for success?

What is ARPA-H

The [Advanced Research Projects Agency for Health](#) (ARPA-H) supports the development of high-impact research to drive biomedical and health breakthroughs that deliver **transformative, sustainable, and equitable health solutions**. ARPA-H's mission focuses on leveraging research advances for **real world impact**. The agency advances high-potential, high-impact biomedical and



health research that cannot be readily accomplished through traditional research or commercial activity.

ARPA-H Program Managers serve for limited terms to ensure fresh thinking and new perspectives. A Program Manager (PM) champions a core idea to improve health, frames the challenge, and awards projects to new multidisciplinary teams, ***with measurement and evaluation conducted throughout the process to ensure that the best solutions advance***. Program Managers will serve an initial three-year-term, renewable up to six years maximum, to design, launch, and run all aspects of their programs. PMs serve a term-limited appointment to ensure a constant rotation of new ideas and diverse perspectives. ***For information about becoming a Program Manager, [click here](#).***

Broad Agency Announcement pursues innovative high-impact biomedical and health research proposals

ARPA-H has opened its first **Agency-wide Open BAA**, seeking funding proposals for research aiming to improve health outcomes across patient populations, communities, diseases, and health conditions. The BAA calls for proposals to outline breakthrough research and technological advancements. Proposals **should investigate unconventional approaches, and challenge accepted assumptions** to enable leaps forward in science, technology, systems, or related capabilities. ARPA-H also encourages concepts to advance the objectives of President Biden's Cancer Moonshot, as well as more disease-agnostic approaches. ARPA-H held an informational proposers' day on April 4th to answer BAA questions from potential proposers. **View a recording of the event or the slide deck that was presented**. Proposals are expected to use innovative approaches to enable revolutionary advances in science, technology, or systems. The four initial focus areas are:

- (1) Health Science Futures;
- (2) Scalable Solutions;
- (3) Proactive Health;
- (4) Resilient Systems;

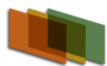
See the BAA and associated attachments for further details. Inquiries may be sent to ARPA-HBAAQuestions@ARPA-H.gov.

ARPA-H Dash to Accelerate Health Outcomes

The ARPA-H Dash to Accelerate Health Outcomes, or "ARPA-H Dash," launched on March 15, 2023 to help identify revolutionary evidence-based ideas to transform health. The ARPA-H Dash is a collaborative online competition open to bold thinkers across health, scientific, and technology communities, as well as the general public.

The ARPA-H Dash will use a bracket format and online discussion, debate, and voting to narrow submissions to quarterfinalists, semifinalists, finalists, and a champion idea during **March and April 2023** (Note: Very brief open period). Sixty-four submissions will be grouped within ARPA-H's strategic focus areas, which include (For information on the competition and to submit cutting-edge ideas, [download the ARPA-H Dash webinar PDF](#)):

Health Science Futures, Expanding what's technically possible: Accelerating advances across research areas and removing limitations that stymie progress towards solutions. The tools and platforms developed apply to a broad range of diseases.

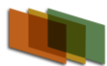


Health Science Futures, Reaching everyone quickly: Addressing challenges that include geography, distribution, manufacturing, data and information, and economies of scale to create programs that result in impactful, timely, and equitable solutions.

Proactive Health, Keeping people from being patients: Reducing the likelihood that people become patients. Preventative programs will create new capabilities to detect and characterize disease risk and promote treatments and behaviors to anticipate threats to Americans' health, whether those are viral, bacterial, chemical, physical, or psychological.

Resilient Systems, Building integrated healthcare systems: Developing capabilities, business models, and integrations to weather crises such as pandemics, social disruption, climate change, and economic instability. Resilient systems need to sustain themselves between crises - from the molecular to the societal - to better achieve outcomes that advance American health and wellbeing.

In conclusion, it is worth repeating from the beginning of this article the key takeaway: **ARPA-H does not fund evolutionary or incremental advance in the state of the art.** If you keep that in mind and are fully responsive to the ***ARPA-(H)eilmeier Questions*** you will be competitive for funding at this new agency.



How a Good Website Can Help Faculty Win Grants

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Reprinted from May 15, 2015

By Lucy Deckard, co-publisher

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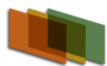
When you hear about someone new who's doing research that you think might be interesting, what's the first thing you do? You may search your library's database for journal articles authored by that person and assiduously read several of the articles, but odds are before you do that, you Google that person and take a look at their webpage to get an overview of their work and determine if it's worth investigating further. Program officers and potential collaborators often do the same thing, yet many faculty have webpages that are uninformative about their research or contain information that's out of date. The pernicious aspect of this oversight is that you will never know the opportunities you missed because a Program Officer was looking for a reviewer with your expertise, or a colleague was looking for a collaborator, and didn't find you. Remember also that your website is your public face, so if you happen to be a faculty member in the arts, for example, and are working to raise funds from donors or private foundations for art events or performances, your website is very likely the first place donors you approach will look. A poorly designed website will not help your case when working to engage potential donors.

Looking for Reviewers

Researchers who are now well-funded often say that the most valuable experience that paved the way toward funding was serving as a proposal reviewer. This experience can provide invaluable insight into what reviewers are looking for, how review panels work, specific interests of the program that might fund you, and what makes a proposal successful. NSF Program Officers often struggle to find reviewers with specific expertise needed. If you're interested in pursuing NSF grants, you should identify the program or programs likely to be the most interested in your research and volunteer to be a reviewer for those programs. Some divisions have a formal process for volunteering that entails filling out a form on the website, but for most programs, you can make your interest known by sending your NSF biosketch to your P.O. along with an email volunteering to review. You can also ask colleagues who review for NSF to recommend you. However, when your name surfaces, it's very likely that the P.O. will check out your webpage. It may also happen that the P.O. needs a reviewer with specific expertise to serve as an ad hoc reviewer for a specific proposal (this often comes up when the panel assembled doesn't have the required expertise). Again, the P.O. may do a web search to identify potential reviewers. If your website effectively communicates your research interests, conveys the impression of an active research program, and is attractive and well laid out, the P.O. will most likely decide to investigate your work further.

Looking for Collaborators

As research becomes more interdisciplinary, and as funding agencies increasingly seek proposals that tackle society's hard problems, they are looking for projects that bring together teams with diverse expertise that offers the promise of new perspectives and synergies. For example, NSF's Innovations at the Nexus of Food, Energy and Water Systems ([INFEWS](#)) and Alliances for Graduate Education and the Professoriate ([AGEP](#)) explicitly require that social science expertise be included in project teams. Putting together these kinds of teams with members with a wide range of disparate areas of expertise



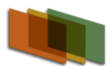
often forces faculty to reach out beyond their unusual professional networks. One way that conversation can get started is by making it easy for researchers in other areas to find you.

Developing an Effective Research Webpage

One of the main reasons that faculty webpages become stale and outdated is that many universities make it difficult for faculty to access and update their own university webpages. If this is an issue you're struggling with, consider setting up your own research webpage through WordPress, Squarespace or some other web host service. These are typically inexpensive (less than \$150/year) and provide easy-to-use, attractive and flexible templates that don't require a knowledge of html. You can then simply put a link to your research webpage on your university webpage (or ask the person with the authority to do that). This will allow you to keep your research website current without running official website access gauntlets at your institution.

Developing an effective research webpage is similar to developing a proposal. Here are some key principles:

- Make it accessible audiences outside of your research area.
- Make it attractive; one way to do that is to include engaging graphics and avoid overcrowding. You can add more pages and provide links for different projects or topics.
- Think about what you want to communicate. If you would like a Program Officer to see you as an engaged mentor and educator, include photos of your research group as well as information on your education and outreach activities.
- Above all, keep it up to date so that it's clear you are an active researcher working at the frontiers of your discipline.



Mission Agency Common Denominators

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Reprinted from May 15, 2018

By Mike Cronan

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Distilling huge amounts of information down to manageable and memorable amounts is important in all fields, and no less so in the planning and writing of proposals to federal mission agencies. In many cases, the amount of information to digest on the mission and culture of the agency, and the often numerous and largely separate offices, divisions, and programs within the agency, is somewhat akin to drinking from an informational fire hose. Getting your arms around DoD and DOE, for example, is like ***trying to get your arms around an elephant***.

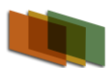
Fortunately, research offices that work with faculty have a unique vantage point from which to address this issue because they see a large number of proposals sent to many federal mission agencies by numerous faculty at all levels of grant-writing experience. This perspective allows them to ***identify common denominators across the 20-plus federal mission agencies*** that post funding solicitations to Grants.gov.

These common denominators are extremely valuable to faculty at all experience levels, but particularly to new and more junior faculty who are still establishing a research career and identifying agencies and agency programs with the potential to provide them with long-term research support over multiple years. Moreover, these ***common agency denominators offer an efficiency to the research development process that saves time, effort and, often, the frustration*** of learning how to find funding and write successful proposals to mission agency solicitations. So which common denominators are essentially fungible across many mission agencies?



Well, for starters, all mission agencies have a mission(s). This may seem like a no brainer, but it is often insufficiently addressed in the proposal narrative and ***may be the most common reason for a proposal being declined for funding at a mission agency***. The key point is not to spend time memorizing a cascade of mission statements from multiple websites but to understand that ***regardless of mission, the common denominator*** is that success at any of those agencies or within agency programs requires ***matching your proposed research in a convincing way to the agency-specific mission priorities and objectives***. In other words, ***if there is not a fit, don't submit***.

For example, the field of structural engineering affords countless possible design configurations, but the common denominator for analyzing all static structures is that "all node forces sum to zero." This simplification applied to mission agencies provides a similar formula for funding success. Similarly, in physics, conservation of energy laws allow for an understanding of countless systems; likewise, five common denominator principles can clarify biology. Fortunately, in grant writing to mission agencies, understanding the common denominators can be achieved by memorizing a ***simple checklist of common characteristics that will make you more competitive at any agency, regardless of mission***.



One large domain of mission agencies is the Broad Agency Announcement (BAA) that offers a process for submitting research proposals that are ***not addressed in published solicitations nor funded by the agency*** but that nonetheless comprise research topics that may advance the agency's mission objectives in some important way.

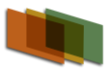
If you look at Grants.gov, there may be 30 or more currently open BAAs across federal mission agencies at any one time, but the common denominators are essentially the same. They all share

- A specific focus on stated mission priorities,
- The requirement that the applicant be sufficiently informed on the agency mission priorities to determine that the proposed research ***could not be funded*** under any other agency solicitation,
- Review criteria emphasizing funding success based on how well the proposed research advances agency mission priorities,
- Sufficient technical merit of the proposed research,
- A high level of significance, relevance, and impact of the research to the agency,
- Clearly stated expected outcomes,
- Carefully prepared project costs and technical milestones.

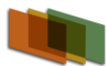
Another common denominator is that mission agencies (except USDA/NIFA) have very similar processes for submitting unsolicited or investigator-initiated proposals, such as the BAA mechanism noted above. These consist of a series of funding decision gates, often starting with a discussion with a program officer that may lead to a request for a brief white paper addressing the relevance of the proposed research to the agency mission. Further, it is reviewed by the program officer(s) to determine whether the proposed research is of sufficient interest to the agency to ask that a preliminary or full proposal be submitted on the topic. Following this process rather than responding to a full funding solicitation has the benefit of determining that an agency's interest in your proposed research is made quickly. It avoids wasting your time and the agency's time on a fully developed proposal that fails to fit the agency's mission priorities.

Also, keep in mind that the published solicitations state very specific research goals and objectives on narrowly defined research topics, whereas the BAA or a similar mechanism for unsolicited proposals gives a very general overview of the agency's mission priorities and leaves it up to the applicant to propose specific research that will advance that mission. In other words, it is incumbent on the applicant to understand agency mission priorities and then to propose research that brings significant value-added benefits to a mission priority.

Finally, another common denominator is that establishing a relationship with a program officer is very important at mission agencies, although to varying degrees. For example, that relationship will likely be more critical at DoD than at USDA. Moreover, in the case where a mission agency funds both intramural and extramural research, another avenue to explore is research collaborations with intramural researchers, e.g., at defense agencies and national laboratories, or at some of the non-NIFA programs at USDA.



The take away here is that there are common denominators across mission agencies that, once understood, can make the grant-writing process more efficient and successful, both for faculty and for research offices. In particular, research offices are in an excellent position to prepare a checklist of common denominators across mission agencies that they can share with faculty to help them write more competitive and successful grants, particularly in those instances where faculty have research interests and expertise that fall within the mission priorities of several mission agencies.



Research Grant Writing Web Resources

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Highlight Preliminary Data in Your Next NIH Application

Funding News Edition: **April 05, 2023**

[See more articles in this edition](#)

Data are often only as valuable as the methods you use to generate them. Anything that reflects your research skills and methods can help.

Credit: NIAID

When you're crafting your grant application, high-quality preliminary data can make all the difference. Here we answer common questions and advise you on how to use preliminary data to your advantage.

Why Should I Include Preliminary Data?

Bolster your application with strong preliminary data to demonstrate two key factors:

- Approach—your proposed research is promising.
- Feasibility—your ability to carry it out is credible.

Especially for an R01 application, solid preliminary data can provide added information that will enable reviewers to evaluate your proposed studies favorably. Other grant types may not require preliminary data, but it could still help to include them. More on that below.

How Much Preliminary Data Is Enough?

Though it may be frustrating, there is no easy method to determine exactly how much preliminary data is adequate to justify your particular project. NIAID staff can advise you, but ultimately you must decide how much to include.

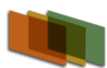
We advise you to focus on what reviewers would like to see in your application: enough information to convince them that your proposed project can be accomplished and is likely to have a high impact.

The more paradigm-shifting your hypothesis is, the more you must lay a solid foundation for your proposed projects. Similarly, if your initial findings are surprising, you may want to include more data to convince reviewers that the results are real, replicable, and statistically significant.

You must also assess whether or not your preliminary data are sufficient to convince reviewers that your project has a high likelihood of success. Reviewers use this information to evaluate both the merit of your proposed studies and your skills as a scientist.

When Are Preliminary Data Necessary?

This varies by type of grant. They are required for investigator-initiated R01 applications as well as for several fellowship, cooperative agreement, and program project grants. Check your chosen notice of funding opportunity (NOFO) to confirm.



Preliminary data are not required for the exploratory/developmental grant (R21) or small grant (R03) mechanisms. However, we've seen that most R21 applicants include preliminary data, and those who do typically enjoy greater success rates.

If you don't have any preliminary data for your R21 or R03 application, you should still show reviewers that your project is impactful and that you are likely to accomplish it fully. Make critical assessments of other published research, explaining where and why your additional work is needed. Provide reasoning as to why you are certain you can complete the proposed project.

Certain NOFOs, like requests for applications and program announcements with special receipt, referral, and/or review considerations, vary on whether or not preliminary data are required. You will need to read the individual NOFO for details.

Whether preliminary data are required or not, include any evidence that helps you justify your proposed project.

Should I Include as Much Preliminary Data as Possible?

Keep it focused. Include rigorous preliminary data that directly relate to and justify your Specific Aims. You may also share past research outcomes to establish your expertise with a method or model system.

Don't include irrelevant information in an effort to impress reviewers with your productivity. We've seen applicants fall prey to this temptation, but more data is not necessarily better. Any preliminary data that you do include will be judged and considered during scoring.

For complex or multiproject applications, include research relevant to each component. Be thoughtful in justifying each project with appropriate preliminary data.

What Kind of Data Should I Provide?

Applicants often think of quantitative data as ideal. However, qualitative data provide equally important evidence.

For example, you may use a figure to illustrate your ability to perform a new technique. Include information, flowcharts, and diagrams that support the sensitivity, specificity, and reproducibility of your techniques.

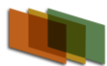
Data are often only as valuable as the methods you use to generate them. Anything that reflects your research skills and methods can help.

As for quantitative data, be sure to include a thoughtful analysis in the text. This helps reviewers assess your ability to interpret your findings, which is especially important for new investigators. Further, you risk reviewers drawing separate conclusions from your own if you neglect to explain why you view the quantitative data as significant.

Must I Personally Generate the Data?

As the principal investigator (PI), you should rely primarily on research and data that you have generated.

That said, you can include data from collaborators to show that your team is capable of conducting the experiments you propose. If a teammate is meant to fill a gap in your expertise, include supporting evidence that reflects his or her expertise in that field.



You can share data from other investigators to support the significance of your studies. Be sure to include proper citations if you reference outside data in your application.

What if I Don't Have Enough of My Own Preliminary Data?

Other researchers are likely to have their own preliminary data, so make sure you can compete. You may generate additional data as we suggest in the next question, but we also advise you to consider alternative ways to demonstrate your capabilities as well as the rationale and feasibility of your proposed studies.

As an example, you could support one of your Specific Aims through a literature review. If you take this approach, be sure to provide an original, thoughtful analysis—not just a list of references.

When you reference data, remember that reviewers are not required to read any papers you cite or follow web links you include. Put any critical information that justifies your Specific Aims directly into the application.

Be cautious when you identify unknown information that, once collected, could support your research proposal. That path leads to speculation (bad) and may leave reviewers frustrated that you haven't already collected that data (also bad).

How Can I Generate Preliminary Data if I Don't Already Have Funding?

For many researchers, a postdoctoral project provides preliminary evidence for their first independent R01 application.

Without funding, you may still be able to conduct preliminary experiments with others. Network to find other scientists interested in working on the same topic. Read our advice at [Build Your Team](#). For multidisciplinary research, you could apply for a grant with [Multiple Principal Investigators](#).

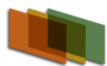
If you're an early-stage investigator, focus on collaboration opportunities that allow you to practice and demonstrate the methods and techniques that are critical for your area of research. Find experienced teammates whose strengths complement yours.

Consider the following sources of funding for preliminary research:

- Startup funds or other institutional support
- [Find a Foundation or Other Funding Source](#) (e.g., professional societies, advocacy groups)
- [Training and Career Development Grant Programs](#)
- [Research Enhancement Awards \(R15\)](#)
- Small (R03) and exploratory/developmental (R21) research grants

Regarding that final point, R03s and R21s are not meant to be stepping-stones for new PIs to reach their first R01. You may find them valuable for generating preliminary data for an R01, but remember that these award types do not convey any special advantages or incentives to early-career researchers.

If you are a new investigator with sufficient data to support the proposed work, we encourage you to apply for an R01 directly instead of an R03 or R21. NIAID typically has a separate R01 payline to support new PIs.

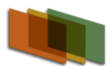


That caveat aside, R03s and R21s are ideal grant types if you wish to explore novel avenues of research. Get more advice at [Comparing Popular Research Project Grants—R01, R03, and R21](#) and [Information for New Investigators](#).

Are There Other NOFOs That Do Not Require Preliminary Data?

Yes. If you are a postdoctoral or newly independent early-stage investigator ready to start an independent research career with highly innovative research projects in mind, consider NIAID's [New Innovators Awards](#) program. The initiative emphasizes innovation and creativity with high impact in NIAID mission areas; preliminary data are not required. Thus, you can pursue novel research ideas rather than being limited solely to topics for which you already have evidence, likely from your postdoctoral experience in another investigator's lab.

Similarly, the NIH Common Fund's [High-Risk, High-Reward Research Program](#) does not require preliminary data. The four awards in this program support creative scientists with high-impact ideas that may be risky or at a stage too early to fare well in the traditional peer review process—research projects with exceptionally innovative approaches or radically unconventional hypotheses.



Educational & Social Sciences Web Resources

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Centers for Research and Innovation in Science, the Environment and Society (CRISES)

This new program supports interdisciplinary research to create evidence-based solutions that strengthen human resilience, security and quality of life by addressing seemingly intractable challenges that confront our society.

Archaeology Program Senior Research Awards (Arch-SR)

New guidelines have been published for faculty-level proposals to the Archaeology Program.

Human-Environment and Geographical Sciences (HEGS)

The HEGS Program has published a Dear Colleague Letter encouraging supplement requests to support students from Minority Serving Institutions or community colleges.

Human Networks and Data Science (HNDS)

Updated guidelines have been published for the HNDS Program, including a new deadline date for one of the program tracks.

Mid-scale Research Infrastructure-2

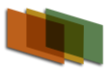
Updated guidelines have been published for this program that supports the implementation of research infrastructure, including equipment, cyberinfrastructure, large-scale datasets and personnel.

A Science of Science Approach to Analyzing and Innovating the Biomedical Research Enterprise

This program has a new acronym and updated guidelines. The Frequently Asked Questions about SBE's Science of Science Programs have also been updated.

Radio Spectrum Sharing - The Human Environment

This new Dear Colleague Letter invites proposals and supplemental funding requests that advance dynamic and agile spectrum sharing by studying its human environment, which includes economic, social and incentive issues.



Agency Research News

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DOE Intends to Fund Offshore Wind Centers of Excellence

The U.S. Department of Energy's Wind Energy Technologies Office **plans to release a funding opportunity** that will create one or more university-led Centers of Excellence to increase offshore wind expertise at U.S. universities; develop partnerships to address key offshore wind development challenges; and educate the next generation of offshore wind experts in the United States.

The Centers of Excellence will catalyze innovative research, educational programming, and stakeholder engagement to address regional and technological challenges within the U.S. offshore wind sector. The Centers will strive to establish strong cross-sector partnerships to identify and conduct critical, multi-disciplinary research that can address key offshore wind energy technology and deployment challenges. All of these activities intend to help meet the Biden-Harris administration's goal of deploying 30 gigawatts of offshore wind by 2030.

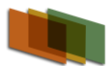
In addition to pursuing interdisciplinary research, these university-led Centers of Excellence will help develop the next generation of leaders by providing undergraduate and graduate students in relevant fields direct experience addressing key offshore wind challenges that will prepare them for careers in the sector. A strong domestic workforce will help accelerate offshore wind development, deployment, and operation in the United States. **This funding opportunity is expected to be released in April 2023.**

NSF's new Proposal and Award Policies and Procedures Guide (PAPPG, NSF 23-1) contains an update to the agency's policy on **dual use research of concern (DURC)** (i.e., research that uses one of 15 select agents, produces one of 7 effects, and has the potential to be misused). NSF policy still prohibits funding of life sciences DURC or gain of function research, but allows for research that could create **enhanced potential pandemic pathogens (enhanced PPPs)** if the benefits of the research far outweigh the risks. Proposing organizations are now required to identify submissions proposing any DURC or work with enhanced PPPs by checking a box on the proposal cover page labeled "Potential Life Sciences Dual Research of Concern." If a decision is made to fund the proposal, and use of a select agent (but not an enhanced PPP) as identified by the Policy is proposed, the proposer must submit evidence of registration of the select agent with the CDC or USDA as required by the Select Agent Regulations and the proposer must submit a justification from the Institutional Review Entity (IRE) demonstrating how the potential benefits of the research using the select agent far outweigh the risks. If a decision is made to fund a proposal using or potentially resulting in enhanced PPE, the proposer must submit a justification from the IRE demonstrating benefits outweigh the risks, but registration with CDC or USDA is not required. More information can be found in [Chapter II.E.6](#) and [Chapter XI.B.5](#) of the new PAPPG.

FYI Highlight: FY24 Budget Request

The rollout of President Biden's fiscal year 2024 budget request began on March 9, and details on proposals for science agencies are continuing to emerge. FYI's initial analysis of the budget request is [posted here](#), and consult FYI's [Federal Science Budget Tracker](#) for program-level figures. Stay tuned for additional in-depth analysis from FYI in the coming weeks. Additional details can be found in the budget justification documents released by individual science agencies over the past month:

- [Department of Energy](#)
- [Department of Commerce](#)



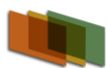
- [Department of Defense](#)
- [NASA](#)
- [National Science Foundation](#)
- [U.S. Geological Survey](#)
- [National Institutes of Health](#)
- [Advanced Research Projects Agency for Health](#)

Effective March 27, 2023, the National Science Foundation (NSF) made system enhancements to the Project Reports module in Research.gov to enable the auto-population of dataset metadata submitted to the NSF Public Access Repository (NSF-PAR) into NSF in-progress (i.e., unsubmitted) project reports. Dataset metadata auto-population helps to reduce administrative burden for Principal Investigators (PIs)/co-PIs and improves project report data quality. **There are no changes to NSF's Public Access policy or project reporting requirements.** Please see the [How to Add Datasets to the NSF-PAR and NSF In-progress Project Reports](#) guide and the [How to Remove Datasets from the NSF-PAR and In-progress Project Reports](#) guide on the Research.gov [About Public Access](#) page for additional details. Information about the [NSF Public Access Initiative](#) is also available. **Questions?** If you have IT system-related questions about these enhancements, please contact the NSF Help Desk at 1-800-381-1532 (7:00 AM - 9:00 PM ET; Monday - Friday except federal holidays) or via rgov@nsf.gov. Policy-related questions should be directed to policy@nsf.gov.

Dear Colleagues:

The Account Management System in Research.gov supports a centralized account registration and profile management process for the research community so that researchers can use a single unique identifier (NSF ID) across all NSF business applications throughout their research careers and self-manage profile information such as demographics. Principal Investigators (PIs), Graduate Research Fellowship Program (GRFP) Applicants and Fellows, and Administrative and Coordinating Officials are already integrated into Account Management. **This functionality has now been expanded to include reviewers. Overview of Account Management Reviewer Integration Process**

- NSF Program staff adds a reviewer to an NSF panel, site visit, advisory committee, subcommittee, or committee of visitors meeting and a system-generated email is sent with a unique invitation code to the reviewer.
- Reviewer opens [Research.gov](#) and selects the Register function at the top of the Research.gov screen to create a new NSF account and to obtain an assigned NSF ID. (**Note:** Reviewers with an existing NSF account in Research.gov will skip this step. Each individual user of NSF system, (e.g., Research.gov) should not have more than one NSF ID per *Proposal & Award Policies & Procedures Guide Chapter I.G.3.*)
- Reviewer signs into [Research.gov](#) with their credentials.
- Reviewer accesses the Provide Reviewer Profile Information link under Reviews & Meetings on the Research.gov homepage, enters the unique invitation code, and follows the five-step wizard to provide reviewer profile information. Once this simple one-time process has been completed, the reviewer can proceed with all other panel activities.
- Reviewer signs into FastLane Panelist Functions with the credentials included in the Panelist letter email from Program staff. There are no changes at this time for signing into FastLane Panelist Functions.
- Reviewer can access the FastLane Panel Review System for review activities as soon as the Panelist letter from Program staff is received. Reviewer must complete the one-time process to



provide their reviewer profile information in order to register for the meeting via "Meeting Sign-In" after completing "Travel and Reimbursement" in the FLTR System.

Training Resources

- Updated [Account Management Guide](#) with new reviewer section (including step-by-step instructions and screenshots) on the Research.gov [About Account Management](#) page
- Updated [Account Management FAQs](#) with new reviewer section
- Account Management [Register for a New NSF Account](#) video tutorial
- [FastLane Travel and Reimbursement System Guide](#)
- [Instructions for the FastLane Panel Review System](#)
- [Instructions for FastLane Meeting Sign-in](#)
- [Instructions for the FastLane Interactive Panel System](#)

Benefits of Reviewer Integration into Account Management

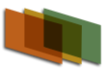
The integration of reviewers into Account Management reduces administrative burden on the research community by consolidating the researcher's profile information from multiple NSF systems into a single NSF account which will be self-managed in Research.gov as well as supports NSF's merit review process. Profile information previously provided to NSF by reviewers will be pre-populated during this process.

Participants Added to Meetings Created by NSF Staff After March 24

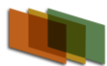
- The first iteration of reviewer integration includes all participants added to an NSF panel, site visit, advisory committee, subcommittee, or committee of visitors meeting created by NSF staff after March 24, 2023.
- After being added to a meeting created after March 24 by NSF staff, the system will automatically send the meeting participant an email with an invitation code required to initiate the reviewer account process.
- All meeting participants will be required to have an NSF account in Research.gov and complete a simple one-time process to provide their reviewer profile information.
- Meeting participants must complete this new process before they can access meeting registration in the FastLane Travel & Reimbursement (FLTR) System.
- This new process is currently limited to participants for the above-referenced meeting types only and does not include Ad Hoc reviewers unless they are added to a meeting created in MyNSF after March 24. Participants in meetings and events not part of merit review and/or under Federal Advisory Committee Act (FACA) procedures which are organized outside of MyNSF are not required to complete this process.
- At this time, individuals cannot volunteer to review or provide reviewer profile information in Research.gov without first being added to a meeting.

Reviewer Self-managed Profile and New Gender Response Option

- After completing the account registration process in Account Management, reviewers will self-manage their profile information going forward, including contact information; demographic, academic, and professional information; organizational affiliations; and areas of expertise.



- The demographic information gender response options have been expanded to include a new "Unspecified, or another gender identity" selection for reviewers, PIs, and postdoctoral fellows in Account Management.



Agency Reports, Workshops & Research Roadmaps

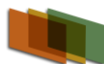
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Spurring Innovation in Food and Agriculture: A Review of the USDA Agriculture and Food Research Initiative Program

The United States embarked on bold policies to enhance its food and agricultural system during the last half of the 19th century, investing first in the education of people and soon thereafter in research and discovery programs aimed at acquiring new knowledge needed to address the complex challenges of feeding a growing and hungry nation. Those policies, sustained over 125 years, have produced the most productive and efficient agricultural and food system in history.

The U.S. Department of Agriculture (USDA) is the primary agency responsible for supporting innovations and advances in food and agriculture. USDA funds are allocated to support research through several mechanisms, including the Agriculture and Food Research Initiative (AFRI). In 2008, Congress replaced USDA's National Research Initiative with AFRI, creating USDA's flagship competitive research grants program, and the 2008 Food, Conservation, and Energy Act, known as the Farm Bill, outlined the structure of the new program. *Spurring Innovation in Food and Agriculture* assesses the effectiveness of AFRI in meeting the goals laid out by Congress and its success in advancing innovations and competitiveness in the U.S. food and agriculture system.

Spurring Innovation in Food and Agriculture evaluates the value, relevance, quality, fairness, and flexibility of AFRI. This report also considers funding policies and mechanisms and identifies measures of the effectiveness and efficiency of AFRI's operation. The study examines AFRI's role in advancing science in relation to other research and grant programs inside of USDA as well as how complementary it is to other federal research and development programs. The findings and conclusions of this report will help AFRI improve its functions and effectiveness in meeting its goals and outcomes.



New Funding Opportunities

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Content Order

New Funding Posted Since March 15 Newsletter

URL Links to New & Open Funding Solicitations

Solicitations Remaining Open from Prior Issues of the Newsletter

Open Solicitations and BAAs

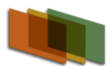
User Note: URL links are active on date of publication, but if a URL link breaks or changes a Google search on the key words will typically take you to a working link. Also, entering a grant title and/or solicitation number in the Grants.gov search box will work as well.

New Funding Solicitations Posted Since March 15 Newsletter

The **Electrochemical Systems Program** is part of the Chemical Process Systems cluster, which also includes: 1) the **Catalysis** program; 2) the **Interfacial Engineering** program; and 3) the **Process Systems, Reaction Engineering, and Molecular Thermodynamics** program.

The goal of the **Electrochemical Systems** program is to support fundamental engineering science research that will enable innovative processes involving electrochemistry or photochemistry for the sustainable production of electricity, fuels, chemicals, and other specialty and commodity products. Processes utilizing electrochemistry or photochemistry for sustainable energy and chemical production must be scalable, environmentally benign, reduce greenhouse gas production, and utilize renewable resources. Research projects that stress fundamental understanding of phenomena that directly impact key barriers to improved system or component-level performance (for example, energy efficiency, product yield, process intensification) are encouraged. Processes for energy storage should address fundamental research barriers for renewable electricity storage applications, for transport propulsion, or for other applications that could have impact towards climate change mitigation. For projects concerning energy storage materials, proposals should involve testable hypotheses that involve device or component performance characteristics that are tied to fundamental understanding of transport, kinetics, or thermodynamics. Advanced chemistries beyond lithium-ion are encouraged. Proposed research on processes utilizing electrochemistry or photochemistry should be inspired by the need for economic and impactful conversion processes.

All proposal project descriptions should address how the proposed work, if successful, will improve process realization and economic feasibility and compare the proposed work against current state of the art. Highly integrated multidisciplinary projects are encouraged. When appropriate, collaborations with industrial technologists are encouraged through GOALI proposals. Collaborative projects with an integrated experimental and theoretical approach are also encouraged. Topics of interest include electrochemical energy storage and electrochemical production/conversion systems. Radically new battery systems can move the U.S. more rapidly toward a more sustainable transportation future and to greater renewable electricity production penetration. High-energy density and high-power density batteries suitable for transportation and renewable energy storage applications are of primary interest. Advanced systems involving metal anodes, solid-state electrolytes, nonaqueous systems beyond lithium, aqueous systems beyond lithium, and multivalent chemistries are encouraged. Research activities focused on commercially available systems such as lead-acid and nickel-metal hydride



batteries or lithium-ion batteries for medical or consumer electronics applications will not be considered by this program. Novel electrochemical and photochemical systems and processes for the production of chemicals and high-value products are encouraged. Emphasis is placed on those systems that improve process intensification and process modularization with accompanying benefits in energy efficiency and environmental footprint. **Proposal accepted at any time.**

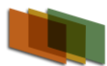
The **Biophotonics Program** is part of the Engineering Biology and Health cluster, which also includes: 1) the **Biosensing** program; 2) the **Cellular and Biochemical Engineering** program; 3) the **Disability and Rehabilitation Engineering** program; and 4) the **Engineering of Biomedical Systems** program.

The goal of the **Biophotonics** program is to explore the research frontiers in photonics principles, engineering and technology that are relevant for critical problems in fields of medicine, biology and biotechnology. Fundamental engineering research and innovation in photonics is required to lay the foundations for new technologies beyond those that are mature and ready for application in medical diagnostics and therapies. Advances are needed in nanophotonics, optogenetics, contrast and targeting agents, ultra-thin probes, wide field imaging, and rapid biomarker screening. Low cost and minimally invasive medical diagnostics and therapies are key motivating application goals.

Research topics in this program include:

- **Imaging in the second near infrared window:** Research that advances medical applications of biophotonics in the second near-infrared window (NIR-II: 1,000-1,700 nm) in which biological tissues are transparent up to several centimeters in depth, making this spectral window ideal for deep tissue imaging.
- **Macromolecule markers:** Innovative methods for labeling of macromolecules. Novel compositions of matter. Methods of fabrication of multicolor probes that could be used for marking and detection of specific pathological cells. Pushing the envelope of optical sensing to the limits of detection, resolution, and identification.
- **Low coherence sensing at the nanoscale:** Low coherence enhanced backscattering (LEBS). N-dimensional elastic light scattering. Angle-resolved low coherence interferometry for early cancer detection (dysplasia).
- **Neurophotonics:** Studies of photon activation of neurons at the interface of nanomaterials attached to cells. Development and application of biocompatible photonic tools such as parallel interfaces and interconnects for communicating and control of neural networks.
- **Microphotonics and nanophotonics:** Development and application of novel nanoparticle fluorescent quantum-dots. Sensitive, multiplexed, high-throughput characterization of macromolecular properties of cells. Nanomaterials and nanodevices for biomedicine.
- **Optogenetics:** Novel research in employing light-activated channels and enzymes for manipulation of neural activity with temporal precision. Utilizing nanophotonics, nanofibers, and genetic techniques for mapping and studying in real-time physiological processes in organs such as the brain and heart.

Innovative proposals outside of these specific interest areas may be considered. However, prior to submission, it is recommended that the Principal Investigator contact the program director to avoid the possibility of the proposal being returned without review.



INFORMATION COMMON TO MOST CBET PROGRAMS

Proposals should address the novelty and/or [potentially transformative nature](#) of the proposed work compared to previous work in the field. Also, it is important to address why the proposed work is important in terms of engineering science, as well as to also project the potential impact on society and/or industry of success in the research. The novelty or potentially transformative nature of the research should be included, as a minimum, in the Project Summary of each proposal. The duration of unsolicited proposal awards in CBET is generally up to three years. Single-investigator award budgets typically include support for one graduate student (or equivalent) and up to one month of PI time per year (awards for multiple investigator projects are typically larger). Proposal budgets that are much larger than typical should be discussed with the program director prior to submission. Proposers can view budget amounts and other information from recent awards made by this program via the “What Has Been Funded (Recent Awards Made Through This Program, with Abstracts)” link towards the bottom of this page.

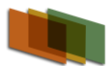
Faculty Early Career Development (CAREER) program proposals are strongly encouraged. Award duration is five years. The submission deadline for Engineering CAREER proposals is in July every year. Learn more in the [CAREER program description](#). **Proposals accepted any time.**

The [Environmental Sustainability Program](#) is part of the **Environmental Engineering and Sustainability** cluster together with 1) the **Environmental Engineering** program and 2) the **Nanoscale Interactions** program.

The goal of the **Environmental Sustainability** program is to promote sustainable engineered systems that support human well-being and that are also compatible with sustaining natural (environmental) systems. These systems provide ecological services vital for human survival. Research efforts supported by the program typically consider long time horizons and may incorporate contributions from the social sciences and ethics. The program supports engineering research that seeks to balance society's need to provide ecological protection and maintain stable economic conditions.

There are five principal general research areas that are supported.

- **Circular Bioeconomy Engineering:** This area includes research that enables sustainable societal use of food, energy, water, nitrogen, phosphorus, and materials, with the reduction and eventual elimination of fossil fuel combustion that lacks carbon capture. The program encourages research that helps build the raw material basis for the functioning of society principally on biomass, drawing heavily on sustainable agriculture and forestry. Additionally, material flows must reduce or preferably eliminate waste, with an emphasis on closed-loop or “circular” processing.
- **Industrial ecology:** Topics of interest include advancements in modeling such as life cycle assessment, materials flow analysis, net energy analysis, input/output economic models, and novel metrics for measuring sustainable systems. Innovations in industrial ecology are encouraged.
- **Green engineering:** Research is encouraged to advance the sustainability of manufacturing processes, green buildings, and infrastructure. Many programs in the Engineering Directorate support research in environmentally benign manufacturing or chemical processes. The



Environmental Sustainability program supports research that would affect more than one chemical or manufacturing process or that takes a systems or holistic approach to green engineering for infrastructure or green buildings. Improvements in distribution and collection systems that will advance smart growth strategies and ameliorate effects of growth are research areas that are supported by Environmental Sustainability. Innovations in management of storm water, recycling and reuse of drinking water, and other green engineering techniques to support sustainability may also be fruitful areas for research.

- **Ecological engineering:** Proposals should focus on the engineering aspects of restoring ecological function to natural systems. Engineering research in the enhancement of natural capital to foster sustainable development is encouraged.
- **Earth systems engineering:** Earth systems engineering considers aspects of large-scale engineering research that involve mitigation of greenhouse gas emissions, adaptation to climate change, and other global concerns.

All proposed research should be driven by engineering principles, and be presented explicitly in an environmental sustainability context. Proposals should include involvement in engineering research of at least one graduate student, as well as undergraduates. Incorporation of aspects of social, behavioral, and economic sciences is welcomed.

NOTE: Water treatment, air pollution (both outdoor and indoor), soil remediation, and solid waste treatment proposals are to be submitted to the **Environmental Engineering** program (CBET 1440).

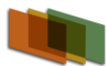
Innovative proposals outside the scope of the four core areas mentioned above may be considered. However, prior to submission, it is recommended that the Principal Investigator contact the program director to avoid the possibility of the proposal being returned without review. For proposals that call for research to be done on regions that are outside of the United States, an explanation must be presented of the potential benefit of the research for the United States.

INFORMATION COMMON TO MOST CBET PROGRAMS

Proposals should address the novelty and/or [potentially transformative nature](#) of the proposed work compared to previous work in the field. Also, it is important to address why the proposed work is important in terms of engineering science, as well as to also project the potential impact on society and/or industry of success in the research. The novelty or potentially transformative nature of the research should be included, as a minimum, in the Project Summary of each proposal.

The duration of unsolicited proposal awards in CBET is generally up to three years. Single-investigator award budgets typically include support for one graduate student (or equivalent) and up to one month of PI time per year (awards for multiple investigator projects are typically larger). Proposal budgets that are much larger than typical should be discussed with the program director prior to submission. Proposers can view budget amounts and other information from recent awards made by this program via the "What Has Been Funded (Recent Awards Made Through This Program, with Abstracts)" link towards the bottom of this page.

Faculty Early Career Development (CAREER) program proposals are strongly encouraged. Award duration is five years. The submission deadline for Engineering CAREER proposals is in July every year. Learn more in the [CAREER program description](#). **Proposals accepted any time.**



The **Nanoscale Interactions Program** is part of the **Environmental Engineering and Sustainability** cluster, which also includes: 1) the **Environmental Engineering** program; and 2) the **Environmental Sustainability** program.

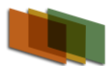
The goal of the **Nanoscale Interactions** program is to support research to advance fundamental and quantitative understanding of the **interactions of nanomaterials and nanosystems with biological and environmental media**. Materials of interest include one- to three-dimensional nanostructures, heterogeneous nano-bio hybrid assemblies, dendritic and micelle structures, quantum dots, and other nanoparticles. Such nanomaterials and systems frequently exhibit novel physical, chemical, photonic, electronic, and biological behavior as compared to the bulk scale. Collaborative and interdisciplinary proposals are encouraged. Research areas supported by the program include:

- Characterization of interactions at the interfaces of nanomaterials and nanosystems, including both simple nanoparticles and complex and/or heterogeneous composites and nanosystems, with surrounding biological and environmental media;
- Development of predictive tools based on the fundamental behavior of nanostructures to advance cost-effective and environmentally benign processing and engineering solutions over full-life material cycles;
- Examination of the transport, interaction, and impact of nanostructured materials and nanosystems on biological systems and the environment;
- Simulations of nanoparticle behavior at interfaces, in conjunction with experimental comparisons, and new theories and simulation approaches for determining the transport and transformation of nanoparticles in various media; and
- Investigations of quantum vibronic and spin phenomena with correlations to nano phenomena.

The Nanoscale Interactions program will support exploratory research projects on nanoscale interactions of quantum effects which explain macroscopic changes and physiological and metabolic processes; investigate quantum vibration and electron spin to elucidate nano phenomena and produce quantitative data and evidence of quantum effects. Research in these areas will enable the design of nanostructured materials and heterogeneous nanosystems with desired chemical, electronic, photonic, biological, and mechanical properties for optimal and sustainable handling, manufacture, and utilization. NOTE: Studies that focus on fundamental research concerning atomic- and molecular-scale interfacial phenomena and engineering of interfacial properties, processes, and materials, particularly as relevant towards advancing industrial chemical or biochemical processes, may be more appropriate for the **Interfacial Engineering** program (CBET 1417). Please consult with program directors prior to submission if you have questions about programmatic fit. Innovative proposals outside of these specific interest areas may be considered. However, prior to submission, it is recommended that the Principal Investigator contact the program director to avoid the possibility of the proposal being returned without review.

INFORMATION COMMON TO MOST CBET PROGRAMS

Proposals should address the novelty and/or potentially transformative nature of the proposed work compared to previous work in the field. Also, it is important to address why the proposed work is important in terms of engineering science, as well as to also project the potential impact on society



and/or industry of success in the research. The novelty or potentially transformative nature of the research should be included, as a minimum, in the Project Summary of each proposal. The duration of unsolicited proposal awards in CBET is generally up to three years. Single-investigator award budgets typically include support for one graduate student (or equivalent) and up to one month of PI time per year (awards for multiple investigator projects are typically larger). Proposal budgets that are much larger than typical should be discussed with the program director prior to submission. Proposers can view budget amounts and other information from recent awards made by this program via the “What Has Been Funded (Recent Awards Made Through This Program, with Abstracts)” link towards the bottom of this page. Faculty Early Career Development (CAREER) program proposals are strongly encouraged. Award duration is five years. The submission deadline for Engineering CAREER proposals is in July every year. Learn more in the [CAREER program description](#). **Proposals accepted anytime.**

Enhancing Science, Technology, Engineering, and Math Educational Diversity (ESTEEMED) Research Education Experiences (R25 Clinical Trial Not Allowed)

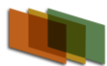
The NIH Research Education Program (R25) supports research education activities in the mission areas of the NIH. The overarching goal of this R25 program is to support educational activities that encourage individuals from diverse backgrounds, including those from groups underrepresented in the biomedical and behavioral sciences, to pursue further studies or careers in research. To accomplish the stated over-arching goal, this FOA will support educational activities with a primary focus on:

- Courses for Skills Development
- Research Experiences

The ESTEEMED program is designed to foster the development of undergraduate freshmen and sophomores from diverse backgrounds to pursue further studies and careers in bioengineering or STEM fields relevant to NIBIB’s scientific mission. Applications are encouraged to propose integrated educational activities that include 3 elements: a summer bridge program for incoming freshmen, and in the freshman and sophomore years, academic year activities and summer research experiences. The ESTEEMED program is intended to expose students to bioengineering research early in their college careers while also providing students didactic, mentoring and career development opportunities. This will prepare students to join, in their junior and senior years, an honors program that promotes STEM and entrance into a Ph.D. program. The ultimate goal is for the participants to pursue a doctoral degree and a subsequent research career in bioengineering or NIBIB-relevant field. **LOI May 7.**

Water Resources Research Act Program Base Grants Fiscal Year 2023 Request For Applications Department of the Interior, Geological Survey

The Water Resources Research Act directs the Secretary of the Interior to administer program grants to Institutes established under the provisions of section (a) of the Act. Water Resources Institutes or Centers have been established in each of the 50 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and Guam. The Institute in Guam also serves the Federated States of Micronesia and the Commonwealth of the Northern Mariana Islands. The Institute in Hawaii also serves American Samoa. Institute Directors or their designee(s) are responsible for submitting applications. Responsibility for administration of the State Water Resources Research Institute program has been delegated to the U.S. Geological Survey (USGS).Section 104(b) of the Water



Resources Research Act of 1984 requires the Institutes or Centers to: (1) "plan, conduct, or otherwise arrange for competent applied and peer reviewed research that fosters – (A) improvements in water supply reliability; (B) the exploration of new ideas that – (i) address water problems; or (ii) expand understanding of water and water-related phenomena; (C) the entry of new research scientists, engineers, and technicians into water resources fields; and (D) the dissemination of research results to water managers and the public. (2) "cooperate closely with other colleges and universities in the State that have demonstrated capabilities for research, information dissemination, and graduate training in order to develop a statewide program designed to resolve State and regional water and related land problems." (3) "cooperate closely with other institutes and other organizations in the region to increase the effectiveness of the institutes and for the purpose of promoting regional coordination." Applications submitted under this Announcement are to be in furtherance of these objectives and promote the national mission and objectives of the U.S. Geological Survey which are focused on providing water-quality and -quantity information, understanding water availability, addressing the influence of climate on water resources, and responding to water-related emerging needs. Specific areas of emphasis are at the discretion of the individual Institute or Center Directors. **Due May 18.**

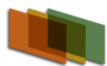
National Food and Agricultural Sciences Teaching Extension and Research Awards

The purpose of TERA award is to recognize and promote excellence in teaching, extension, and research in the food and agricultural sciences at a college or university. The RFA announcement and technical assistance webinar related to this FY 2023 funding opportunity will be held soon. Please visit again for more information. TERA, under assistance listing number 10.500, will recognize and promote excellence in teaching in the food and agricultural sciences within U.S. colleges and universities. For the purposes of this RFA, teaching is defined to include all aspects of developing human capital in order to help meet current and future national food, agricultural, natural resources, and human sciences (FANH) workplace needs. Examples of relevant activities under this project type include (but are not limited to) the following: formal classroom instruction; laboratory instruction; and practicum experience such as faculty development, student recruitment and services, curriculum development, and innovative teaching methodologies. It also includes activities that directly or indirectly contribute to student learning such as research, extension/outreach, and organizational arrangements needed for the proper functioning of the educational institution. The 2023 National Food and Agricultural Sciences Teaching, Extension, and Research Awards (TERA) guidelines can be found at <https://nifa.usda.gov/program/national-awards-excellencecollege-and-university-teaching-food-and-agricultural-sciences>. **Due May 24.**

BJA FY 23 Paul Coverdell Forensic Science Improvement Grants Program - Formula

Department of Justice, Bureau of Justice Assistance

OJP is committed to advancing work that promotes civil rights and racial equity, increases access to justice, supports crime victims and individuals impacted by the justice system, strengthens community safety and protects the public from crime and evolving threats, and builds trust between law enforcement and the community. With this solicitation, BJA seeks proposals for formula funding under the Paul Coverdell Forensic Science Improvement Grants Program (the Coverdell Program), which awards grants to states and units of local government to improve forensic science and medical examiner/ coroner services. Under the Coverdell Program, state administering agencies (SAAs) may apply for both formula and competitive funds. This solicitation is ONLY for SAAs applying for the formula funds. An applicant seeking to apply for Coverdell competitive funds (consistent with 34 U.S.C. § 10563(a)(2)) available to eligible states and units of local government would need to apply



separately under BJA's FY 2023 Paul Coverdell Forensic Science Improvement Grants Program (Competitive) solicitation. **Due May 24.**

BJA FY 23 Paul Coverdell Forensic Science Improvement Grants Program - Competitive

Department of Justice, Bureau of Justice Assistance

OJP is committed to advancing work that promotes civil rights and racial equity, increases access to justice, supports crime victims and individuals impacted by the justice system, strengthens community safety and protects the public from crime and evolving threats, and builds trust between law enforcement and the community. With this solicitation, the Bureau of Justice Assistance (BJA) seeks to fund proposals for competitive funding under the Paul Coverdell Forensic Science Improvement Grants Program - Competitive (Coverdell Competitive Program), which awards grants to states and units of local government to help improve forensic science and medical examiner/coroner services. Under the Coverdell Competitive Program, state administering agencies (SAAs) may apply for both formula and competitive funds. Units of local government may apply for competitive funds. This solicitation is ONLY for competitive funds. **Due May 24.**

Alfalfa Seed and Alfalfa Forage System Program

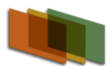
Alfalfa Seed and Alfalfa Forage System Program (ASAFS) will support the development of improved alfalfa forage and seed production systems. Proposals submitted to ASAFS should address one or more of the following priorities: (1) Improving alfalfa forage and seed yield through better nutrient, water and/or pest management; (2) Improving persistence of alfalfa stands by lessening biotic or abiotic stresses; (3) Improving alfalfa forage and seed harvesting and storage systems to optimize economic returns; (4) Improving estimates of alfalfa forage quality as an animal feed to increase forage usage in animal feeds; and/or (5) Breeding to address biotic and abiotic stresses that impact forage yield and persistence and the production of seed for propagation. The RFA announcement and technical assistance webinar related to this FY 2023 funding opportunity will be held soon. Please visit again for more information. **Due May 25.**

New Beginning for Tribal Students Program

New Beginning for Tribal Students makes competitive grants to land-grant colleges and universities to provide identifiable support specifically targeted for Tribal students. A land-grant college or university that receives this grant shall use funds for, but not limited to, recruiting; tuition and related fees; experiential learning; student services, including tutoring; counseling; academic advising; and other student services that would increase the retention and graduation rate of Tribal students enrolled at the land-grant college or university. The maximum one state can receive is \$500,000 per year. The RFA announcement and technical assistance webinar related to this FY 2023 funding opportunity will be held soon. Please visit again for more information. **Due May 26.**

NIH Science Education Partnership Award (SEPA) (R25 - Clinical Trial Not Allowed)

The NIH Research Education Program (R25) supports research education activities in the mission areas of the NIH. The overarching goal of this R25 program is to support educational activities that encourage individuals from diverse backgrounds, including those from groups underrepresented in the biomedical and behavioral sciences, to pursue further studies or careers in research. To accomplish the stated over-arching goal, this NOFO will support educational activities with a primary focus on:



- ***Courses for Skills Development***
- ***Research Experiences***
- ***Mentoring Activities***
- ***Curriculum or Methods Development***
- ***Outreach***

Open June 14

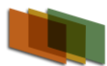
ONR FY24 Young Investigator Program

The Office of Naval Research (ONR) is interested in receiving proposals for its Young Investigator Program (YIP). ONR's Young Investigator Program seeks to identify and support academic scientists and engineers who are in their first or second full-time tenure-track or tenure-track-equivalent academic appointment, who have received their Ph.D. or equivalent degree on or after 01 January 2016, and who show exceptional promise for doing creative research. The objectives of this program are to attract outstanding faculty members of U.S. Institutions of Higher Education (hereafter also called "universities") to the Department of the Navy's Science and Technology (S&T) research program, to support their research, and to encourage their teaching and research careers. Individuals who are holding U.S. non-profit equivalent positions are also encouraged to apply.

Proposals addressing research areas described in the [ONR science and technology \(S&T\) department section](#) of ONR's website, which are of interest to ONR program officers and division directors will be considered. Contact information for each division (a subgroup of an S&T department) is also listed within that section. Potential applicants may contact the appropriate division director or the program officer who is the point-of-contact for a specific technical area, to discuss their research ideas. Brief informal pre-proposals may be submitted to facilitate these discussions. Such discussions can clarify the content and breadth of the priority research areas and enhance the match between a subsequent proposal and DoN research needs. An individual wishing to apply for a Young Investigator award must submit a research proposal and at least one [letter of support](#) through the appropriate university officials. Applications received without a letter of support will be considered incomplete and will not be considered for award. ONR makes awards to institutions, not individuals. The research proposal should follow the format described in the ONR YIP funding opportunity announcement, listed among [ONR's broad agency announcements](#), in Section II.D titled, "Application and Submission Information." Typical awards are \$750,000 over a 36-month period of performance. Applicants may request up to \$250,000 for each 12-month interval. These funds may be budgeted against any reasonable costs related to conducting the proposed research, for example, salary for the investigator, graduate student support, supplies, travel and applicable indirect cost. **Due July 7.**

NIH Director's New Innovator Award Program (DP2 Clinical Trial Optional)

The [NIH Director's New Innovator Award Program](#) supports early stage investigators of exceptional creativity who propose highly innovative research projects with the potential to produce a major impact on broad, important areas relevant to the mission of NIH. For the program to support the best possible researchers and research, applications are sought which reflect the full diversity of the research workforce. Individuals from diverse backgrounds, including those from underrepresented groups and from the full spectrum of eligible institutions in all geographic locations are strongly encouraged to apply to this Funding Opportunity Announcement. In addition, applications in all topics relevant to the broad mission of NIH are welcome, including, but not limited to, topics in the behavioral, social, biomedical, applied, and formal sciences and topics that may involve basic, translational, or clinical research. The NIH Director's New Innovator Award Program complements



other ongoing efforts by NIH and its Institutes and Centers to fund early stage investigators. The NIH Director's New Innovator Award Program is a component of the [High-Risk, High-Reward Research \(HRHR\) Program](#) of the [NIH Common Fund](#). **Open July 18.**

Fiscal Years 2022-2023 Wildlife Crossings Pilot Program (WCPP)

Department of Transportation, DOT Federal Highway Administration

The primary goals of the WCPP are to save lives, prevent serious injuries, and protect motorists and wildlife by reducing WVCs, and improve habitat connectivity for terrestrial and aquatic species. Reduction of wildlife vehicle collisions and improvement of terrestrial and aquatic habitat connectivity are the primary merit criteria that will be used in reviewing applications, and each of the primary merit criteria are of equal importance. The [Wildlife Crossings Pilot Program](#) (Wildlife Crossings Program) is a competitive grant program with the goal of reducing Wildlife Vehicle Collisions (WVCs) while improving habitat connectivity for terrestrial and aquatic species. In creating the Wildlife Crossings Program, Congress found that there are more than 1,000,000 WVCs annually which present a danger to human safety and wildlife survival, cost over \$8 billion, and result in approximately tens of thousands of serious injuries and hundreds of fatalities on U.S. roadways. The Bipartisan Infrastructure Law (BIL), enacted as the Infrastructure Investment and Jobs Act of 2021 (Pub. L. 117-58, November 15, 2021) authorized \$350 million total in Federal-aid contract authority funding for Federal Fiscal Years (FY) 2022 through 2026 to be awarded by the U.S. Department of Transportation (DOT or the Department), through the Federal Highway Administration (FHWA), for the Wildlife Crossings Program. The Wildlife Crossings Program is authorized under Section 11123(b) of BIL and codified at 23 U.S.C. 171.

Who is eligible to apply?

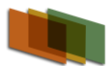
Eligible entities for the Wildlife Crossing Program are:

- State Departments of Transportation;
- Metropolitan Planning Organizations;
- Units of local government;
- Regional transportation authorities;
- Special purpose districts or public authorities with a transportation function;
- Indian tribes;
- Federal Land Management Agencies; and
- A group of any of the above entities.

See 23 U.S.C. 171(c) for more information on eligible applicants.

What kinds of projects are eligible?

The Wildlife Crossing Program provides funding for construction and non-construction projects. See the Wildlife Crossings Program Notice of Funding Opportunity (NOFO) Section B.4 for more information and a list of example projects (links are below). Construction Projects include engineering, design, permitting, right-of-way acquisition, and other activities related to the construction of infrastructure improvements, such as the building of a wildlife crossing overpass or underpass. Non-Construction projects include planning, research, and educational activities that are not directly related to construction of infrastructure improvements, such as a hot spot analysis of WVCs. All projects should seek to protect motorists and wildlife by reducing the number of WVCs and improve habitat connectivity for terrestrial and aquatic species. See NOFO Section C.3.c for more information



on eligible activities. Projects that reduce WVCs and improve habitat connectivity for terrestrial and aquatic species will be prioritized.

Grant Application

The call for applications is NOW OPEN. DOT uses Grants.gov for receipt of all applications for this program's NOFO. Applicants must register and use the system to submit applications electronically. Applicants are encouraged to register in advance of the submission deadline and to register to receive notifications of updates/amendments to this NOFO. Approval of user registrations for the site may take multiple weeks. It is the Applicant's responsibility to monitor Grants.gov for any updates to this Notice. Applications must be submitted electronically through Grants.gov no later than 11:59 p.m., Eastern Time, on August 1, 2023 (the "application deadline"). Applicants are encouraged to submit applications in advance of the application deadline; however, applications will not be evaluated, and awards will not be made, until after the application deadline. This FHWA website DOES NOT accept any applications.

Notice of Funding Opportunity (NOFO)

[FY22-23 Notice of Funding Opportunity \(NOFO\) for Wildlife Crossings Program](#)

Webinar Schedule

Stay tuned here for scheduled webinars and information on how to participate. Webinars will be recorded and posted here.

Grant Resources

- [DOT Navigator - Grant Application Resources](#)
- [FHWA Bipartisan Infrastructure Law Website](#)
- [USDOT Bipartisan Infrastructure Law Website](#)

Other Funding Opportunities

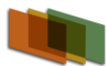
For other safety and conservation related Federal assistance you may refer to other programs including, but not limited to the following:

- [FHWA Bipartisan Infrastructure Law Competitive Grant Programs;](#)
 - [FHWA's Bridge Investment Program;](#)
 - [FHWA's PROTECT Program;](#)
 - [FHWA's Culvert AOP Program;](#)
- [FHWA's Tribal Transportation Program;](#)
- [FHWA's Federal Lands Transportation Program;](#)
- [NOAA's Office of Habitat Conservation's Restoration Center fish passage initiatives;](#) and
- [USFWS' National Fish Passage Program;](#)

Due August 1.

[NIH Director's Transformative Research Awards \(R01 Clinical Trial Optional\)](#)

The [NIH Director's Transformative Research Award Program](#) supports individual scientists or groups of scientists proposing groundbreaking, exceptionally innovative, original, and/or unconventional research with the potential to create new scientific paradigms, establish entirely new and improved clinical approaches, or develop transformative technologies. Individuals from diverse backgrounds,



including those from underrepresented groups (see, Notice of NIH's Interest in Diversity, [NOT-OD-20-031](#)) are strongly encouraged to apply to this Funding Opportunity Announcement. In addition, applications are welcome from the full spectrum of eligible institutions in all geographic locations and in all topic areas relevant to the broad mission of NIH, including, but not limited to, behavioral, social, biomedical, applied, and formal sciences and topics that may involve basic, translational, or clinical research. No preliminary data are required. Projects must clearly demonstrate, based on the strength of the logic, a compelling potential to produce a major impact in a broad area of relevance to the NIH. The NIH Director's Transformative Research Award is a component of the [High-Risk, High-Reward Research \(HRHR\) Program](#) of the [NIH Common Fund](#). Towards the objective of funding the best possible science, the Office of Strategic Coordination and the Center for Scientific Review are piloting a process for initial peer review of applications received in response to this FOA in which the identity of the investigators and institutions are withheld until the last phase of review. Instructions for anonymizing components of the application are given in Section IV and must be carefully followed. A description of the review process is given in Section V. **Open August 3.**

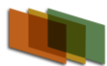
NIH Director's Early Independence Awards (DP5 Clinical Trial Optional)

The [NIH Director's Early Independence Award](#) supports rigorous and promising junior investigators who wish to pursue independent research soon after completion of their terminal doctoral degree or post-graduate clinical training, thereby forgoing the traditional post-doctoral training period and accelerating their entry into an independent research career. For the program to support the best possible researchers and research, applications are sought which reflect the full diversity of the research workforce. Individuals from diverse backgrounds, including those from underrepresented groups and from the full spectrum of eligible institutions in all geographic locations, are strongly encouraged to apply to this Funding Opportunity Announcement. In addition, applications in all topics relevant to the broad mission of NIH are welcome, including, but not limited to, topics in the behavioral, social, biomedical, applied, and formal sciences and topics that may involve basic, translational, or clinical research. The NIH Director's Early Independence Award is a component of the [High-Risk, High-Reward Research program](#) of the [NIH Common Fund](#). **Opens August 6.**

DoD Tick-Borne Disease Research Program Therapeutic/Diagnostic Research Award

Department of Defense, Dept. of the Army -- USAMRAA

The FY23 TBDRP Therapeutic/Diagnostic Research Award is intended to support hypothesis-driven therapeutic and diagnostic development research. Projects submitted under a Treatment Focus Area should be therapeutic evaluation studies designed to promote new ideas aimed at drug or treatment discovery that are still in the early/preclinical stages of development. Projects submitted under a Diagnosis Focus Area should propose diagnostic approaches that will be readily integrated into clinical settings. All research projects should have a translational potential and aim to improve patient care and/or the quality of life for military Service Members, Veterans, and their beneficiaries, as well as the American public living with Lyme disease and/or other tick-borne diseases and conditions. The proposed studies are expected to be empirical in nature and product-driven. Applicants with limited tick-borne disease experience are strongly encouraged to collaborate with experienced tick-borne disease investigators. Applicants with substantial tick-borne disease experience are strongly encouraged to partner with experts in therapeutic and diagnostic assay development and transition, particularly those from the commercial sector. **Due August 24.**



DoD Tick-Borne Research Program Idea Development Award

Department of Defense, Dept. of the Army - USAMRAA

The FY23 TBDRP Idea Development Award is intended to support research that could lead to impactful discoveries or significant advancements that will accelerate progress toward reducing the burden of Lyme disease and/or other tick-borne diseases and conditions and improve patient care, and/or the quality of life for military Service Members, Veterans, and their beneficiaries, as well as the American public. This research should be conceptually innovative, introduce a new concept or question, challenge existing paradigms, approach issues from a new perspective, or exhibit other uniquely creative qualities and should not merely be a next logical step or an incremental advance on published data. The following examples are ways in which research may be innovative and are intended to help PIs frame the innovative features of their applications. This list is not all-inclusive. **Due August 24.**

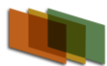
Solicitations Remaining Open from Last Newsletter

Division of Molecular and Cellular Biosciences Core Programs (MCB)

MCB supports research that promises to uncover the fundamental properties of living systems across atomic, molecular, subcellular, and cellular scales. The program gives high priority to projects that advance mechanistic understanding of the structure, function, and evolution of molecular, subcellular, and cellular systems, especially research that aims at quantitative and predictive knowledge of complex behavior and emergent properties. MCB encourages research exploring new concepts in molecular and cellular biology, while incorporating insights and approaches from other scientific disciplines, such as chemistry, computer science, engineering, mathematics, and physics, to illuminate principles that govern life at the molecular and cellular level. MCB also encourages research that exploits experimental and theoretical approaches and utilizes a diverse spectrum of model and non-model animals, plants, and microbes across the tree of life. Proposals that pursue potentially transformative ideas are welcome, even if these entail higher risk.

This solicitation calls for proposals in research areas supported by the four MCB core clusters, including: (i) structure, dynamics, and function of biomolecules and supramolecular assemblies, especially under physiological conditions ([Molecular Biophysics](#)); (ii) organization, processing, expression, regulation, and evolution of genetic and epigenetic information ([Genetic Mechanisms](#)); (iii) cellular structure, properties, and function across broad spatiotemporal scales ([Cellular Dynamics and Function](#)); and (iv) systems and/or synthetic biology to study complex interactions through modeling or manipulation or design of living systems at the molecular-to-cellular scale ([Systems and Synthetic Biology](#)). All MCB clusters prioritize projects that integrate across scales, investigate molecular and cellular evolution, synergize experimental research with computational or mathematical modeling, and/or develop innovative, broadly applicable methods and technologies. Projects that bridge the intellectual edges between MCB clusters are welcome. Projects that integrate molecular and cellular biosciences with other subdisciplines of biology are also welcome through the new Integrative Research in Biology (IntBIO) track.

MCB strives to achieve key goals laid out in the [NSF Strategic Plan](#). Among these goals are: (i) to empower Science Technology, Engineering, and Mathematics (STEM) talent to fully participate in science and engineering; (ii) to enable creation of new knowledge by advancing the frontiers of research and enhancing research capability; and (iii) to benefit society through translation of



knowledge into solutions. In line with these goals, MCB seeks to increase the diversity of individuals and institutions in the molecular and cellular biosciences community we support. Hence, to be competitive, proposers must be intentional regarding broadening participation in their projects through efforts to promote diversity, equity, and inclusion of individuals traditionally underrepresented in STEM and of types of institutions, such as Minority-serving Institutions (MSIs), Primarily Undergraduate Institutions (PUIs), two-year colleges, institutions in jurisdictions associated with the Established Program to Stimulate Competitive Research (EPSCoR), as well as major research institutions.

Also aligned with the [NSF Strategic Plan](#), MCB encourages basic research ideas that are inspired by curiosity and/or by their potential use for societal benefit, especially pertaining to pressing challenges such as, but not limited to climate change, clean energy, feeding the world sustainably, or health. With regard to health-related challenges, it should be noted that research using biomedical model systems to address questions of basic scientific interest is permissible. However, in accordance with the PAPPG, **MCB does not normally support** biological research on **mechanisms of disease in humans**, including on the etiology, diagnosis, or treatment of disease or disorder. Similarly, MCB does not normally support biological research to develop animal models of such conditions or testing of procedures for their treatment. Proposals motivated by such disease-related goals will be returned without review. **Applications accepted any time.**

Genomics Centers for Infectious Diseases (U19 Clinical Trial Not Allowed)

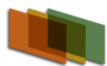
The purpose of this Funding Opportunity Announcement (FOA) is to solicit applications for a Genomic Centers for Infectious Disease (GCID) Program. This renewal initiative will support GCIDs to advance the development and use of innovative genomic and bioinformatics tools with an emphasis on human pathogens and their interactions with the host and microbiome, and to rapidly respond to emerging needs, especially during disease outbreaks. The Program will address basic, translational, and clinically relevant questions in host-pathogen interactions and support the development of genomics-based tools to diagnose, prevent, and treat infectious diseases. In the event of an infectious disease outbreak, the GCIDs will be poised to leverage the expertise and resources within the network to assist in a coordinated research response. **Due May 2.**

Distance Education Grants for Institutions of Higher Education in Insular Areas

The purpose of this program is strengthen the capacity of Institutions of Higher Education in Insular Areas to carry out resident instruction, curriculum, and teaching programs in the food and agricultural sciences through distance education technology. The Distance Education Grants Program for Institutions of Higher Education in Insular Areas (DEG) is a NIFA-administered competitive grants program focused on improving formal, postsecondary agricultural sciences education. The RFA announcement and technical assistance webinar related to this FY 2023 funding opportunity will be held soon. Please visit again for more information. **Due May 5.**

Synthesis Center for Understanding Organismal Resilience

Synthesis Centers are a mechanism used by NSF's Directorate for Biological Science (BIO) to bring together communities that leverage existing data to catalyze discoveries through synthesis, analysis, and integrative training. Research supported by the Division of Integrative Organismal Systems (IOS) in BIO focuses on organisms as integrated units of biological organization, i.e., why they are structured as they are and function as they do. IOS seeks to establish a new Synthesis Center to advance our ability to explain and predict organismal resiliency and plasticity in response to complex and dynamic



environmental circumstances encountered over a lifespan through the synthesis of varied data sets and types that bridge multiple scales and levels. The Synthesis Center will enable innovative synthesis and analysis of available biological and related data by providing the vision, infrastructure, and expertise to advance new avenues of inquiry in organismal biology focused on organismal resilience and plasticity. To accomplish this vision, the Synthesis Center will adopt approaches that are based on open science, team science, and data-intensive methods that enable data synthesis, sharing and inclusive collaborations among researchers across multiple levels of biological inquiry that may include genomic, physiological, structural, developmental, behavioral, neural, immunological, and microbiological analyses across some or all the IOS subdisciplines. In addition to supporting data and knowledge synthesis, the Synthesis Center should train new generations of researchers in solving challenging research problems through data-intensive, open, cross-disciplinary, and collaborative science. The Synthesis Center is also expected to serve as an example in effectively engaging diverse scientists from different types of institutions and across multiple disciplines. These types of data syntheses are expected to provide the basis for fundamental scientific discoveries and/or potentially translational, use-inspired research. In doing so, the Synthesis Center will have a profound impact on the progress of science and society. **Preliminary Proposal Due Date(s) (required) January 12, 2024 Full Proposal Deadline July 15, 2024**

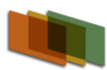
Open Solicitations and BAAs

[BAA's remain open for one or more years. During the open period, agency research priorities may change or other modifications are made to a published BAA. If you are submitting a proposal in response to an open solicitation, as below, check for modifications to the BAA at Grants.gov or by utilizing [Modified Opportunities by Agency](#) to receive a Grants.gov notification of recently modified opportunities by agency name.]

FA8650-17-S-6001 Science and Technology for Autonomous Teammates (STAT)

The objective of Science and Technology for Autonomous Teammates (STAT) program is to develop and demonstrate autonomy technologies that will enable various AF mission sets. This research will be part of Experimentation Campaigns in: 1 -Multi-domain Command and Control; 2-Intelligence, Surveillance, Recognizance (ISR) Processing Exploitation and Dissemination (PED); and 3- Manned-Unmanned combat Teaming to demonstrate autonomy capabilities to develop and demonstrate autonomy technologies that will improve Air Force operations through human-machine teaming and autonomous decision-making. The technology demonstrations that result from this BAA will substantially improve the Air Force's capability to conduct missions in a variety of environments while minimizing the risks to Airmen. The overall impact of integration of autonomous systems into the mission space will enable the Air Force to operate inside of the enemy's decision loop.

STAT will develop and apply autonomy technologies to enhance the full mission cycle, including mission planning, mission execution, and post-mission analysis. Particular areas of interest include multi-domain command and control, manned-unmanned teaming, and information analytics. The technology demonstrations that result from this BAA will substantially improve the Air Force's capability to conduct missions in a variety of environments while minimizing the risks to Airmen. The overall impact of integration of autonomous systems into the mission space will enable the Air Force to operate inside of the enemy's decision loop. This effort plans to demonstrate modular, transferable, open system architectures, and deliver autonomy technologies applicable to a spectrum of multi-



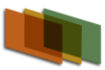
domain applications. Development efforts will mature a set of technologies that enable airmen to plan, command, control, and execute missions with manageable workloads. The software algorithms and supporting architectures shall:

- Ingest and understand mission taskings and commander's intent
- Respond appropriately to human direction and orders
- Respond intelligently to dynamic threats and unplanned events

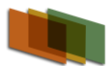
Chosen technologies will be open, reusable, adaptable, platform agnostic, secure, credible, affordable, enduring, and able to be integrated into autonomous systems. The program will be comprised of various technologies developed by AFRL and Industry, integrated into technology demonstrations and deliverables with all the necessary software, hardware, and documentation to support AFRL-owned modeling and simulation environments for future capability developments. Thus, all technology development efforts must adhere to interface designs and standards. **Open to July 23, 2023.**

ARMED FORCES PEST MANAGEMENT BOARD (AFPMB)

The Armed Forces Pest Management Board (AFPMB), an agency of the Department of Defense (DoD), is soliciting pre-proposals for original and innovative research designed to develop new interventions for protection of deployed military personnel from diseases caused by arthropod-borne pathogens and to improve control of bed bugs and filth flies. Diseases of significant concern include Lyme disease, malaria, dengue fever and other arboviruses. The program supports development of: (1) new toxicants or the adaptation of existing toxicants to medically relevant pests; (2) new insecticide application techniques; (3) new personal protection tools that prevent human-vector contact; (4) decision support tools and (5) novel vector surveillance tools that focus on improved control outcomes. Ideally the research would support **Advanced Technology Development** (see [DoD Financial Management Regulation Volume 2B, Chapter 5](#), DoD RDT&E Budget Activity 3) of new insecticides or improved formulations of existing insecticides for vector control, new technology or enhanced modalities of personal protection from biting arthropods, or improved efficacy and sustainability of equipment for vector surveillance and application of pesticides for vector control in a military operational environment. Research should be product-oriented, consisting of advanced research related to a particular technology or new capability, evaluation of experimental products for military uses, or research directed towards development of an existing prototype product for commercial manufacture. Research should include semi-field or field evaluation of prototype products. Research should not include testing and evaluation of commercial products. Any pesticide end use products described in the proposed research should be destined for registration by the U. S. Environmental Protection Agency (EPA). The research must be primarily applicable to the military, products should be transferable to civilian uses. The program consists of competitive grants open to principal investigators (PIs) from academia, industry, and local or state government agencies. Federal Agencies (including DoD) may apply subject to appropriate regulations. This BAA is intended to solicit pre-proposals for AFPMB for those parts of development not related to a specific system or hardware procurement in accordance with Title 2, Subtitle A, Chapter II, Part 200 CFR. The purpose of this BAA is to identify the best available science, and as such, there are no set-asides associated with any awards resulting from this BAA. Specific areas of interest are described in the "Areas of Interest" section of this BAA. This Announcement provides a general description of project areas, including specific areas of interest, general information, evaluation and selection criteria, and proposal preparation instructions. All documentation and or attachments that are required with the submission of a full proposal, if



requested, are described in the Mandatory Proposal Forms section of this announcement. Awards are typically made under grants; however, other funding opportunities may be considered. **Open to Oct. 31, 2024**



Academic Research Funding Strategies, LLC

What We Do: We provide consulting for colleges and universities on a wide range of topics related to research development and grant writing, including:

- **Strategic Planning** - Assistance in [formulating research development strategies](#) and building institutional infrastructure for research development (including special strategies for Emerging Research Institutions, Predominantly Undergraduate Institutions and Minority Serving Institutions)
- **Training for Faculty** - [Online and in-person workshops, self-paced online courses, and proposal development retreats and bootcamps](#) on how to find and compete for research funding from NSF, NIH, DoE and other government agencies as well as foundations.
- **Large proposals** - Assistance in [planning, developing and writing institutional and center-level proposals](#) (e.g., NSF ERC, STC, NRT, ADVANCE, IUSE, Dept of Ed GAANN, DoD MURI, etc.)
- **Assistance for new and junior faculty** - help in identifying funding opportunities and developing competitive research proposals, particularly to NSF CAREER, DoD Young Investigator, DOE Early Career and other junior investigator programs.
- **Graphics and design assistance** - [assistance with proposal graphics](#), book and presentation design, and more.
- **Assistance for your project narrative:** [in-depth reviews](#), rewrites, and edits
- **Editing and proof reading** - proposals, journal articles, book manuscripts
- **Online and In-Person Seminars** - training for postdocs, students, and staff on a wide range of topics related to pursuing external fundings. **Our updated online NSF CAREER course for the 2023 competition is [now available](#).**
- **Training for Staff** - Professional development for research office and sponsored projects staff.

See [our website](#) for more information

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