Research Development & Grant Writing Newsletter

Issue for September 15, 2022

Our Co-Publisher & Editors

Mike Cronan

Mike Cronan, PE, has 23 years of experience developing and writing successful team proposals at Texas A&M University. He was named a Texas A&M University System Regents Fellow (2001-2010) for developing and writing A&M System-wide grants funded at over $100 million by NSF and other funding agencies. He developed and directed two research development and grant writing offices, one for Texas A&M's VPR and the other for the Texas A&M Engineering Experiment Station (15 research divisions state-wide), including the Texas A&M College of Engineering.

Lucy Deckard

Lucy Deckard (BS/MS Materials) worked in research development and grant writing at Texas A&M University and across the A&M System for nine years. She directed A&M's New Faculty Research Initiative (2004-09), helping junior faculty System-wide jumpstart their research careers with federal agency funding. She served as associate director of two research development and grant writing offices. She founded ARFS in 2010.

Katherine E. Kelly

Katherine E. Kelly, Ph.D., a retired English professor from Texas A&M University, is the author of several books and numerous articles supported by research grants and served as a contributing editor for an academic journal for five years. She provides ARFS clients editorial services on proposals, journal articles, and manuscripts and presents seminars on grant writing and funding in the humanities.

About Us

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

Co-Publishers

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Humanities Editor

Katherine E. Kelly

Newsletter Design

Emily Creasy, head of ELC Design, is our graphics partner. In addition to redesigning our newsletter, she provides graphics services on proposals, presentations, books and papers. **Subscribe Online**

Table of Contents

Other Resources & Services

Lucy Deckard, BS/MS

For Webinars & Workshops

Contact Here

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Proposal Editing & Webinars in Humanities

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Topics of Interest URLs

Back to Table of Contents

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 Funding Agency & Miscellaneous

- Monkeypox: The State of the Science
- White House Releases Disclosure Template for Grant Applications
- Solicitations (NSF) that Limit the Number of Proposals an Organization Can Submit
- What a big new U.S. law that reshapes science agencies could mean for researchers
- New NIH "FORMS-H" Grant Application Forms and Instructions Coming for Due Dates on or after January 25, 2023
- White House requires immediate public access to all U.S.-funded research papers by 2025
- To beat China, new U.S. law offers billions for microchip research and training
- Agriculture and Food Research Initiative - Education and Workforce Development

National Science Foundation & Related

- Spring 2022 Virtual Grants Conference: Introduction and Overview
- 2022 NSF policy office webinar series concept outlines at NSF September 27, 2022
- Baccalaureate Origins of Underrepresented Minority Research Doctorate Recipients
- Dear Colleague Letter: Research Coordination Networks for Semiconductors (RCN-SC)
- DCL: Enhancing Engineering Technology and Advanced Semiconductor Manufacturing Technician Education (ETSTE)
- NSF Grants Conference
- NSF Resource Center
- Seeking Reviewers for NSF Engines Proposals - 10/7 Deadline
- Review Form
- Over 50% of FFRDC FY 2021 R&D Spending Was in Two States
- Major Research Instrumentation Program: (MRI) Instrument Acquisition or Development

NIH Health Sciences & Related

- Top 5 eRA Resources You Should Know
- Grant Writing Webinar Series for Institutions Building Research and Research Training Capacity: Webinar 1 - Before Writing: Faculty Readiness & Submission Considerations
- Notice NIH Participation in NIH-NSF Ecology and Evolution of Infectious Diseases Program
- NIH launches Bridge2AI program to expand the use of artificial intelligence in biomedical and behavioral research
- Understand the Fiscal Year Calendar to Sync Your Timing
- Reminder to Review Accuracy of Grant Information Before October 3, 2022
- AHRQ National Research Service Award (NRSA) Institutional Research Training Grant (T32)
- 2023 NIH Loan Repayment Program application cycle opens September 1

- Late September NIH grant application due dates extended
- AHRQ National Research Service Award (NRSA) Institutional Research Training Grant (T32)
- Webinar Resources: Understanding the New NIH Data Management and Sharing Policy
- Webinar recording: Understanding New NIH Data Management and Sharing (DMS) Policy
- Virtual NIH Grants Conference & PreCon Events
- Navigating Early Career Funding Opportunities
- Review NIAID Topics for Small Business Innovation Research Contract Solicitation
- NIH Small Business Opportunities and Priority Topics for 2022
- 2022 SBIR and STTR Omnibus/Parent Grant Solicitations for the NIH, CDC, and FDA
- A Solicitation of the National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC) for Small Business Innovation Research (SBIR) Contract Proposals
- New Funding Opportunities Center on Coordinating Centers
- Implementation Changes for Genomic Data Sharing Plans Included with Applications Due on or after January 25, 2023
- NIH Blueprint for Neuroscience Research: Computational Training in Neuroscience and Behavior

National Academies and Other Scientific Associations

- Community Interventions to Prevent Veteran Suicide: The Role of Social Determinants: Proceedings of a Virtual Symposium
- Summer Bridge on Smart Agriculture
- Climate Resources at the National Academies
- Research Infrastructure Initiatives in the CHIPS and Science Act
- Academic Mentorship Needs a More Scientific Approach
- Review of U.S. Global Change Research Program's Draft Decadal Strategic Plan, 2022-2031
- You've spotted a flaw in a top journal's paper. Good luck getting your critique published

Miscellaneous Federal Agency and Foundation News & Funding

- Forensic Science Strategic Research Plan 2022-2026
- 2023 Innovations in Nutrition Programs and Services -Research
- DOE Announces $26 Million to Demonstrate Reliable Clean Energy Grid
- FOA Support of Hydrogen Shot and University Research Consortium on Grid Resilience
- Examining Supply-Side Options to Achieve 100% Clean Electricity by 2035
- Animal and Plant Health Inspection Service Indemnity Regulations
- FY2024 USDA Forest Legacy Program
- FY23 Evaluation Monitoring Program USDA
- Biological Control Of Invasive Forest Pests Program FY23

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://nifa.usda.gov/page/search-grant
- 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

August 2022 Select List of Humanities, HSS, and Arts Opportunities & News

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

[Back to Table of Contents]

Check with organizations' websites for most current information

Due Date	Opportunity
Ongoing	**Apply for a Federal Funding Opportunity on Grants.gov.** First-time applicants can understandably feel daunted by the task of applying for a federal funding opportunity on Grants.gov. Click this link for an explanation of the key steps in the application process. How to Apply for a Federal Funding Opportunity: www.grants.gov
21 Sept. 2022	**NEH Summer Stipend.** This award supports 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 scholarly research. New for 2022 and 2023: A one-page attachment indicating plan of work is required; the program will offer exemption from nomination for faculty at Asian American and Native American Pacific Islander Serving Institutions, Alaska Native and Native Hawaiian Serving Institutions, Native American-Serving Non-Tribal Institutions, and Predominantly Black Institutions. https://www.neh.gov/grants/research/summer-stipends
23 Sept. 2022 (Optional draft due) Nov. 30 (Final draft)	**NEH Scholarly Editions and Scholarly Translations (Organizations).** This program provides grants to organizations to support collaborative teams who are editing, annotating, and translating foundational humanities texts that are vital to scholarship, but currently inaccessible or only available in inadequate editions or translations. The texts are significant literary, philosophical, and historical materials, but works in other humanities fields may also be the subject of an edition. The program supports continuous full-time or part-time activities during the period of performance of one to three years. At least two scholars must work collaboratively on the project. Typical project expenses include salary for editorial and research activities, travel to collections to verify source material, and consultant fees for translation, editorial work, and the implementation of a digital edition. https://www.neh.gov/grants/research/scholarly-editions-and-translations-grants
28 Sept. 2022 (Optional draft	**NEH Spotlight on Humanities in Higher Education (Organizations).** This program supports the exploration and development of small projects that would benefit underserved populations through the teaching and study of

due) 2 Nov. 2022 (Final draft)	the humanities. Eligible applicants include small- to medium-size two- and four-year institutions of higher education and nonprofit organizations whose work advances the humanities at these institutions and among their faculty and students. *NEH especially welcomes applications from Native American and Indigenous institutions, Historically Black Colleges and Universities, Hispanic-Serving Institutions, Asian American 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.* https://www.neh.gov/program/spotlight-humanities-higher-education
28 Sept. through 11 January 2023	**American Council of Learned Societies. *Note: all applicants to ACLS awards must have an ORCID ID.** Go to: https://info.orcid.org/what-is-orcid/ . All ACLS awards are listed here in order of deadline from soonest to latest:
28 Sept. 2022	**ACLS Fellowship**. Maximum award: $60,000. Six to twelve consecutive months devoted to full-time research and/or writing, to be initiated between July 1, 2023 and July 1, 2024, and to be completed no later than December 31, 2024. This year, open to untenured scholars who have earned a PhD in the humanities or humanistic social sciences on or after September 29, 2014. ACLS will begin accepting applications in mid-July 2022. Completed applications must be submitted through the ACLS online fellowship and grant administration system (ofa.acls.org) More information at: https://www.acls.org/competitions-and-deadlines/
3 Oct. 2022	**ACLS Leading Edge Fellows**: Information for Potential Host Organizations. The ACLS Leading Edge Fellowship program offers recent humanities PhDs two-year fellowship positions with organizations dedicated to advancing justice and equity. The program demonstrates the capacity of those with advanced training in the humanities to contribute to timely and meaningful social justice work in communities across the country. The Leading Edge Fellowship program is administered by the American Council of Learned Societies and is made possible by the support of The Mellon Foundation. For more information, see: https://www.acls.org/competitions/acls-leading-edge-fellows-information-for-potential-host-organizations/
27 Oct. 2022	**Getty/ACLS Postdoctoral Fellowships in the History of Art**. Supporting early-career art historians from around the world. ACLS invites applications for Getty/ACLS Postdoctoral Fellowships in the History of Art, made possible by the generous support of the Getty Foundation. These fellowships provide early career scholars from around the world time to undertake sustained research and/or writing for projects that will make substantial and original contributions to the understanding of art and its history. The program funds projects at all stages of development, and the ultimate goal of the project should be a major piece of scholarly work. Independent and untenured

scholars are especially encouraged to apply. This program does not fund creative work. https://www.acls.org/competitions/getty-acls-postdoctoral-fellowships-in-the-history-of-art/

27 October 2022

Luce/ACLS Dissertation Fellowships in American Art. Supporting graduate students pursuing research on the history of art and visual culture of the U.S. These fellowships are for graduate students pursuing research on the history of art and visual culture of the United States, including all aspects of Native American art, and who are at any stage of PhD dissertation research or writing. The program offers seven fellowships for a non-renewable, continuous nine-to-twelve month term to be held between July 2023 and May 2025. The fellowships may be carried out in residence at the fellow's home institution or any other appropriate site for the research. The fellowships may not be used to defray tuition costs or be held concurrently with any other major fellowship or grant. The entire fellowship term must conclude before the fellow receives the PhD. This program is made possible by the generous support of the Henry Luce Foundation. https://www.acls.org/competitions/luce-acls-dissertation-fellowships-in-american-art/

2 Nov. 2022

Mellon/ACLS Dissertation Innovation Fellowship. This award supports early-stage doctoral students pursuing innovative approaches to dissertation research in the humanities and interpretive social sciences. It provides a year of support for doctoral students preparing to embark on innovative dissertation research projects. This program is made possible by a grant from the Mellon Foundation. The fellowships are designed to intervene at the formative stage of dissertation development, before research and writing are advanced. The program seeks to expand the range of research methodologies, formats, and areas of inquiry traditionally considered suitable for the dissertation, with a particular focus on supporting scholars who can build a more diverse, inclusive, and equitable academy. https://www.acls.org/competitions/mellon-acls-dissertation-innovation-fellowship/

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2 Nov. 2022

The Luce/ACLS Early Career Fellowships in China Studies – Long-Term. In cooperation with the Henry Luce Foundation, ACLS is in the second year of a three-year bridging program to reassess and reconfigure the Luce/ACLS Program in China Studies. We are convening scholars at all ranks, higher education leaders, journalists, and other readers of research and writing on China to re-imagine and transform our program to meet the needs of China studies in the 21st century. In 2022-23, ACLS is offering two types of fellowship (long-term and flexible research fellowships) to support research, writing, and curriculum development. A Summer Institute for Fellows will be held in summer 2023. Fellowships are financially supported by the Henry Luce Foundation. https://www.acls.org/competitions/henry-luce-foundation-acls-program-in-china-studies/

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2 Nov. 2022	**The Luce/ACLS Early Career Fellowships in China Studies—Flexible**. Flexible research fellowships will enable recent PhDs (without tenure and within eight years of the PhD), and with heavy teaching and service responsibilities to carry out research and writing towards a scholarly text. These flexible, short-term awards may be used for access to online archives, travel, conference participation, childcare or other familial responsibilities, as well as other needs identified in the application essay for accomplishing the proposed objectives. Each flexible fellowship provides a stipend of $15,000 (three months' work over a period of twelve months). Flexible fellowships do not require leave from university responsibilities, and do not require the three months to run consecutively. Applicants who do not propose work in China should explain how they will gain access to sources. Research in Hong Kong, Macau, Tibet, Xinjiang, and Taiwan is eligible. Research may also be conducted on Chinese culture and society outside these areas, as required by the research plan. In each case, the selection committee will consider the quality and intensity of the project's focus on topics related to China. https://www.acls.org/competitions/luce-acls-early-career-fellowships-in-china-studies-flexible/
Nov. 2022 (TBA)	**Luce/ACLS Program in Religion, Journalism & International Affairs Collaborative Programming Grants**. This grant is made possible by the generous support of the Henry Luce Foundation. The program aims to deepen public understanding of religion by advancing innovative scholarship on religion in international contexts and equipping individual scholars and institutions of higher education with the capacities to connect their work to journalism and the media and to engage audiences beyond the academy. This award is made possible by the generous support of the Henry Luce Foundation. Proposals are sought for collaborative projects hosted at US-based accredited institutions of higher education with research and curricular strengths in journalism and communication and in the humanistic and social science fields concerned with the study of global religions (including, but not limited to, anthropology, area studies, history, languages and literature, political science, religious studies, and sociology). ACLS will award grants of up to $45,000 to institutions proposing interdisciplinary or cross-institutional collaborations that connect scholarship on religion to journalistic training and practice. https://www.acls.org/competitions/luce-acls-program-in-religion-journalism-international-affairs-collaborative-programming-grants/
4 October 2022	**NEH Archaeological and Ethnographic Field Research.** Archaeological methods may include field survey and field-based remote sensing, documentation or visualization, and/or excavations to examine the human past, including but not limited to ancient studies, anthropology, art history, classical studies, regional studies, epigraphy, and other related disciplines. Ethnographic methods may include participant observation, surveys and interviews, and documentation or recording in related fields of anthropology,

	sociology, ethnolinguistics, oral history, ethnomusicology, performance studies, folklore studies, and related disciplines. Projects may be led by individuals with institutional affiliation or by teams of collaborating scholars from the same or multiple eligible institutions. For more information and to view a webinar about applying for this award, go to: https://www.neh.gov/program/archaeological-and-ethnographic-field-research
5 October 2022	**NEH Infrastructure and Capacity Building Challenge Grants.** This program is meant to strengthen the institutional base of the humanities by enabling infrastructure development and capacity building. Awards of federal matching funds aim to help institutions secure long-term support for their core activities and expand efforts to preserve and create access to outstanding humanities materials. The program supports two types of projects, each with its own Notice of Funding Opportunity: (1) Capital Projects support the purchase, design, construction, restoration, or renovation of facilities for humanities activities. This includes costs related to planning as well as the purchase and installation of related moveable and permanently affixed equipment for exhibiting, maintaining, monitoring, and protecting collections (whether on exhibit or in storage), and for critical building systems, such as electrical, heating ventilation and air conditioning, security, life safety, lighting, utilities, telecommunications, and energy management. (2) Digital Infrastructure supports the maintenance, modernization, and sustainability of existing digital scholarly projects and platforms. Up to 10% of total funds (NEH federal matching funds plus certified gifts) may be used for fundraising costs during the period of performance. https://www.neh.gov/grants/preservation/infrastructure-and-capacity-building-challenge-grants
14 October 2022	**NEH Dynamic Language Infrastructure – Documenting Endangered Languages Senior Research Grants.** New guidelines pending; use the below to get a sense of what is involved in assembling an application. Awards support fieldwork and other activities relevant to recording, documenting, and archiving endangered languages, including the preparation of lexicons, grammars, text samples, and databases. Applications are submitted to NSF for review. Upon completion of the review process, the administration of awards is conducted separately by NEH or NSF. When available, the DEL notice of funding opportunity and instructions will be available on the National Science Foundation's website. For projects involving individual fellowships, project directors should consider applying for a Fellowship through the DLI-DEL program offered by NSF in collaboration with NEH's Division of Research. https://www.neh.gov/grants/preservation/documenting-endangered-languages

27 October 2022	**The Paul & Daisy Soros Fellowships for New Americans.** Supports thirty New Americans--immigrants or the children of immigrants--who are pursuing graduate or professional school in the United States. You can apply when you're applying to graduate or professional school, or when you're in the first two years of the academic program for which you're seeking funding. Applicants may apply more than once; must be 30 or younger as of October 27th to apply. PD Soros supports all types of full-time degrees at accredited institutions in the United States. To watch a recorded information session with staff and current Fellows and to learn the full eligibility requirements, go to: https://www.pdsoros.org/apply
1 November 2022	**ICS (formerly Woodrow Wilson Foundation) & The Mellon Foundation MMUF Advancement Adjunct Faculty Fellowships.** These awards provide each Fellow with a six-month period during which to focus on the research and scholarship necessary to secure a tenure-track position. Two fellowships are awarded each year. https://citizensandscholars.org/fellowships/for-scholars-education-leaders/mellon-programs-grants/adjunct-faculty-fellowships/?utm_source=websignup&utm_medium=email&utm_content=adjunct
15 November 2022	**IMLS (Institute of Museum and Library Services) Inspire! Grants for Small Museums.** This is a special initiative of the Museums for America program. It's designed to support small museums of all disciplines in project-based efforts to serve the public through exhibitions, educational/interpretive programs, digital learning resources, policy development and institutional planning, technology enhancements, professional development, community outreach, audience development, and/or collections management, curation, care, and conservation. Inspire! has three project categories: Lifelong Learning, Institutional Capacity, and Collections Stewardship and Access. Potential applicants are invited to view two webinars: (1) "Choosing a Funding Opportunity for FY 2023" is a general presentation on IMLS museum grant programs. We recommend that you view this presentation for an overview before considering a specific grant program. (2) FY 2023 "Inspire! Grants for Small Museums" provides detailed information about the goals of this specific grant program and how to apply. This webinar will be posted in September 2022. https://www.imls.gov/sites/default/files/2022-08/fy23-oms-igsm-nofo.pdf
15 November 2022 Professional Development Opportunities for Museum Staff	**IMLS (Institute of Museum and Library Services) Museums Empowered:** Cost Share Requirement: Applicants must provide funds from non-federal sources in an amount equal to or greater than the amount of the IMLS request. This is a special initiative of the Museums for America grant program designed to support projects that use the transformative power of professional development and training to generate systemic change within museums of all types and sizes. Museums Empowered has four project

	categories: Digital Technology: Provide museum staff with the skills to integrate digital technology into museum operations. Diversity and Inclusion: Support museum staff in providing inclusive services to people of diverse geographic, cultural, and socioeconomic backgrounds and to individuals with disabilities. Evaluation: Strengthen the ability of museum staff to use evaluation as a tool to shape museum programs and improve outcomes. Organizational Management: Strengthen and support museum staff as the essential part of a resilient organizational culture. View two webinars for more information: (1) "Choosing a Funding Opportunity for FY 2023"--a general presentation on IMLS museum grant programs. We recommend that you view this presentation for an overview before considering a specific grant program. (2) "FY 2023 Museums Empowered" provides detailed information about the goals of this specific grant program and how to apply. This webinar will be posted in September 2022.
15 November 2022	**IMLS (Institute of Museum and Library Services) National Leadership Grant for Museums.** These grants support projects that address critical needs of the museum field and that have the potential to advance practice in the profession to strengthen museum services for the American public. Cost Share Requirement: You must provide funds from non-federal sources in an amount that is equal to or greater than the amount of the request, unless otherwise indicated in the FY 2023 Notice of Funding Opportunity. We invite you to view two pre-recorded webinars: (1) "Choosing a Funding Opportunity for FY 2023" is a general presentation on IMLS museum grant programs. (2) "FY 2023 National Leadership Grants for Museums" provides detailed information about the goals of this specific grant program and how to apply. This webinar will be posted in September 2022. https://www.imls.gov/grants/available/national-leadership-grants-museums
15 Nov. 2022	**ACES Awards Six Student Scholarships** for excellence in editing. Amounts range from $1,500 to $3,500. The Bill Walsh scholarship awards excellence in news editing ($3,500); 5 additional scholarships are awarded to students who excel in critical thinking about written materials in any field and aspire to a career involving editing. https://aceseditors.org/awards/scholarships?e=1abb65b33249e15daa67ac1812c367ecca909863e96c580cb873671a43435d2d
16 Nov. 2022	**The Robert H. N. Ho Family Foundation Dissertation Fellowships in Buddhist Studies**. Stipend: $30,000. The Robert H. N. Ho Family Foundation Dissertation Fellowships in Buddhist Studies provide stipends to PhD candidates for full time preparation of dissertations. The ten-month fellowship period may be used for fieldwork, archival research, analysis of findings, or for writing after research is complete. https://www.acls.org/competitions/the-robert-h-n-ho-family-foundation-dissertation-fellowships-in-buddhist-studies/

16 Nov. 2022	**The Robert H. N. Ho Family Foundation Early Career Research Fellowships in Buddhist Studies**. Early Career Research Fellowships offer support for research and writing in Buddhist studies for pre-tenure scholars who hold the PhD degree, with priority given to those teaching full time. These fellowships provide scholars time free from teaching and other responsibilities to concentrate on research and writing for the project proposed. Priority will be given to unemployed or underemployed scholars; emeriti are not eligible. The fellowship period may last up to nine months, during which time no teaching, commissioned research on other topics, or administrative duties are allowed. The fellowship may be separated into two periods, each of which must be a minimum of three months. If the duration is less than nine months (minimum of six months), the stipend will be prorated. https://www.acls.org/competitions/the-robert-h-n-ho-family-foundation-translation-grants-in-buddhist-studies/
16 Nov. 2022	**The Robert H. N. Ho Family Foundation Translation Grants in Buddhist Studies**. These grants support translations of important Buddhist texts for the benefit of contemporary audiences who currently do not have access to them in their own languages. Applicants may propose work including, but not limited to, translation of canonical texts into modern vernaculars or the translation of scholarly works on Buddhism from one modern language into another. Collaborative projects are welcome. Award funds can be used as stipends for work performed (e.g., to secure release time or to pay assistants), for travel, and for related office costs, including reproduction or digitization of images. A budget is required. There are no restrictions as to the language of the final product prepared for publication. https://www.acls.org/competitions/the-robert-h-n-ho-family-foundation-translation-grants-in-buddhist-studies/
30 Nov. 2022	**The NEH Collaborative Research program** aims to advance humanistic knowledge by fostering rich scholarship that a single researcher could not perform alone. The program supports sustained collaboration by teams of two or more scholars. Teams may propose research in a single field of study or interdisciplinary work. NEH encourages projects that incorporate multiple points of view and pursue new avenues of inquiry in the humanities. Collaborators may come from one or more institutions. NEH encourages partnerships with researchers from the natural and social sciences, but projects must address humanistic questions and employ humanistic methods. International collaboration is welcome, but scholars at U.S. institutions must contribute significantly to the project. Collaboration among different types of institutions is welcome. https://www.neh.gov/grants/research/collaborative-research-grants
30 Nov. 2022	**NEH Public Scholars Program.** This program offers grants to individual authors for research, writing, travel, and other activities leading to the

	creation and publication of well-researched nonfiction books in the humanities written for the broad public. Writers with or without an academic affiliation may apply, and no advanced degree is required. The program encourages non-academic writers to deepen their engagement with the humanities by strengthening the research underlying their books, and it encourages academic writers in the humanities to communicate the significance of their research to the broadest possible range of readers. NEH especially encourages applications from independent writers, researchers, scholars, and journalists. For new features of this program, go to: https://www.neh.gov/grants/research/public-scholar-program
1 Dec. 2022	**Summer Institute for the Study of East Central and Southeastern Europe**. The Summer Institute for the Study of East Central and Southeastern Europe (SISECSE) is a two-week residential fellowship, that provides scholars of Eastern Europe the opportunity to undertake local fieldwork in Bulgaria. ACLS in partnership with the Centre for Advanced Study Sofia (CAS) will convene leading scholars from Eastern Europe and North America for a two-week residency in Blagoevgrad, Bulgaria from June 1, 2023 to June 15, 2023. SISECSE will provide participating scholars with two weeks to dedicate to their own research and writing in a collaborative and interdisciplinary setting. Participants will be able to undertake local fieldwork, including archival research, work in museum collections, interviews, site surveys, or other forms of data collection. https://www.acls.org/competitions/summer-institute-east-central-southeastern-europe/
2 December 2022	**ICS (formerly Woodrow Wilson Foundation) & the Mellon Foundation The MMUF Advancement Program (Dissertation).**The MMUF Dissertation Grants are available to graduate students who participated in the Mellon Mays Undergraduate Fellowship Program. The awards provide graduate students at the critical juncture of completing their graduate degrees with support to spend a year finishing the writing of the dissertation. https://citizensandscholars.org/fellowships/for-scholars-education-leaders/mellon-programs-grants/mmuf-dissertation-grant/?utm_source=websignup&utm_medium=email&utm_content=dissertation
1 October 2022 (draft due); 8 December (final deadline).	**Institutes for Historical Editing**. Grant to Administer the Institute. The National Historical Publications and Records Commission seeks proposals to advance inclusive participation, training, education, dialog, and collaborative exchange amongst a diverse and growing community of academic and non-academic practitioners in the editing and publishing of historical records, including the related practices of digital scholarly editing, digital ethnic studies, digital history, and digital humanities. Collaboration: Plans must include a diverse and collaborative team of core faculty and staff as described in the following: https://www.archives.gov/nhprc/announcement/editing.html

12 January 2023 **National Endowment for the Arts (NEA) Translation Projects.** Through fellowships to published translators, the National Endowment for the Arts supports projects for the translation of specific works of prose, poetry, or drama from other languages into English. Grants are up to $25,000 with amounts determined by the National Endowment for the Arts. Direct questions concerning the Literature Fellowships to the Literature Fellowship Hotline at 202-682-5034 or email LitFellowships@arts.gov. https://www.arts.gov/grants/translation-projects

NEWS

Registration is now open for the 2022 National Humanities Conference

This year's conference will include virtual programming on November 3-4 and an in-person conference in Los Angeles November 10-13. The National Humanities Conference brings together humanities scholars with representatives from state humanities councils, museums, libraries, and community-based organizations to explore the public humanities.

--Ongoing. The U.S. National Science Foundation is investing more than $7.5 million in new research focused on empowering more reliable prediction of the spread of infectious diseases, the effects of mitigation measures and other critical aspects of national health crises. The funding will support eight interdisciplinary research projects aimed at incorporating the complexities of human behavior into epidemiological models. For more information, go to https://www.nsf.gov/news/news_summ.jsp?cntn_id=305668&utm_medium=email&utm_source=govdelivery

--Ongoing. For a free guide to the best practices for applying to artist grants, go to: https://www.artworkarchive.com/guides/guide-to-landing-artist-grants-gaining-funding?utm_source=OppsGuide&utm_medium=CTAbanner&utm_campaign=ArtistsGuidetoGrantsandFunding

--Ongoing. NSF Science and Technology Studies program revisions: The STS program description has been streamlined and clarified; it now includes guidelines for developing an effective STS proposal. The STS program encourages research on complex socio-technical and techno-scientific problems best confronted using a distributed approach by multiple collaborative teams. The STS program has updated the funding caps for most types of grants supported by the program. One grant type, the Professional Development Grant, is no longer supported. Subfields of STS are now specified as those recognized by the primary STS professional societies, and these societies are listed in the solicitation. A new section has been added on "Guidelines for Developing Effective STS Proposals." https://www.nsf.gov/pubs/2022/nsf22629/nsf22629.htm?WT.mc_ev=click&WT.mc_id=&utm_medium=email&utm_source=govdelivery

--23-29 September 2022 Grants.gov is migrating to the cloud. Grants.gov will go Offline Friday, September 23, 2022, at 12:01 AM ET. Grants.gov will come back Online Thursday, September 29, 2022, at 11:59 PM ET. Read more of this post at https://grantsgovprod.wordpress.com/2022/08/08/what-to-expect-during-the-grants-gov-cloud-migration-and-extended-downtime-for-september-2022/#more-5344

--4 October 2022 Modern Language Association (MLA) members are invited to **webinar: "Developing & Sustaining Projects in the Public Humanities."** Learn strategies for success in this area of scholarship (see URL under 20 October, below).

--7 October 2022 National Humanities Conference accepting session proposals until this date. Conference: Los Angeles, November 10-13 2022. https://www.nhalliance.org/

--20 October 2022 MLA members webinar: "Advocating for the Public Humanities." Learn more about advocating for public humanities scholarship on your campus and beyond and about what the new guidelines mean for you. Register for a Zoom link. https://www.mla.org/Resources/Career/MLA-Webinars-on-the-Public-Humanities?utm_campaign=meetingseventssep22&utm_medium=email&utm_source=mlaoutreach

--**28-30 June 2023, New Directions in the Humanities Conference**, Sorbonne Université. Early proposal deadline 28 November 2022; Regular proposal deadline 28 March 2023; Late proposal deadline 28 May 2023. Theme: "Literary Landscapes: Forms of Knowledge in the Humanities." https://thehumanities.com/2023-conference/call-for-papers

Where Research Begins: Choosing A Research Project in the Humanities and Social Sciences

by Katherine E. Kelly, PhD

[Back to Table of Contents]

Thomas S. Mullaney and Christopher Rea's *Where Research Begins: Choosing A Research Project that Matters to You (and the World)*. Chicago and London: The University of Chicago Press, 2022.

This new book about how to navigate the stages of writing a research proposal offers much good advice for undergraduate students engaged in formulating a topic of genuine interest to them, in finding a research question to ask, and in creating a plan for writing a proposal to answer that question. The book grew out of the authors' need, while graduate students, to design a course for undergraduates on research methodology that would culminate in a detailed research proposal. After presenting their students with a series of tasks, however, the two discovered that most of the students were stuck at the starting gate, unsure how to "ask the right questions" of their topic (what topic?) or to build a bibliography related to their (non-existent) topic. This book is intended for the skilled and motivated undergraduate student who nevertheless didn't know or recognize either a topic of interest to them or a way into investigating that topic. But experienced researchers can also learn from this lesson in how to approach research as a novice might—from a genuine sense of curiosity about a felt problem in their world. As the authors promise, "If you are a veteran researcher or teacher, you will find In this book a philosophy of research and a repertoire of strategies you can share with students and . . . use to refine your own practice."

In recognition of their undergraduate readers, the authors begin with an apt suggestion: rather than looking outward for a research problem, the writer should adopt "self-centered research" as a method. In their words, Self-Centered Research is (1) a practice "that emphasizes the importance of setting out on the research journey from exactly where you are right now, and maintaining close contact with your . . . instincts (and) your curiosities . . . throughout the process." It's also (2) "an ethic of research that. . . . involves . . . knowing who you are, listening to your own instincts . . . and refining them during the research process." Finally, (3) this kind of research is a "state of mind that affirms the value of your ideas, assumptions, and concerns in shaping . . . the direction of your research. It presumes that the better (and faster) you figure out your own concerns and motivations as a researcher, the . . . faster you will discover a research problem that is deeply meaningful both to you and to the world at large." The idea here is to encourage young students to recognize and value their individual interests and attitudes as the wellspring for their research agenda.

The second part of the book advises students to turn outward in their search to pursue the ideas they discovered inwardly. In this phase, potential researchers test out the ideas they've discovered inwardly against the responses of a larger research community, such as a writing or research group. All researchers need to follow this step, which can take various forms. This book offers a detailed template for showing students how to join a larger research group, i.e., others who also find the student's problem compelling enough to attempt a solution.

More mature writing professionals may decide they don't need the advice this book offers, but it may help them as teachers in surprising ways (it includes exercises, for example) and will certainly help their undergraduate and graduate students become more active and comfortable researchers.

Getting the Writing Right—Newly Funded NSF ERCs

By Mike Cronan, PE, co-publisher

[Back to Table of Contents]

NSF recently funded four new Engineering Research Centers. One takeaway is that the newly funded centers got both the science right ***and the writing right***. *These two criteria for funding success at NSF are tightly tethered*. For decades, NSF has made it easy for those who know the value of strategic research planning to gain a deeper insight into the NSF research funding landscape of the future through the availability of online reports, workshops, and a comprehensive database of awards abstracts.

You might think of these online resources as a guidebook to writing more competitive proposals to NSF, particularly in terms of better understanding NSF's evolving ideas and the evolving terms and language used to describe them. NSF is nothing if not a moving target. Successful quarterbacks throw the ball to where their receivers will be, not to where the receivers are when the ball is released. Researchers need to master a similar skill when proposing to NSF.

With that in mind, these recently published project abstracts of the new ERCs are a treasure trove of valuable information to those who thoughtfully position themselves for future funding success at NSF. They offer a better understanding of what constitutes project success at NSF, what characterizes a successful project narrative, as well as how the project integrates research with other core objectives, such as education, convergence, societal impacts, and diversity, among others.

The 2022 Engineering Research Centers abstracts are listed below. Emphasis is added to better link to some of the core solicitation expectations. If you were asked to define the below abstracts with one word, it should be **SPECIFICITY**. Take this to heart when reading the below abstracts of funded ERCs. *A **lack of specificity** in the project description is the most common reason proposals are poorly reviewed and declined for funding.* So read and learn from below.

- NSF Engineering Research Center for Advancing Sustainable and Distributed Fertilizer Production will **enable resilient and sustainable food production by developing next-generation, modular, distributed, and efficient technology for capturing, recycling, and producing decarbonized nitrogen-based fertilizers**. The center involves five core partners: Texas Tech University (lead), Case Western Reserve University, Florida A&M University, Georgia Tech, and MIT.

  "The NSF Engineering Research Center for Advancing Sustainable and Distributed Fertilizer Production (CASFER) will strive to **solve one of the most pressing problems facing humankind: how do we feed the growing world population while protecting and sustaining our environment?** By 2050, the world population will exceed 10.5 billion, increasing the demand for food by 70%, with only an additional 10% land available for agriculture. To meet this demand, nitrogen-based fertilizers (NBFs) are required for the formation of plant proteins. Currently, more than 50% of the world population is supported by synthetic NBFs, produced via the Haber-Bosch process (HB) a carbon-intensive process; however, the high volatility of prices remains a challenge in the US and developing countries. Furthermore, only 20% of NBFs produced translate into food with 80% lost to the environment, creating significant environmental, health, and socioeconomic

impacts. Therefore, **society requires new cost effective, resilient, and secure ways to produce NBFs** with minimum environmental and socioeconomic impacts. **CASFER will enable resilient and sustainable food production** by developing next generation, modular, distributed, and efficient technology for capturing, recycling, and producing decarbonized NBFs. **CASFER will create a transformative engineered system** that takes the US from nitrogen cycle pollution to a Nitrogen Circular Economy (NCE), from a linear economy to a circular economy with multidimensional social, environmental, and economic growth. **CASFER will capture and recycle nitrogen from waste to reach over 50% of the US NBF consumption**. Instead of expending resources, energy, and money to deactivate diluted reactive nitrogen from waste streams, nitrogen from waste will be captured and recycled for crop production.

CASFER brings together a diverse leadership and the convergence of a multidisciplinary team drawn from Texas Tech University, Florida A&M University, Georgia Institute of Technology, Case Western Reserve University, and Massachusetts Institute of Technology. **CASFER convergence research will advance modeling, monitoring and distributed control**; capture and recycling; and modular and distributed production and delivery of NBFs. **CASFER will enable** an organic but synthetic approach to NBF production, with ingredients, predictability, and reliability designed to stimulate plant growth. **CASFER technologies will** integrate nanotechnology, electrochemical science, and data science for modularity, synthesis, and separations, and resolve economic pressures, logistics issues, public and industry acceptance, regulatory, and safety issues. **CASFER will advance fundamental knowledge in key areas** of interfacial processes, separations, catalysis and electrocatalysis, and properties of materials to tolerate heterogenous and harsh environments to enable synthetic chemistry pathways to convert waste into NBF. **CASFER will lead to advances** in sensor science and multiscale modeling to deliver NBF near point of use by farmers. **CASFER Innovation Ecosystem will bring together** key industry members, agriculture cooperatives, facilitators, investors, regulatory advisory boards, and Society Visionary Champions to commercialize CASFER research discoveries and maximize benefits to society. **CASFER will train the next generation** of engineers and technical workforce at the intersection of engineering, agricultural sciences, and environmental science with the skills to advance the NCE. **CASFER will empower agents of change** and influencers to promote the NCE targeting formal and informal education along the K-gray spectrum. **CASFER will engage a diverse range of communities underrepresented** in STEM through the NCE by acknowledging the varied backgrounds and experiences of each participant and facilitating their engagement in engineering through multimodal, multilevel entry points and cut across socioeconomic and cultural boundaries. **CASFER will establish a fully sustainable innovation ecosystem** to expand fundamental knowledge and will leverage CASFER platform technologies to recover phosphorous, nutrients, and other resources from waste streams. Through all these activities, **CASFER will lead the US** toward a Nitrogen Circular Economy, fertilizer independence, an affordable and resilient price range for NBF, while sustaining and preserving the environment."

- NSF Engineering Research Center for Hybrid Autonomous Manufacturing Moving from Evolution to Revolution will accelerate the development and deployment of intelligent, autonomous manufacturing systems, enabling mass customization in local production facilities. The center involves four core partners: The Ohio State University (lead), Case Western Reserve University, North Carolina Agricultural and Technical State University, Northwestern University, and the

University of Tennessee, Knoxville.

"The Engineering Research Center, Hybrid Autonomous Manufacturing, Moving from Evolution to Revolution (HAMMER), **will advance national goals to assert American leadership in advanced manufacturing by developing and transitioning new manufacturing technologies to industry use**. Simultaneously, the Center will drive new technical education and provide credentials that will prepare, upskill, or reskill the relevant workforce, and expand capabilities across the manufacturing supply chain to meet national needs. Core partners of the Center include The Ohio State University, Northwestern University, North Carolina Agricultural and Technical State University, Case Western Reserve University, and the University of Tennessee. **They will work with collaborators** from more than 70 industries, educational, and technical organizations to develop and implement new manufacturing technologies for agile, high-performance and quality-assured components. Through basic, applied, and translational research, **HAMMER will accelerate the development and deployment of intelligent autonomous manufacturing systems** that will use multiple processes to control material properties and component dimensions to allow rapid customization and high assured performance. These systems will learn from each operation, improving themselves over time. Importantly, as HAMMER works to develop a new class of engineers and technicians, it will also actively work to enhance diversity in the manufacturing talent pipeline, building on the evidence-based success of Fab Labs and Makerspaces to attract students and improve outcomes. Special emphasis will be focused on including urban, military, and Appalachian communities in educational pipeline programs. Ultimately, **HAMMER will ensure this country's competitive advantage, rebuild the U.S. industrial base, create new, high-skilled, highly paid jobs, and unleash American ingenuity by providing cost-effective, local, customized production**.

"HAMMER's primary goal is to enable the concurrent design of products with novel manufacturing processes using hybrid (or multi-tool) manufacturing systems and pathways. This approach will automate and greatly extend the flexibility and ingenuity of practicing human artisans. The **HAMMER framework will use designs that will enable leveraging recent developments in robotics and sensors, leading to novel convergent processes**. New control, autonomy, and intelligence approaches will guide, and learn from prior manufacturing processes. Quality will be assured through understanding and predicting the local structure and properties of the material being processed within quantified uncertainty limits. Ultimately, **HAMMER will advance the current state of technology to unite design, tools, artificial intelligence. and computational materials engineering into a single framework, enabling the agile production of components**. These components will possess locally optimized materials chemistry, microstructure, and properties in ways that are not attainable currently. The relevant systems are expected to improve in efficiency and performance with experience. **Specific use cases to be considered include**: (1) numerically controlled deformation sequences and equipment to create complex components that may be currently produced as closed die forgings, but with reduced lead-time and improved performance, (2) employing numerically-controlled deformation to locally optimize properties in additively manufactured components, (3) expanding capabilities for point-of-care manufacturing, wherein automated operations, including deformation, are used to rapidly tailor medical devices to the patient anatomy, and (4) developing low-cost, desktop training systems that provide students hands-on learning in programming, operating, and maintaining new manufacturing systems, as well as experiences creating new physical products using incremental deformation and hybrid processes. Strong partnerships with industry, educational, and technical organizations will enable HAMMER to

train personnel at many levels from pre-college to practicing engineers. **HAMMER will lead next-generation certification standards** to facilitate widespread adoption of these technologies by the associated workforce."

- NSF Engineering Research Center for Precision Microbiome Engineering will create microbiome technologies that address challenges at the interface of human health and the built environment, promoting the proliferation of beneficial microorganisms and preventing colonization by infectious agents. The center involves five core partners: Duke University (lead), North Carolina Agricultural and Technical State University, North Carolina State University, the University of North Carolina at Chapel Hill and the University of North Carolina at Charlotte.

"Microbes have colonized and adapted to most every environment on Earth, including the built environments that humans have created, such as the homes where we live and the pipes that bring us drinking water. It has been well established that microbial communities, or microbiomes, that colonize people have a direct influence on human health. The microbiome of the built environment, in particular, has gained increasing recognition for its key role in human health through its interaction with the human microbiome. However, despite this knowledge, **no systematic infrastructure exists to decipher how microbial systems adapt to and grow within built environments, impeding our ability to diagnose built environment health and harness the power inherent to those microbiomes**. The Engineering Research Center for Precision Microbiome Engineering (PreMiEr) **will create microbiome-based diagnostic tools and develop microbiome engineering approaches to monitor and operate built environments that maximize human health protection**. Informed by societal needs and research-stakeholder teams, PreMiEr's research design **will work to prevent the spread of infectious agents, promote the colonization of beneficial microorganisms, and lead to strategies for controlling pandemics and antibiotic resistance**—phenomena that have led to over six million deaths worldwide (as of June 2022) and cost the global economy an estimated $8 trillion in the last year alone. Integral to its research vision, PreMiEr **will create diverse and inclusive interdisciplinary research and training hubs** where engineers, microbiologists, social scientists, and ethicists work alongside theorists, model builders, and computational scientists to develop technologies that enable transformative engineering discoveries in safe, sustainable, and responsible ways.

"Our capacity to engineer microbiomes requires a fundamental understanding of concepts of community ecology and an ability to track, control, and model those interactions. To apply microbiome engineering to real-world systems, community-level interactions must be integrated into a comprehensive, scalable modeling framework that requires iterative evaluation and validation in model testbeds. **PreMiEr's research organization is designed to generate fundamental understanding across these levels and functionalities, culminating in the development of a framework that enables the biodesign of smart and healthy built environments**. PreMiEr **will leverage** advances in high-throughput genomic sequencing, high-resolution mass spectrometry, computational performance, and statistical modeling to unravel previously unknown mechanistic interactions. **Enabling technologies will be developed** to detect and define interactions in the built environment, including **approaches that probe** microbial dark matter for the development of built-environment health diagnostic tools; **methods for targeted delivery** of desired genetic features and microbial vectors; **tools for fine in situ functional tuning**; and **predictive scalable statistical microbiome engineering models** that consider high dimensionality, sparsity, and heterogeneity. These new technology elements will **enable us to test hypotheses** related to microbiome assembly

and function. Importantly, by **incorporating social scientists and ethicists** into PreMiEr's research framework, non-social scientists' work will be informed by consideration of the ethical, societal, and policy implications of their microbiome engineering discoveries. Through rigorous evaluation and iterative refinement of curricula, and institutional practices designed to support a culture of convergence and the dissemination of findings, PreMiEr will contribute to **best practices in domestic training**. The PreMiEr ERC will include targeted recruitment of trainees from underrepresented groups, building upon existing partnerships with our nation's largest HBCU, and will provide immersion in research and training at the interface of multiple disciplines to address complex challenges. PreMiEr will **train the next generation** of diverse and highly motivated engineers and scientists in technical and professional skills to compete in the emerging arenas of microbial science and engineering. Ultimately, our work will advance collaborations and discovery focused on environmental microbiomes to engineer healthy built environments."

- NSF Engineering Research Center for Smart Streetscapes will forge livable, safe and inclusive communities through real-time, hyperlocal technologies for streets and their surroundings. The center involves five core partners: Columbia University (lead), Florida Atlantic University, Lehman College, Rutgers University and the University of Central Florida.

"More than 80% of Americans and over half the world's population live in urban areas. High-density cities are transforming how people live, work, travel, and manage urban infrastructure. With the nation's urban areas facing emerging challenges threatening livability, safety, and inclusion, it is the streetscape--neighborhood streets, sidewalks, and public spaces--that marks the nexus of public and commercial activities, where rich, spatially and temporarily dense data can be harnessed for the public good. The NSF Engineering Research Center for Smart Streetscapes (CS3), led by Columbia University, together with Florida Atlantic University, Rutgers University, University of Central Florida, and Lehman College, **will develop a rich ecosystem of streetscape applications built upon real-time, hyper-local intelligence to advance livable, safe, and inclusive communities**. CS3 will **adopt a fundamentally new approach to engineering research**, leveraging a diverse cohort of non-academic stakeholders--industry partners, community organizations, municipalities, and K-12 schools--as **collaborative co-producers of knowledge** and auditors of technology research and development, built on a culture of inclusion that bridges the 'digital divide' that starkly demarcates stakeholdership. With an extensive network of partners, **CS3 will explore five application themes**: road safety and traffic efficiency, public safety, assistive technologies for people with disabilities, the future of outdoor work, and hyper-local sensing and modeling. **CS3's engineering process will begin** with the study of community-specific application requirements, constraints, and sensitivities. The resulting **community-inspired applications will be piloted within three distinct urban testbeds**--in New York City (NY), West Palm Beach (FL), and New Brunswick (NJ)--leveraging prior federal and municipal investments. Outcomes from these pilots will catalyze a novel innovation ecosystem, drawing upon CS3's broad network of aspiring entrepreneurs, emerging start-ups, and established companies. Realizing and sustaining this vision requires a next-generation workforce that cross-cuts engineering, data science, social science, and policy; CS3 will leverage shared, day-to-day streetscape experiences to attract students from diverse disciplines and backgrounds to engage in the **emerging discipline of smart cities**. Built on the four closely integrated foundational elements of NSF's ERC program--Research, Engineering Workforce Development, Diversity and Culture of Inclusion, and Innovation Ecosystem--CS3's work has the potential to **redefine America's streetscapes by applying a digital layer over physical urban infrastructure**, ensuring that America's cities meet the needs of local communities and

that the technologies being adopted take into account critical questions regarding safety, equity, privacy, and security.

"The NSF Engineering Research Center for Smart Streetscapes (CS3) will **advance livable, safe, and inclusive communities** through real-time, hyper-local streetscape applications built on advancements in edge-cloud technology, wireless-optical engineering, visual analytics, computer security, and social science. **CS3 will unite diverse research communities** through a convergent research model that delivers **innovations across five engineering and scientific areas:** (1) **Wi-Edge**--the integration of high-speed wireless-optical networking, high-performance edge-cloud computing, and software-defined radios and networking; (2) **Situational Awareness**--fine-scale, real-time observation, modeling, and forecasting of human behavior over variable time horizons at streetscape scales; (3) **Security, Privacy & Fairness**--addressing socio-technical barriers of privacy and security within locally intelligent streetscapes, yielding a software pipeline for streetscape applications that gives community-configurable guarantees of privacy, fairness, and transparency; (4) **Public Interest Technology**--understanding how CS3 technologies, applications, and security/privacy policies impact the social landscape and promote regional economic development; and (5) Streetscape Applications--incorporating the distinct ways in which individual communities read, interpret, and respond to local intelligence within the design process in order to optimize community-specific benefits. **CS3 will advance fundamental knowledge in civil and urban systems engineering, electrical and network engineering, visual analytics and sensor fusion, computer privacy and security, and public trust and technology**--catalyzing and coalescing the emerging discipline of smart cities."

In conclusion, whether or not you are submitting a proposal for the next round of ERCs (required preliminary due October 3), ***these abstracts provide a helpful insight into getting the writing right in a project description***, not only at NSF but other funding agencies as well. It bears repeating that the foundation of a funded proposal is **specificity in the research narrative**. **Specificity accomplishes two key characteristics of all funded proposals**: it makes it both **clear** and **memorable** to reviewers what you will do, how you will do it, and why you will do it.

New NSF Opportunities for Social Scientists

By Lucy Deckard, co-publisher

[Back to Table of Contents]

We have written often about NSF's increasing interest in integrating social science research with other areas of research that it funds. It has become increasingly clear that many of the exciting new areas of science and technology that NSF is funding, such as artificial intelligence, robotics, quantum computing, renewable energy, and many more, must take into account social and behavioral phenomena in order to be effective in addressing the targeted needs and challenges. The recently released 2022 solicitation for the Science and Technology Studies (STS) program (housed in the Social and Economic Sciences division) provides an illustration of NSF increasing interest in funding social science research that address these phenomena. For social scientists, this means there are new opportunities for funding if your research is relevant to these new socio-technical topics.

In addition to traditional STS focus areas NSF is encouraging "research that addresses complex socio-technical and techno-scientific problems from multiple perspectives that capture the different social facets of the problem. These social facets may include ethics, policy, governance, justice, equity, diversity, inclusion, race, gender, trust, reliability, risk and uncertainty, sustainability, user-centeredness, and globalization. The goal is to bring different disciplinary and interdisciplinary perspectives to the problem and thereby make use of a variety of theoretical frameworks and methodological approaches." They provide example question that might be addressed in such research:

1. How can emerging technologies such as machine learning systems, gene drives or quantum computers be developed and implemented so that they can benefit everyone? How are people interacting with these emerging technologies and how will they affect culture, society and norms?
2. What are the best approaches for maintaining and developing the built environment while respecting the natural environment as well as local cultures and values? What factors need to be considered to ensure that technologies work well within social and cultural contexts?
3. How can major technological shifts in energy, algorithm usage, transportation or communication be accomplished in ways that are transparent and consistent with societal values, engage diverse perspectives in all phases of development and benefit broad sectors of society?
4. How can justice, equity, inclusion and diversity (JEDI) impact STEM and change the practice and quality of STEM research?

Note that, while the topic may be new technologies such as quantum computers, STS is still in the Social and Economic Sciences division, and the program officer and reviewers will likely mainly be social scientists. That means that PIs must situate the intellectual merit of their research squarely in the social sciences. For example, a successful proposal will employ social science theories and methods, advancing the discipline (intellectual merit), but the broader impacts will include overcoming societal or behavioral hurdles to adoption of machine learning. The solicitation states that successful proposals will "…situate the proposed project in pertinent STS literatures, issues and conceptual or theoretical frameworks, and articulate how the results of the proposed project would advance some STS subfield. They also clearly indicate central research questions, explain the methods to be used to answer those

questions, provide a detailed research plan, and specify the project's potential broader impacts, including plans for realizing those impacts."

Note also that this is not the only NSF grant program that is interested in funding social science as it pertains to other scientific disciplines and technologies. For example, within the Computer and Information Science & Engineering Directorate (CISE), the Human-Centered Computing and Secure and Trustworthy Cyberspace (SaTC) programs fund research with strong social science components, as does Humans, Disasters, and the Built Environment, which is in the Engineering Directorate.

Beyond these core programs, many solicitations for large team and center grants make it clear that social science should be a component of competitive proposals. These include, for example, Engineering Research Centers, Artificial Intelligence Research Institutes, and Predictive Intelligence for Pandemic Prevention, to name just a few. If you're a social scientist conducting research relevant to new science and technology, and you enjoy collaborating, this is an excellent time to reach out to potential collaborators to pursue funding from NSF.

Review Criteria—What New Faculty Need to Know

By Mike Cronan, PE, co-publisher

[Back to Table of Contents]

Those new to research grant writing often overlook the role review criteria play in organizing the project description ***prior to writing the first draft***. If the review criteria are used only as a final checklist on the day of submission, or too often overlooked entirely, applicants lose the opportunity to write a fully integrated, fully responsive research narrative. The key to using the review criteria in proposal drafts lies in integrating them into the project description in a way that ***makes it easy for reviewers to judge the project's responsiveness*** to the review criteria.

Moreover, review criteria across funding agencies largely represent a distinction without a difference. Specific research funding agencies will use their own distinct language in describing their agency review criteria but, essentially, those criteria will differ very little if at all from the common core of criteria used by all federal research agencies.

For example, NSF has two overarching review criteria: Intellectual Merit and Broader Impacts. NIH has five: Significance, Investigators, Innovation, Approach, and Environment. NSF elaborates on both criteria by their potential to (emphasis added): "(1) Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and Benefit society or advance desired societal outcomes (Broader Impacts)?; (2) To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?; (3) Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success? (4) How well qualified is the individual, team, or organization to conduct the proposed activities?; (5) Are there adequate resources available to the PI (either at the home organization or through collaborations) to carry out the proposed activities?"

Simply put, NSF, NIH, and other federal funding agencies want to know **what** you will do, **why** you will do it, **how** you will do it, your **rationale** for doing it, your **research plan**, **significance** in the context of the current state of the field, and expected success in terms of **outcomes** and **benefits**. If new faculty keep these questions in mind and address them while writing their research narrative, they will have come a long way towards ***successfully integrating the core programmatic review criteria into the core performance objectives*** enumerated in the funding solicitation, regardless of agency or discipline.

At this point, with these questions answered, it will be much easier in subsequent narrative drafts to adopt the agency-specific language used to describe the review criteria in the solicitation. Moreover, it will have created a narrative organizational structure as a place holder for addressing program specific review criteria. These solicitation-specific secondary review criteria may include expectations related to convergence, team formation, innovation ecosystems, stakeholder engagement, diversity, workforce development, management plans, project evaluation, project communications, societal impact, how the research benchmarks against the state-of-the-art, research team synergies across disciplines, and on, ad infinitum.

Also, while considering the above, it helps to keep in mind physicist Richard Feynman's observation that "*if you can't adequately explain something to a twelve-year old, you probably don't really*

understand it that well yourself." Perhaps it is a thing among physicists since Albert Einstein similarly noted "*If you can't explain it simply, you don't understand it well enough*."

Regardless, these observations get to the heart of one of the most common flaws resulting in proposals declined for funding***: a narrative that is <u>not</u> clearly stated, <u>not</u> grounded in specificity, and <u>not</u> memorable to reviewers***. The graveyard of unfunded proposals is overly populated by proposals flawed in this way. After all, if reviewers decline to fund your proposal, it is not their fault for not recognizing a great idea but yours for not explaining it well enough.

Editing, Revising, and Rewriting Your Proposal

Reprinted from September 15, 2018

By Mike Cronan, co-publisher

[Back to Table of Contents]

Funded proposals converge on perfection; unfunded proposals never converge. In grant writing, how well a proposal converges on perfection is often a function of how many drafts or iterations of the proposal have been edited, revised, and rewritten prior to the due date. (Here, think **numerous iterations**, not few!) Scheduling proposal drafts needs to be planned prior to writing the proposal to ensure that there is an orderly, stepwise process informing both the contributing authors who will revise and rewrite major drafts as well as those who will review, edit and comment at each of the many draft stages of the project description. Always keep in mind that being close to perfection is not good enough to ensure a funded proposal. As the old saying goes, "Close only counts in horseshoes and hand grenades."

The most common way to do this is to develop two tools at once: a *Schedule and Task Assignment Table* for the narrative draft, and a narrative organizational template of proposal sections and subsections based on the funding solicitation. Using these two tools, the proposal development team (1) agrees on the number of draft iterations the proposal likely will require, (2) assigns due dates to those drafts, (3) assigns authorship responsibly to those drafts, and (4) identifies reviewers that will edit and comment on each draft, which then becomes the next draft, a process that may often include at least several major drafts and more numerous fine-tuning drafts before a proposal is ready for submission.

This process of converging on perfection is important to proposals at any scale, from grants with one or a few principal investigators to grants at the large-team scale. But make no mistake about it—proposals are won or lost in the reviewing, editing, and revision trenches. The hard work of crafting a winning proposal takes place here. Moreover, it is here that research offices can play an important role in assisting faculty, particularly new and junior faculty, to put in place process of multiple reviews and edits of proposal drafts prior to submittals. Truth be told, faculty new to grant writing often are not aware of the strategic planning and proposal development processes employed by those successful at grant writing. Fortunately, research offices have participated in this process numerous times with faculty from numerous disciplines submitting proposals to numerous agencies. For this reason, they have very valuable insights to pass on to those new to grant writing.

It is critically important ***that the first substantive reviews of a proposal be done not by program officers and reviewers at the funding agency but by research offices and others who can bring key perspectives to the review process and thereby enhance the competitiveness of the proposal prior to submission.*** Many of the key perspectives on grant writing represent skill sets common to research offices developed over time through experience, creating essentially a research office corporate memory of grant writing best practices. For example, research offices can (1) transmit an understanding of the mission and culture of the funding agency, (2) offer experience working with other faculty on similar proposals submitted to the specific agency, (3) benefit faculty with their experience analyzing funding solicitations and review criteria and mapping them to the research narrative to ensure the proposal is fully responsive to the guidelines, (4) read, edit, and comment on proposal drafts, (5) transmit their experience reading and responding to reviews of declined proposals as part of the resubmission process, etc.

Helping faculty plan a series of draft reviews of their proposals is an invaluable service research offices can extend to proposal authors. A key point to keep in mind here is that an in-depth technical review of the proposed research narrative by the co-PIs or disciplinary peers expert in the field is only one element of a successful review, edit, and comment on the proposal. The fundamental requirement of a well written and successful proposal is that reviewers and program officers find it accessible.

Agency reviewers and program officers can find a technically correct narrative unclear or otherwise inaccessible, or it may leave them with key questions unanswered, especially if it includes too much technical minutiae. Some proposals fail by virtue of reporting what will be done without describing how the research will be done, its rationale, and its significance and impact in the context of the agency mission and the current state of the disciplinary field. In fact, the most helpful reviews, edits, and comments on a research narrative come from scientifically literate or generally intelligent readers, without expertise in the disciplinary field. Fortunately, the bull pen for finding such reviewers from among faculty and research offices is a large one and offers many possibilities for various review configurations to best meet the needs of the specific proposal.

One of the most common errors faculty make in identifying reviewers for draft stages of their proposals prior to submittal is to provide a draft of the proposal for review minus the funding solicitation that explains the agency's goals, objectives, deliverables, review criteria, and other information that motivated the funding opportunity to begin with. A review and edit of a proposal untethered to the funding solicitation and guidelines is of minimal use at best. After all, reviewers commonly deny proposals for funding when they fail fully to respond to the funding solicitation. Faculty are wise to rely on peers and research offices to tell them how well a draft research narrative responds to the funding solicitation.

Finally, draft reviews benefit from an experienced editor able to correct errors in usage and grammar and revise poorly structured sentences. If a good editor finds your draft proposal difficult to understand, it may be that sections of the proposal are poorly written rather than that the editor is incapable of understanding the technical discussion. After all, none other than Einstein made the comment on science writing that "if you can't explain something simply then you probably don't understand it well enough." Words to keep in mind as you write the research narrative of your proposal.

Preparing to Write Your Proposal

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By Mike Cronan, co-publisher

[Back to Table of Contents]

This month many new faculty arriving on campus will confront for the first time the prospect of planning, developing, and writing a research proposal to a federal agency. They are hoping to secure early funding to support the research that will lay the foundation for successfully navigating the tenure and promotion process over the coming six years. This can be a daunting task to the uninitiated, and one that benefits greatly from the advice, insight, and guidance offered by more senior faculty who have successfully obtained research funding and by the guidance of research offices that support faculty in this critical endeavor.

Left alone to navigate the world of research grant funding, new faculty risk losing precious time before finally submitting a research grant and, more importantly, can make avoidable mistakes in writing the grant that results in a declined proposal. This, in turn, causes more time lost, often a full year or more, before a revised proposal can be resubmitted, or, if the reviews are harsh, the initial research idea dropped entirely or substantively revised and another put forward in an entirely new proposal.

However, the path to funding success can be significantly enhanced for new faculty if, at the beginning of their academic appointment, they receive some fundamental guidance on grant writing, particularly from research offices that can ***outline the basic building blocks of any successfully proposal***. This guidance will help them (1) prepare to write the proposal, (2) write the proposal, (3) edit/rewrite the proposal, and (4) understand the proposal review process. These basic building blocks of a successful proposal are all well know and well understood by research offices, and the ***task is then to communicate them to the new faculty*** in the most effective way, perhaps by individual consultations or a workshop of a few hours that addresses these building blocks in an integrated way.

Of course, the core of any successful proposal is a compelling idea of interest to the funding agency. ***That idea must be provided by the faculty member, and if it is absent, no amount of support from research offices or senior faculty will result in a funded grant***. However, if the core idea is a compelling one, then the ***support of research offices and senior faculty can be a decisive factor in funding success***.

Once a compelling idea is "***proposal ready***," the process of developing a successful proposal can begin by ***preparing to write the proposal***. You might think of this process as a staging phase where all the key information needed to submit a proposal is gathered and analyzed, ***starting with the funding solicitation and any referenced documents***. The funding solicitation is always the backbone of any successful proposal effort. ***Any proposal that does not respond fully to the solicitation will not be funded***. Moreover, as the applicant prepares to write, the funding solicitation will determine the organizational structure of the research narrative, present the goals and objectives of the funding agency to which he or she must respond, explain the review criteria the agency will use to make a funding determination, and provide other guidelines needed to submit a successful funding application/proposal.

However, while the funding solicitation is a detailed, specific, and ***explicit document*** guiding the preparation for writing a proposal, there are also ***implicit requirements*** for preparing to write a successful proposal that will not be stated in the solicitation, or anywhere else by the agency for that

matter, but yet are fundamental to funding success. These implicit requirements to funding success might be thought of as the overarching knowledge base that must guide how to read and analyze the funding solicitation, how to organize the proposal beyond what is required in the solicitation, how to integrate the agency goals and objectives with the research idea, and how to best address the program officers and reviewers that will determine your funding status.

It is here that the interplay of three key but nuanced factors critical to funding success come into play, specifically ***the interplay of agency culture, mission, and research context***. For faculty new to grant writing, these factors are worthy of sufficient discussion with research offices to ensure that the role they play in a successful proposal is well understood and planned for before proposal writing begins. While the funding solicitation provides a checklist of key factors that must be considered prior to writing the proposal, for example, specific questions that must be answered in the research narrative, ***no such checklist will appear in the solicitation related to addressing the interplay among agency culture, mission, and research context***.

Depending on the program, specific agency questions enumerated in the solicitation can be extensive and detailed or brief and general. But in most cases, questions will be stated clearly and ordered in the way the agency expects them to be addressed in the research narrative. Moreover, in all cases, a subset of key questions will be ***common or generic across most agencies and programs***, requiring the applicant's thoughtful planning **before writing the proposal.** This planning should focus on how the project description will address the following with sufficient clarity to convince reviewers to recommend funding: ***what*** *do you propose to do;* ***why*** *do you propose to do it;* ***how*** *do you propose to do it; what is your* ***rationale****; what is the* ***significance*** *of doing it; what is your* ***capacity*** *to do it based on prior results or preliminary data; what are your anticipated* ***outcomes****, etc*.

However, for the foregoing to be addressed convincingly in the research narrative requires that the proposal author(s) and project principal investigators discuss and understand among themselves ***prior to writing the proposal*** (1) the arguments that will be made in the proposal's project description for the relationship of specific questions, such as those above, and (2) how the answers to those specific questions will be framed by an understanding of the agency's culture, mission, and research context.

For example, a ***successful proposal must implicitly demonstrate an understanding of the agency's culture*** when addressing questions such as those above or when responding to the agency's goals and objectives detailed in the solicitation. However, an agency's culture is not discussed directly in the funding solicitation, i.e., no section in the solicitation entitled "Agency Culture" characterizes the agency in that way; rather, it emerges as ***an understanding that the author of the research narrative brings to the solicitation rather than gleaning it from within the solicitation***.

It is this knowledge of the agency culture that ***senior faculty and research offices can impart to new faculty*** seeking research funding in a way that can make them more competitive for funding success. For example, one of the most important agency cultures to understand for new and junior faculty is NSF. But what does agency culture actually mean? In one instance, it refers to overarching themes characterizing the agency that transcend directorates, divisions, offices, programs, and solicitations and whose presence in the research narrative significantly enhances proposal success and whose absence likely results in a declined proposal.

In the instance of NSF, ***agency culture can include agency-wide adherence to such guiding concepts as broader impacts, integration of research and education, convergence research, diversity in the scientific workforce, research at the frontiers of science, educational best practices, evidence-based outcomes, etc***. It is important that all investigators, and new investigators in particular, should understand these key terms of NSF culture in a nuanced and substantive way. It

would be a grave mistake to dismiss them as agency slogans deserving only lip service, but otherwise irrelevant to the success or failure of a proposal.

Similarly, this will be the case—to varying degrees—when it comes to understanding the culture of other federal agencies from NIH to NASA to DOE to DARPA to USDA, etc. Moreover, ***research offices are well positioned to point out to new faculty, or faculty new to a particular agency, that research agencies often have both an overarching culture and unique subcultures specific to office or program area***. For example, DOE spans 11 technical offices and the national labs. NIH spans some 21 institutes and six centers. Applicants need to keep in mind that understanding the overarching agency culture as well as the culture of a particular office or program within an agency ***are both important to crafting a more competitive proposal***.

This is something the thousands of junior faculty who submitted CAREER proposals to NSF in July will have come to realize in terms of addressing the overarching, agency-wide NSF ***cultural criteria*** of Broader Impacts in one section of the proposal and addressing their research and career plan specific to an NSF directorate/division level in another section of the proposal. Those who best integrated the overarching cultural criteria of Broader Impacts with the research expectations at the division level in their CAREER proposals will be those most likely to receive funding notifications later this year or early next.

The ***next building block of a successful proposal for new and junior faculty to understand is the specific agency mission*** , as well as how that mission is both informed by and informs the agency culture. ***The bottom line here is that all federal research agencies have a specific mission*** that characterizes ***the research they will fund*** and, equally important, ***the research they will not fund***. Those agencies that are part of the executive branch of government are referred to as "federal mission agencies," since they are under the purview of a cabinet secretary such as agriculture, defense, energy, education, etc. NSF and NIH, by contrast, are independent agencies.

The most important point for faculty to understand about mission agencies is that they ***fund only research that advances the agency's mission-specific objectives***. No matter how great the research idea put forward, if it does not ***bring value-added benefits to the agency mission, it will not be funded***. Mission agencies do not make awards in the same way the MacArthur Foundation awards "genius grants." The bottom line here is that if you are not sufficiently informed about the agency mission and the mission areas within an agency, ***you will not be able to make the critical case in your research narrative that the research you propose will advance and impact the mission-critical objectives of the funding agency***.

Moreover, another important point for faculty to understand about the mission of federal research agencies is that some agencies fund primarily basic research, most notably NSF and NIH, and other agencies fund primarily applied research, and yet other agencies fund a mix of basic and applied research, e.g., DOE, USDA, NOAA, NASA, etc. Additionally, depending on the culture of the particular agency or office within an agency, federal agencies may also incorporate workforce training and education at the undergraduate level as part of their mission in funded grants. For example, NOAA may fund educational components to research grants that help prepare students to enter the NOAA workforce in disciplines of importance to the NOAA mission.

Research offices can impart information such as the forgoing to new and junior faculty in both workshops and consultations. This information can help them jump start their understanding of a funding agency's culture and mission, including how they are intertwined, and thereby make the first proposals they write more competitive for funding.

Finally, specific to the ***interplay of agency culture, mission and research context,*** an understanding of your **research context** is critical to funding success. The bottom line here is that ***proposals are recommended for funding or declined for funding largely on how well an applicant makes the argument in the research narrative that the research being proposed lies at the cutting edge of research being done in the field today***. If the proposed research is not at the cutting edge, then it will not meet the fundamental criterion of all research agencies that they allocate precious research funding to proposals that advance the state of the field, or as such agencies from NSF to DARPA often state, they fund "transformative research not incremental research."

However, stating clearly where the proposed research falls in terms of the current state of the field is ***not a trivial undertaking.*** It requires close attention to ***make sure that the claimed significance of the proposed research and the capacity of that research to advance the state of the field in some important way is both convincing and supportable to program officers and reviewers***.

Moreover, this argument falls to the PI to make in the proposal. ***Research offices can give new faculty a heads up as to the importance of research context addressed early in the project description, but it falls to the principal investigators when preparing to write a proposal to come to an understanding of how they will present their research in the context of the current state of the field***. After all, it is certain that many of the competitors for the research funding available for an agency-specific program will be peer researchers who are also making a case for the significance of their own research in the current context of the state of the field.

In conclusion, research offices can't solve all issues of culture, mission, and research context for new and junior faculty, but they can do them a major service by making them aware of the challenges they face in writing a successful proposal and of all research agencies' expectations that an understanding of their culture, mission, and research context must be woven into the fabric of the research narrative.

Writing the Proposal

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Table of Contents

The important first step in writing the proposal is to ***decide who will write it***. In many cases, the PI is the principal author and coPIs or other senior research personnel may serve as contributing authors for various sections or subsections of the proposal. In other cases, particularly on larger team proposals that involve *transdisciplinarity, interdisciplinarity, and multidisciplinarity* to solve, as NSF notes, "vexing research problems, in particular, complex problems focusing on societal needs in a way that entails integrating knowledge, methods, and expertise from different disciplines and forming novel frameworks to catalyze scientific discovery and innovation," ***several principal authors may be writing sections of the proposal addressing their particular contribution to the project***. Of course on small, single-PI proposals, authorship is a foregone conclusion.

One of the more challenging decisions to make on team grants is to determine who among the principal investigators/authors has **both** the technical and scientific knowledge and the integrative writing skills to revise and rewrite contributions from multiple authors. The writing must ensure that the overall proposal reads as the product of one author rather than a siloed collection of disassociated sections written by multiple authors. Moreover, as NSF and other federal agencies increasingly favor convergence research, writing a successful project description is becoming much more challenging, particularly in requiring planning and coordination among multiple authors to ensure a seamlessly integrated research narrative that clearly demonstrates the benefits of research synergy.

A next major step in writing the proposal is to decide ***how to organize it***. Some federal ***agencies strictly prescribe the organization of the proposal narrative***, while others do not. For example, the narrative structure of US DoED proposals is highly prescribed while many NSF proposals may simply reference the very general proposal sections suggested in the GPG (Grant Proposal Guide). Regardless, a common strategy for organizing the proposal is to use the funding solicitation as an organizational template or proposal outline. Section headings prescribed in the solicitation are listed in order to provide a first-draft template of the research narrative. , along with any specific questions related to those sections and to the goals and objectives of the project, as well as the review criteria that need to be addressed in the appropriate sections. This narrative outline will guide the writing of the project description in a way that makes it ***fully responsive to the agency's guidelines and funding priorities***.

Another major consideration in proposal writing relates to writing the **proposal introduction** and its role in enhancing the competitiveness of the proposal. Understanding the function of the introduction is one of the most important lessons on writing successful proposals that can be imparted to new and junior faculty. A well-crafted proposal introduction is key to a funded proposal. In many ways, it represents a condensed version of the entire proposal, particularly the essential information about the proposed research that program officers and reviewers must understand as they reach a funding decision.

It is in the **proposal introduction** that the applicant addresses in an abbreviated way the core questions that any proposal must address, as noted in the prior article, *Preparing to Write Your Proposal*: ***what*** *do you propose to do;* ***why*** *do you propose to do it;* ***how*** *do you propose to do it; what is your* ***rationale****; what is the* ***significance*** *of doing it; what is your* ***capacity*** *to do it based on prior results or preliminary data; what are your anticipated* ***outcomes****; etc*. Most likely, a reviewer's engagement with a proposal will be determined after reading the proposal introduction. In fact, experienced reviewers consistently note that if the proposal does not capture the reviewer's interest and excitement in the project introduction, then the rest of the proposal may very well go unread.

Moreover, in writing a proposal's research narrative, junior faculty will want to learn many "***do's and don'ts***" that can make the difference between funding success and failure. First, of course, is the ***fact that a funded proposal must be written clearly and effectively***. Poor writing and poor organization frustrate reviewers and make it challenging for them to understand what is being proposed and why it is important. ***Most reviewers will not finish reading a poorly written and poorly organized proposal, and why should they***? Also, poor writing also includes errors in usage, mechanics, grammar, spelling, subject/verb agreement, etc.

Bottom line: reviewers will assume that a poorly written proposal with grammatical errors indicates sloppy research and a refusal to fund. Fortunately, many PIs benefit greatly from the services of a good editor who assists in drafting the proposal. Research office personnel often include an editor with experience editing in the specific disciplinary domain and with the agency to which the proposal is being submitted. An effective proposal editor will point out some of the common mistakes made in the writing of declined proposals as well as the characteristics of funded proposals.

For example, the most common error made in writing the research narrative, and the one ***most often cited by reviewers when declining to fund a proposal***, is the overabundance of generalized research statements and promises with a corresponding ***lack of research specifics and details***. This error amounts to an ***overemphasis on what will be done and little detail about how it will be done, along with*** a failure to explain the ***significance and impact*** of the proposed research in the ***context*** of the funding agency's mission priorities and the scientific field.

What is the takeaway here for research offices? There are many ways new and junior faculty can be assisted in preparing their proposals to significantly enhance their funding success by helping them avoid some of the more common pitfalls that, in aggregate, become the Achilles heel of declined proposals. Success in writing funded research proposals is a learned skill based on experience writing proposals and having a compelling idea. However, funding success can be significantly enhanced by training support from research offices and senior faculty mentors designed to show new and junior faculty what a competitive funded proposal should look like.

Research Grant Writing Web Resources

[Back to Table of Contents]

Another Opportunity for NIAID New Innovators Award Approaches

Did you know that NIAID sponsors an initiative to help early-stage scientists pursue compelling research projects without requiring extensive preliminary data? Through the initiative, our aim is to facilitate the movement of exceptional postdoctoral fellows into independent positions within an accelerated timeframe, and further support them as talented, newly independent faculty. The next annual deadline for the funding opportunity announcement (FOA) NIAID New Innovators Awards (DP2, Clinical Trial Not Allowed) is October 14, 2022.

Understand the Fiscal Year Calendar to Sync Your Timing

It's nearly New Year's Day, October 1, if you're going by our fiscal year calendar. Although you may not observe it as a holiday, recognizing how NIH deadlines correspond to the fiscal year can help you understand when and why NIAID undertakes certain actions and processes. Moreover, familiarity with NIH's review and award cycles can help you determine a research project's likely start date given the application's submission date. For the sake of ensuring continuity of research funding, knowing how early you ought to apply is an important skill.

NIH has three Review and Award Cycles, called simply Cycle I, Cycle II, and Cycle III. Each award cycle links a set of investigator-initiated application due dates to an Advisory Council round that follows. For most award types, the quickest possible timeline from application submission to project start date is 8 to 10 months.

For example, if you submitted an investigator-initiated, AIDS-related R01 application in time for today's deadline, September 7, 2022, your application would be part of Cycle II. It would undergo peer review in October or November, proceed to the January meeting of NIAID's Advisory Council, and your earliest project start date would be April 2023.

Now, suppose you already have an R01 award with a 5-year project period, set to end in July 2024. If you want to renew the grant, what's the latest you should submit a competing renewal application so that, if successful, you'll receive a renewed award before the current award expires? The answer is November 25, 2023—applications sent for that Cycle III deadline for R01 renewal applications would undergo peer review in February or March 2024, then proceed to the May 2024 Advisory Council round, and have a start date in July 2024.

Alignment with Fiscal Year: Think of Cycle I as being the first review and award cycle not because the January 25 due date for new R01 applications is near the start of the calendar year, but instead because Cycle I awards are paid at the start of our fiscal year. Cycle II and Cycle III awards are paid within that same fiscal year. The timeline is such that most applications are submitted in the fiscal year preceding the fiscal year in which they receive funding. Consider the illustration below and read Overview of R01 Process and Due Dates for a longer explanation.

Educational Grant Writing Web Resources

[Back to Table of Contents]

New Tools for Renewal and Recovery

The Department's Institute of Education Sciences (IES) launched a new site, Evidence-Based Tools for Renewal and Recovery, to help states, districts, schools and institutions of higher education in their use of evidence-based practices in this period of recovery and renewal to improve outcomes for all learners, especially those that education systems have historically underserved. The two newest resources support Out of School Time (OST) learning and Data Science. These checklist planning tools will help educators and administrators better implement programming based on evidence.

The Pathway to STEM Convergence Education

The five-year Federal STEM Strategic Plan recommended that STEM education should move through a pathway where disciplines "converge" and that STEM teaching and learning move from disciplinary to transdisciplinary. Members of the Federal Coordination in STEM Education (FC-STEM) Convergence Interagency Working Group, led a session titled "Convergence Education: A Framework to Help K-12 STEAM Educators Teach about Real-World Transdisciplinary Problems and Phenomena**"** during the Smithsonian National Education Summit. During the session, expert teachers presented their examples of "convergence education." Driven by complex real-world transdisciplinary problems and phenomena, learners apply knowledge and skills in a blended approach integrated across multiple disciplines to create and innovate new solutions. This Smithsonian blog also describes Convergence Education. Feel free to share these resources with your colleagues.

Agency Research News

[Back to Table of Contents]

White House Releases Disclosure Template for Grant Applications

In the wake of a crackdown on violations of grant disclosure policies, an interagency panel has drafted standardized formats for scientists to use when applying for federal funds. In a step toward standardizing disclosure requirements for federal research grant applications, on Aug. 31 the White House Office of Science and Technology Policy issued draft formats for collecting details on applicants' institutional affiliations and sources of research support. It also published a summary table with examples of what information must be reported.

The templates stem from a policy issued in the waning days of the Trump administration called National Security Presidential Memorandum-33 (NSPM-33), which the Biden administration retained. NSPM-33 sets minimum standards for disclosure requirements, and in January OSTP issued implementation guidance that promised model disclosure instructions would be drafted within 120 days. Now that they have appeared, they will be open for public comment until Nov. 1.

In a blog post, OSTP states it aims to reduce administrative burdens of disclosure and help ensure science agencies are fully informed about researchers' competing obligations before making funding decisions. A primary goal is to better identify potential conflicts of interest or overcommitments of researcher time that could compromise the proposed projects. The standardization effort complements campaigns over the last several years by science agencies and the Department of Justice to crack down on grantees who had allegedly concealed ties with foreign institutions, principally in China. However, some cases DOJ has brought to court have fallen apart after researchers successfully argued they had filled out their disclosure forms in good faith.

NIH launches Bridge2AI program to expand the use of artificial intelligence in biomedical and behavioral research

The National Institutes of Health will invest $130 million over four years, pending the availability of funds, to accelerate the widespread use of artificial intelligence (AI) by the biomedical and behavioral research communities. The NIH Common Fund's Bridge to Artificial Intelligence (Bridge2AI) program is assembling team members from diverse disciplines and backgrounds to generate tools, resources, and richly detailed data that are responsive to AI approaches. At the same time, the program will ensure its tools and data do not perpetuate inequities or ethical problems that may occur during data collection and analysis. Through extensive collaboration across projects, Bridge2AI researchers will create guidance and standards for the development of ethically sourced, state-of-the-art, AI-ready data sets that have the potential to help solve some of the most pressing challenges in human health – such as uncovering how genetic, behavioral, and environmental factors influence a person's physical condition throughout their life.

Dear Colleague Letter: Supplements for Access to Semiconductor Fabrication (ASF)

With this Dear Colleague Letter (DCL), the National Science Foundation's Directorate for Engineering (ENG), the Directorate for Computer and Information Science and Engineering (CISE), and the Directorate for Mathematical and Physical Sciences (MPS) wish to notify the community of a new supplement program that will support access to semiconductor fabrication for principal investigators (PIs) of currently active awards in ENG, CISE, and Divisions of Materials Research (DMR) and Chemistry

(CHE) in MPS. These supplemental funding requests are specifically targeted to support fabrication of research devices and systems through standard semiconductor fabrication facilities. The award supplements must be justified with a plan that includes specific fabrication parameters. Prospective PIs are encouraged to contact the cognizant Program Director prior to submission.

Dear Colleague Letter: Critical Aspects of Sustainability (CAS): Innovative Solutions to Sustainable Chemistry (CAS-SC)

With this Dear Colleague Letter (DCL), the National Science Foundation (NSF) announces the establishment of the Critical Aspects of Sustainability (CAS): Innovative Solutions to Sustainable Chemistry Program (CAS-SC), under the CAS metaprogram umbrella [1]. The CAS-SC Program recognizes the importance of sustainable chemistry in addressing many societal challenges and aims to encourage the expansion of the Nation's research capacity in this topic area through submissions of research proposals. Proposals that emphasize a detailed and quantitative understanding of sustainable chemistry and include industrial partnerships are of particular interest.

New NIH Data Management and Sharing Policy to Take Effect in January 2023

Data sharing is essential for expedited translation of research results into knowledge, products, and procedures to improve human health. Toward this end, NIH issued the Final NIH Policy for Data Management and Sharing, which will require NIH-funded researchers to submit a plan that prospectively outlines how scientific data from their research will be managed and shared. On January 25, 2023, this new policy will come into effect, replacing the 2003 NIH Data Sharing Policy.

Why Is the Policy Changing?

The new policy was developed to keep pace with scientific and technological advances that have enabled researchers to generate, store, share, and combine data. In addition, this more comprehensive data sharing policy complements NIH's efforts to modernize its data sharing infrastructure as part of its 2015 Plan for Increasing Access to Scientific Publications and Digital Scientific Data from NIH Funded Scientific Research. To develop a new, robust policy capable of reflecting the diversity of its community's data sharing needs, NIH sought feedback from the community along the way (as summarized in NOT-OD-21-013).

What Should Small Businesses Keep in Mind?

Small businesses should note that the SBIR/STTR Data Rights policy outlined on page 103 of the SBIR/STTR Program Policy Directive will continue to supersede the new NIH Policy for Data Management and Sharing. Protections for technical data generated with SBIR/STTR funding will remain in place—specifically, the government cannot disclose any proprietary data for at least 20 years to allow awardees ample time to commercialize technology before it might be made public.

SBIR and STTR applicants will be required to include a Data Management and Sharing Plan in proposals submitted after January 25, 2023. However, it is acceptable to reference the 20-year protection period as a limitation on data sharing and complete the plan accordingly.

This policy includes all new SBIR contract proposals starting with the solicitation for fiscal year 2024 (anticipated publication in summer 2023). Offerors should follow all instructions included in the solicitation.

For More Information

NIH has prepared general guidance about Data Management and Sharing Policies. See specific FAQs regarding SBIR/STTR projects and Contracts. NOT-OD-22-189 provides Implementation Details for the NIH Data Management and Sharing Policy, and new application instructions with detailed expectations

are forthcoming. For additional information on SBIR data rights, view the seven available plain language tutorials.

Seeking Reviewers for NSF Engines Proposals - 10/7 Deadline

The U.S. National Science Foundation's Regional Innovation Engines (NSF Engines) program is recruiting reviewers to evaluate its first set of NSF Engines proposals. With awards of up to $160M per NSF Engine, the program focuses on driving innovation and regional economic growth in all parts of the U.S. Don't miss this opportunity to get involved at the ground floor with a brand-new federal program model that we expect to serve as a catalyst for inclusive economic growth, workforce development, technology translation, and new models for driving innovation for decades to come.

NSF is looking for a diverse group of reviewers representing all backgrounds, technical disciplines, and technology sectors to evaluate program proposals. NSF is searching for seasoned as well as new reviewers who may have less experience with the NSF merit review process but may have deep experience as practitioners in core focus areas – namely use-inspired research, economic and workforce development, regional innovation ecosystem building, and translating ideas from the lab to the market.

Agency Reports, Workshops & Research Roadmaps

[Back to Table of Contents]

Addressing Inaccurate and Misleading Information About Biological Threats Through Scientific Collaboration and Communication in Southeast Asia

Misinformation about outbreaks, epidemics, and pandemics is a decades-old problem that has been exacerbated by the rise of the internet and the widespread use of social media. Some false claims may be addressed through sound scientific analysis, suggesting that scientists can help counter misinformation by providing evidence-based, scientifically defensible information that may discredit or refute these claims. This report explains how scientists can work collaboratively across scientific disciplines and sectors to identify and address inaccuracies that could fuel mis- and disinformation. Although the study focused on a scientific network primarily in Southeast Asia, it is relevant to scientists in other parts of the world. A companion "how-to-guide", available in print and in digital form, outlines practical steps that scientists can take to assess mis- or disinformation, determine whether and how they should address it, and effectively communicate the corrective information they develop.

Understanding and Offsetting Financial Barriers for Black Students in SEM: Programs, Partnerships, and Pathways: Proceedings of a Workshop

The number of Black students in science, engineering, and medicine in the United States has remained disproportionately low over the past several decades. A number of reasons have been identified as contributing to these low numbers, including those related to finances. Financial considerations range from the most immediate - the ability of students to pay for their education and associated costs - to more structural concerns, such as inequities that created and have perpetuated a wealth gap between races and ethnic groups. On April 19-20, 2021, the Roundtable on Black Men and Black Women in Science, Engineering, and Medicine of the National Academies of Sciences, Engineering, and Medicine organized a virtual public workshop to examine financial barriers for Black students in science, engineering, and medicine, explore existing educational programs to them, and engage stakeholders in conversations about partnerships and policies that span academia, industry, and philanthropy. This publication summarizes the presentation and discussion of the workshop.

Ontologies Behavioral Sciences: Accelerating Research and the Spread of Knowledge

New research in psychology, neuroscience, cognitive science, and other fields is published every day, but the gap between what is known and the capacity to act on that knowledge has never been larger. Scholars and nonscholars alike face the problem of how to organize knowledge and to integrate new observations with what is already known. Ontologies - formal, explicit specifications of the meaning of the concepts and entities that scientists study - provide a way to address these and other challenges, and thus to accelerate progress in behavioral research and its application. Ontologies help researchers precisely define behavioral phenomena and how they relate to each other and reliably classify them. They help researchers identify the inconsistent use of definitions, labels, and measures and provide the basis for sharing knowledge across diverse approaches and methodologies. Although ontologies are an ancient idea, modern researchers rely on them to codify research terms and findings in computer-readable formats and work with large datasets and computer-based analytic techniques. Ontologies in the Behavioral Sciences: Accelerating Research and the Spread of Knowledge describes how ontologies support science and its application to real-world problems. This report details how

technologies function, how they can be engineered to better support the behavioral sciences, and the resources needed to sustain their development and use to help ensure the maximum benefit from investment in behavioral science research.

Automated Research Workflows for Accelerated Discovery: Closing the Knowledge Discovery Loop

The needs and demands placed on science to address a range of urgent problems are growing. The world is faced with complex, interrelated challenges in which the way forward lies hidden or dispersed across disciplines and organizations. For centuries, scientific research has progressed through iteration of a workflow built on experimentation or observation and analysis of the resulting data. While computers and automation technologies have played a central role in research workflows for decades to acquire, process, and analyze data, these same computing and automation technologies can now also control the acquisition of data, for example, through the design of new experiments or decision making about new observations. The term automated research workflow (ARW) describes scientific research processes that are emerging across a variety of disciplines and fields. ARWs integrate computation, laboratory automation, and tools from artificial intelligence in the performance of tasks that make up the research process, such as designing experiments, observations, and simulations; collecting and analyzing data; and learning from the results to inform further experiments, observations, and simulations. The common goal of researchers implementing ARWs is to accelerate scientific knowledge generation, potentially by orders of magnitude, while achieving greater control and reproducibility in the scientific process. Automated Research Workflows for Accelerated Discovery: Closing the Knowledge Discovery Loop examines current efforts to develop advanced and automated workflows to accelerate research progress, including wider use of artificial intelligence. This report identifies research needs and priorities in the use of advanced and automated workflows for scientific research. Automated Research Workflows for Accelerated Discovery is intended to create awareness, momentum, and synergies to realize the potential of ARWs in scholarly discovery.

New Funding Opportunities

[Back to Table of Contents]

Content Order

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 August 15 Newsletter

Division of Materials Research: Topical Materials Research Programs

Estimated Total Program Funding: $66,000,000

Materials Research is the field of science where physics, chemistry, materials science, and engineering naturally converge in the pursuit of the fundamental understanding of the properties of materials and the phenomena they host. Materials are abundant and pervasive, serving as critical building blocks in technology and innovation. Materials Research impacts life and society, as it shapes our understanding of the material world and enables significant advances spanning the range from nanoelectronics to health-related fields. The development and deployment of advanced materials are major drivers of U.S. economic growth. Research supported by the Division of Materials Research (DMR) focuses on advancing the fundamental understanding of materials, materials discovery, design, synthesis, characterization, properties, and materials-related phenomena. DMR awards enable understanding of the electronic, atomic, and molecular structures, mechanisms, and processes that govern nanoscale to macroscale morphology and properties; manipulation and control of these properties; discovery of emerging phenomena of matter and materials; and creation of novel design, synthesis, and processing strategies that lead to new materials with unique characteristics. These discoveries and advancements transcend traditional scientific and engineering disciplines. DMR supports research and education activities in the United States through funding of individual investigators, teams, centers, facilities, and instrumentation. Projects supported by DMR are not only essential for the development of future technologies and industries that address societal needs, but also for the preparation of the next generation of materials researchers. **Proposals accepted anytime**.

Improving Undergraduate STEM Education: Hispanic-Serving Institutions (HSI Program)

The goals of the HSI program are to enhance the quality of undergraduate science, technology, engineering, and mathematics (STEM) education and to increase the recruitment, retention, and graduation rates of students pursuing associates or baccalaureate degrees in STEM. Achieving these, given the diverse nature and context of the HSIs, requires additional strategies that support building capacity at HSIs through innovative approaches: to incentivize institutional and community transformation; and to promote fundamental research (i) on engaged student learning, (ii) about what it takes to diversify and increase participation in STEM effectively, and (iii) that improves our understanding of how to build institutional capacity at HSIs. Intended outcomes of the HSI Program

include broadening participation of students that are historically underrepresented in STEM and expanding students' pathways to continued STEM education and integration into the STEM workforce.

The HSI program is aligned with the National Science Board's vision for, and the NSF's commitment to, a more diverse and capable science and engineering workforce.1 2 HSIs are heterogeneous and unique in many respects.3 Some HSIs have well-established undergraduate STEM programs while others are just beginning to create STEM programs. Whether 2-year or 4-year, public or private, the HSIs serve a wide range of students with a diverse set of educational backgrounds. The need for tailored initiatives, policies, and practices (mindful of socio-cultural awareness) should meet the students' needs and institutions' expectations while advancing undergraduate students at HSIs toward higher levels of academic achievement in STEM. This is the motivation behind three HSI program tracks: Track 1: Planning or Pilot Projects (PPP); Track 2: Implementation and Evaluation Projects (IEP); and Track 3: Institutional Transformation Projects (ITP). Track 3, ITP, is motivated by work on organizational identities for HSIs that suggest that organizational culture and identity play a key role in the success of an HSI in promoting student success in STEM. **Various due dates.**

ECosystem for Leading Innovation in Plasma Science and Engineering (ECLIPSE)

Plasma science is a transdisciplinary field of research where fundamental studies in many disciplines, including plasma physics, plasma chemistry, materials science, and space science, come together to advance knowledge for discovery and technological innovation. The primary goal of the ECosystem for Leading Innovation in Plasma Science and Engineering (ECLIPSE) program is to identify and capitalize on opportunities for bringing fundamental plasma science investigations to bear on problems of societal and technological need within the scope of science and engineering supported by the participating NSF programs. The creation of the ECLIPSE program has been stimulated by the recommendations of the Physics 2020 Decadal Assessment of Plasma Science, "Plasma Science: Enabling Technology, Sustainability, Security, and Exploration", conducted by the National Academies of Sciences, Engineering, and Medicine. **Due September 30.**

Bioengineering Research Grants (BRG) (R01 Clinical Trial Optional)

The purpose of this funding opportunity announcement (FOA) is to encourage collaborations between the life and physical sciences that: 1) apply a multidisciplinary bioengineering approach to the solution of a biomedical problem; and 2) integrate, optimize, validate, translate or otherwise accelerate the adoption of promising tools, methods, and techniques for a specific research or clinical problem in basic, translational, or clinical science and practice. An application may propose design-directed, developmental, discovery-driven, or hypothesis-driven research and is appropriate for small teams applying an integrative approach to increase our understanding of and solve problems in biological, clinical, or translational science. This FOA will support clinical trials that test functionality or validate performance in the chosen setting. This FOA is not intended to support conventional clinical trials that lack translation as the primary motivation. Applications that propose phase III clinical trials in any area of research are not sought by and will not be supported through this FOA. This FOA does not propose to support commercial production. **Due October 1 and later.**

NIA Research and Entrepreneurial Development Immersion (REDI)

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 complement and/or enhance the training of a workforce to meet the nation's biomedical, behavioral and clinical research needs. **After October 15**.

Sustainable Agriculture Research and Education (SARE) Regional Host Institution

The purpose of the Sustainable Agriculture Research and Education program is to encourage research and outreach designed to increase knowledge concerning agricultural production systems that:

- maintain and enhance the quality and productivity of the soil;
- conserve soil, water, energy, natural resources, and fish and wildlife habitat;
- maintain and enhance the quality of surface and ground water;
- protect the health and safety of persons involved in the food and farm system;
- promote the well-being of animals; and
- increase employment opportunities in agriculture (7 U.S.C. 5801 and 5811).

Due November 14.

ROSES 2022: Transform to Open Science Training

Please note that this program requests optional Notices of Intent, which are due via NSPIRES by **November 10, 2022.** See the full posting on NSPIRES for details. Proposers must retrieve the instructions document (zip file) associated with the application package for this opportunity as there is at least one required form that must be attached to the submitted proposal package.

The National Aeronautics and Space Administration (NASA) Science Mission Directorate (SMD) released its annual omnibus Research Announcement (NRA), Research Opportunities in Space and Earth Sciences (ROSES) – 2022 (OMB Approval Number 2700-0092, CFDA Number 43.001) on February 14, 2022. In this case "omnibus" means that this NRA has many individual program elements, each with its own due dates and topics. All together these cover the wide range of basic and applied supporting research and technology in space and Earth sciences supported by SMD. Awards will be made as grants, cooperative agreements, contracts, and inter- or intra-agency transfers, depending on the nature of the work proposed, the proposing organization, and/or program requirements. However, most extramural research awards deriving from ROSES will be grants, and many program elements of ROSES specifically exclude contracts, because contracts would not be appropriate for the nature of the work solicited. The typical period of performance for an award is three years, but some programs may allow up to five years and others specify shorter periods. In most cases, organizations of every type, Government and private, for profit and not-for-profit, domestic and foreign (with some caveats), may submit proposals without restriction on teaming arrangements. Tables listing the program elements and due dates, the full text of the ROSES-2022 solicitation, and the "Summary of Solicitation" as a stand-alone document, may all be found NSPIRES at http://solicitation.nasaprs.com/ROSES2022.

This synopsis is associated with one of the individual program elements within ROSES, but this is a generic summary that is posted for all ROSES elements. For specific information on this particular program element download and read the PDF of the text of this program element by going to Tables 2 or 3 of this NRA at http://solicitation.nasaprs.com/ROSES2022table2 and http://solicitation.nasaprs.com/ROSES2022table3, respectively, click the title of the program element of interest, a hypertext link will take you to a page for that particular program element. On that page, on the right side under "Announcement Documents" the link on the bottom will be to the PDF of the text of the call for proposals. For example, if one were interested in The Lunar Data Analysis Program (NNH22ZDA001N-LDAP) one would follow the link to the NSPIRES page for that program element and then to read the text of the call one

would click on "C.8 Lunar Data Analysis (.PDF)" to download the text of the call. If one wanted to set it into the context of the goals, objectives and know the default rules for all elements within Appendix C, the planetary science division, one might download and read "C.1 Planetary Science Research Program Overview (.PDF)" from that same page. While the letters and numbers are different for each element within ROSES (A.12, B.7, etc.) the basic configuration is always the same, e.g., the letter indicates the Science Division (A is Earth Science, B is Heliophysics etc.) and whatever the letter, #1 is always the division overview. **Due Dec. 8.**

Formal Methods in the Field (FMitF)

The Formal Methods in the Field (FMitF) program aims to bring together researchers in formal methods with researchers in other areas of computer and information science and engineering to jointly develop rigorous and reproducible methodologies for designing and implementing correct-by-construction systems and applications with provable guarantees. FMitF encourages close collaboration between two groups of researchers. The first group consists of researchers in the area of formal methods, which, for the purposes of this solicitation, is broadly defined as principled approaches based on mathematics and logic to system modeling, specification, design, analysis, verification, and synthesis. The second group consists of researchers in the "field," which, for the purposes of this solicitation, is defined as any area within computer and information science and engineering that currently does not benefit from having established communities already developing and applying formal methods in their research. All proposals must make a strong case for why formal methods is appropriate for the field area, and why it is one that does not currently benefit from formal methods. **Due February 15.**

Global Emergency Response and Recovery Partner Engagement: Expanding Efforts and Strategies to Improve Rapid Response to Public Health Emergencies Globally

This NOFO supports the implementation of programs and activities targeted at increasing the capacity of public health emergency partners to rapidly respond to support populations affected by humanitarian emergencies and conflict settings. Its purpose is to improve the ability to detect and respond to threats early and develop long-term, sustainable programs to rebuild resilience during and after an emergency. This NOFO will establish an Approved-But-Unfunded (ABU) list of recipients, providing a portfolio of partners that can work anywhere in the world. CDC will fund partners to respond to emergencies that require federal support to effectively respond to, manage, and address identified public health threats. **Due March 4.**

Strengthening Global Capacity for Molecular Surveillance and Outbreak Response for Foodborne, Waterborne, and Fungal Diseases

The purpose of this NOFO is to strengthen global capacity for molecular surveillance and outbreak response for foodborne, waterborne, and fungal diseases. The Surveillance and Outbreak Response strategy will include the following activities: 1) Waterborne Disease Surveillance Strengthening and Outbreak Response; 2) Genomic surveillance, data systems and outbreak response for fungal diseases; 3) Enteric disease surveillance strengthening, including case confirmation. The Capacity Building strategy will include the following activities: 1) Country-level Water, Sanitation, and Hygiene (WASH) programs capacity building; 2) Wastewater and Environmental Surveillance capacity building; 3) Regional capacity building for Whole Genome Sequencing (WGS), bioinformatics, lab diagnosis and outbreak preparedness; 4) Country-level WGS and lab diagnosis capacity building and 5) Epidemiology and Laboratory Workforce development for foodborne, waterborne, and fungal

diseases. Locations of activities will vary, based on CDC priority, but will include multiple regional and country-level locations. **Due April 2.**

Solicitations Remaining Open from Last Newsletter

Minerva Research Initiative's (Minerva) Defense Education and Civilian University Research (DECUR) Partnership

Closing Date for Applications: November 22, 2022

The Office of the Secretary of Defense (OSD) is interested in receiving applications for Minerva's DECUR Partnership. The DECUR Partnership aims to develop collaborative basic research partnerships between PME Institutions and Civilian Research Universities by supporting fundamental scientific research that improves the capacity of security-related basic social science research and education. Building upon the success of Minerva's university research awards, the DECUR Partnership aims to pair civilian university researchers with PME faculty to facilitate collaborative research in the fundamental understanding of the social and cultural forces shaping U.S. strategic interests globally. OSD is particularly interested in projects that align with and support the upcoming 2022 National Defense Strategy.

Minerva emphasizes questions of strategic importance to U.S. national security policy, and the DECUR partnership aims to increase the Department's intellectual capital in the social sciences and improve its ability to address future challenges and build bridges between the Department and the social science community. Minerva brings together universities and other research institutions around the world and supports multidisciplinary and cross-institutional projects addressing specific interest areas determined by the Department of Defense. The Minerva program aims to promote research in specific areas of social science and to promote a candid and constructive relationship between DoD and the social science academic community.

The Minerva Research Initiative competition is for research related to nine (9) topics listed below. Innovative white papers and applications related to these research areas are highly encouraged. Detailed descriptions of the interest areas—which are intended to provide a frame of reference and are not meant to be restrictive—can be found in Section XI.C of the Notice of Funding Opportunity (NFO) document, "Specific Minerva Research Initiative Topics."

Topic 1: Social Implications of Environmental Change

Topic 2: Resource Competition, Social Cohesion, and Strategic Climate Resilience

Topic 3: Security Risks in Ungoverned, Semi-Governed, and Differently-Governed Spaces

Topic 4: Analysis of Foreign Influence Operations in Cross-Cultural Perspective

Topic 5: Community Studies on Online and Offline Influence

Topic 6: Computational Social Science Research on Difficult-to-Access Environments

Topic 7: Social and Cultural Implications of Artificial Intelligence

Topic 8: Humans and Outer Space

Topic 9: Management and Information in the Defense Environment

Agriculture and Food Research Initiative - Foundational and Applied Science Program

The AFRI Foundational and Applied Science Program supports grants in six AFRI priority areas to advance knowledge in both fundamental and applied sciences important to agriculture. The six priority areas are: Plant Health and Production and Plant Products; Animal Health and Production and Animal Products; Food Safety, Nutrition, and Health; Bioenergy, Natural Resources, and Environment; Agriculture Systems and Technology; and Agriculture Economics and Rural Communities. Research-only, extension-only, and integrated research, education and/or extension projects are solicited in this Request for Applications (RFA). See Foundational and Applied Science RFA for specific detail. **Due Dec. 22.**

FOA-AFRL-AFOSR-2022-0007 FY22 DEFENSE ESTABLISHED PROGRAM TO STIMULATE COMPETITIVE RESEARCH (DEPSCoR) – CAPACITY BUILDING (CB) Department of Defense Air Force Office of Scientific Research

The Department of Defense (DoD) announces the fiscal year 2022 (FY22) Defense Established Program to Stimulate Competitive Research (DEPSCoR) – Capacity Building. The program is sponsored and managed by the Basic Research Office, Office of the Under Secretary of Defense for Research and Engineering (OUSD [R&E]), awarded by the Air Force Office of Scientific Research (AFOSR), and administered through the Office of Naval Research (ONR). The DoD plans to award FY22 DEPSCoR appropriations through this announcement.

DEPSCoR's objectives are to:

(1) increase the number of university researchers in eligible States/Territories capable of performing science and engineering (S&E) research responsive to the needs of the DoD; and

(2) enhance the capabilities of institutions of higher education (IHE) in eligible States/Territories (listed below) to develop, plan, and execute S&E research that is relevant to the mission of the DoD, and competitive under the peer-review systems used for awarding Federal research assistance;

(3) increase the probability of long-term growth in the competitively awarded financial assistance that IHE in eligible States/Territories receive from the Federal Government for S&E research.

Consistent with these long-term objectives of building research infrastructure, the DoD intends to competitively make, and fund from fiscal year 2022 appropriations, multiyear awards for capacity building in IHEs with research areas relevant to the DoD's mission and which are important to national security. The Basic Research Office anticipates up to $4 million in total funding will be made available for this program to fully fund and award between one to four grants up to $1 million (total cost) each. Each grant award will be funded up to $500,000 (total cost) per year for two (2) years. The award is subject to funding availability. The Basic Research Office reserves the right to select and fund for award all, some, part, or none of the proposals received. There is no guarantee of an award. **Closing Date for Applications: Feb 21, 2023**

Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-0002779 - Bipartisan Infrastructure Law: Additional Clean Hydrogen Programs (Section 40314): Regional Clean Hydrogen Hubs Department of Energy Golden Field Office Closing Date for Applications

Close **March 10, 2023; Estimated Total Program Funding: $8,000,000,000**

The Department of Energy (DOE) Office of Clean Energy Demonstrations (OCED) intends to issue a Funding Opportunity Announcement (FOA) entitled "Regional Clean Hydrogen Hubs" (H2Hubs) in collaboration with the Energy Efficiency and Renewable Energy's (EERE) Hydrogen and Fuel Cell Technologies Office (HFTO) and the DOE Hydrogen Program, which includes multiple offices engaged in hydrogen related technologies across DOE. OCED anticipates issuing the FOA in the September/October 2022 timeframe, and the FOA will be funded by the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL). The specific provisions for regional clean hydrogen hubs are set forth in Section 40314 of the BIL, which amends Title VIII EPAct 2005 by adding a new "Section 813 – Regional Clean Hydrogen Hubs." Section 813(a) defines the term "regional clean hydrogen hub" as "a network of clean hydrogen producers, potential clean hydrogen consumers, and connective infrastructure located in close proximity." Investment in building out the hydrogen (H2) economy is a significant portion of the BIL funding at DOE. The BIL authorizes and appropriates $8.0 billion over the five-year period encompassing fiscal years 2022 through 2026 to support the development of at least four H2Hubs that: - Demonstrably aid achievement of the clean hydrogen production standard developed under section 822(a) of Energy Policy Act of 2005 (EPAct 2005); - Demonstrate the production, processing, delivery, storage, and end use of clean hydrogen; and - Can be developed into a national clean hydrogen network to facilitate a clean hydrogen economy. The FOA will incorporate a range of equity considerations including energy and environmental justice, labor and community engagement, consent-based siting, quality jobs, and inclusive workforce development to support the Biden Administration's decarbonization goals of a 50-52% reduction in greenhouse gas (GHG) emissions from 2005 levels by 2030, a carbon-pollution-free power sector by 2035, and a net-zero GHG emissions economy by 2050. The H2Hubs will be a key part of the National Clean Hydrogen Strategy and Roadmap, also required in the BIL, and will be instrumental in meeting national decarbonization goals, including the development and deployment of clean hydrogen technologies. **Close March 10, 2023.**

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.]

Broad Agency Announcement for the Army Rapid Capabilities Office

This Broad Agency Announcement (BAA), W56JSR-18-S-0001, is sponsored by the Army Rapid Capabilities Office (RCO). The RCO serves to expedite critical capabilities to the field to meet Combatant Commanders' needs. The Office enables the Army to experiment, evolve, and deliver technologies in real time to address both urgent and emerging threats while supporting acquisition

reform efforts. The RCO executes rapid prototyping and initial equipping of capabilities, particularly in the areas of cyber, electronic warfare, survivability and positioning, navigation and timing (PNT), as well as other priority projects that will enable Soldiers to operate and win in contested environments decisively. This BAA is an expression of interest only and does not commit the Government to make an award or pay proposal preparation costs generated in response to this announcement. Questions concerning the receipt of your submission should be directed:
http://rapidcapabilitiesoffice.army.mil/eto/

Technical questions will be sent to the appropriate Technical Points of Contact (TPOC), topic authors, and/or Subject Matter Experts (SMEs) to request clarification of their areas of interest. No discussions are to be held with offerors by the technical staff after proposal submission without permission of the Army Contracting Command-Aberdeen Proving Ground (ACC-APG) Contracting Officer. **Open to March 23, 2023.**

W911NF-18-S-0005 U.S. Army Research Institute for the Behavioral and Social Sciences Broad Agency Announcement for Basic, Applied, and Advanced Research (Fiscal Years 2018-2023)

The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) announces the ARI FY18-23 Broad Agency Announcement for Basic, Applied, and Advanced Scientific Research. This Broad Agency Announcement, which sets forth research areas of interest to the United States Army Research Institute for the Behavioral and Social Sciences, is issued under the provisions of paragraph 6.102(d)(2) of the Federal Acquisition Regulation (FAR), which provides for the competitive selection of proposals. Proposals submitted in response to this BAA and selected for award are considered to be the result of full and open competition and in full compliance with the provisions of Public Law 98-369 (The Competition in Contracting Act of 1984) and subsequent amendments. The U.S. Army Research Institute for the Behavioral and Social Sciences is the Army's lead agency for the conduct of research, development, and analyses for the improvement of Army readiness and performance via research advances and applications of the behavioral and social sciences that address personnel, organization, training, and leader development issues. Programs funded under this BAA include basic research, applied research, and advanced technology development that can improve human performance and Army readiness.

Those contemplating submissions of a proposal are encouraged to contact the ARI Technical Point of Contact (TPOC) for the respective topic area cited in the BAA. If the R&D warrants further inquiry and funding is available, submission of a proposal will be entertained. The recommended three-step sequence is (1) telephone call to the ARI TPOC or responsible ARI Manager, (2) white paper submission, (3) full proposal submission. Awards may be made in the form of contracts, grants, or cooperative agreements. Proposals are sought from educational institutions, non-profit/not-for-profit organizations, and commercial organizations, domestic or foreign, for research and development (R&D) in those areas specified in the BAA. The U.S. Army Research Institute for the Behavioral and Social Sciences encourages Historically Black Colleges and Universities/Minority Serving Institutions (HBCU/MSI) and small businesses to submit proposals for consideration. Foreign owned, controlled, or influenced organizations are advised that security restrictions may apply that could preclude their participation in these efforts. Government laboratories, Federal Funded Research and Development Centers (FFRDCs), and US Service Academies are not eligible to participate as prime contractors or recipients. However, they may be able to participate as subcontractors or Subrecipients (eligibility will be determined on a case-by-case basis). **Open to April 29, 2023.**

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
- **Training for Staff** - Professional development for research office and sponsored projects staff.

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