Table of Contents

- **Topics of Interest URLs**
- **How Academic Peer Review Operates**
- **Humanities and Arts Funding Opportunities and News**
- **The Advantages of Coordinated Team Reviews of Proposal Drafts**
- **Highlights of the NIH Regional Seminar**
- **Technology for Plagiarism Detection at NSF**
- **Non-Traditional Collaborations among Research Communities**
- **Seed Your Narrative with Explanatory Clauses** (Reprinted from February 2017)
- **Research Grant Writing Web Resources**
- **Educational Grant Writing Web Resources**
- **Agency Research News**
- **Agency Reports, Workshops & Roadmaps**
- **New Funding Opportunities**
- **About Academic Research Funding Strategies**

**Errata**

On page 24 of the November issue, in the article, “Advice and Resources for Your MRI Proposal,” the sample outline was erroneously labeled “Acquisition.” It should have been labeled “Development.”

Subscribe to RD&GWN [here](#).

**Katherine E. Kelly, PhD:** Editing in the Humanities & Humanities Related Social Sciences; Presentations on Grant Writing and Funding in the Humanities and Humanistic Social Sciences

**Have You Hired New Faculty?**

2nd edition New Faculty Guide to Competing for Research Funding!! [Order Here]

Our Large Team Grant eBook!

**Strategies for Planning, Developing, and Writing Large Team Grants** [Order Here]

---

**Research Development & Grant Writing News ©**

Published monthly since 2010 for faculty and research professionals by

**Academic Research Funding Strategies, LLC**

**Mike Cronan & Lucy Deckard**, co-Publishers

Copyright 2019. All rights reserved.

**Subscribe Online (Hotlink)**

Queries: mjcronan@gmail.com

About the co-publishers & editor

**MIKE CRONAN, PE** (Texas 063512, inactive) 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** (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.

About the Editor

**KATHERINE E. KELLY**, Ph.D., is a retired English professor from Texas A&M University. She 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 editorial services to RD&GW News and to ARFS clients on proposals, journal articles, and manuscripts. She also presents seminars on grant writing in the humanities.
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.

The Mathematical Sciences in 2025
NSF Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM)
NSF Merit Review System and Grant Writing
Text analysis of thousands of grant abstracts shows that writing style matters
Rude paper reviews are pervasive and sometimes harmful, study finds
Promising Practices in Undergraduate Science, Technology, Engineering, and Mathematics Education: Summary of Two Workshops
The Foundation for Food and Agriculture Research (FFAR) is accepting applications for our flagship competitive grant program, Seeding Solutions, in January 2020.
Undergraduate Research Experiences for STEM Students: Successes, Challenges, and Opportunities
USDA Announces Fellowships to Develop the Next Generation of Agriculture
FFAR Fellowship Program
New Global 5G Standard Worries Meteorologists
NSF unwittingly hired a professor guilty of bullying, highlighting the ‘pass the harasser’ problem
U.S. Senate panel sees a standard grant application as defense against foreign influence
U.S. scientists who hide foreign ties should face research misconduct sanctions, panel says
White House Looks to Bolster ‘American Values’ in US Research
Congress creates two new bodies to tackle foreign influence on U.S. research
Open international research collaboration essential, must have safeguards, independent report finds
Engineers bridge the gap between what the mind can imagine and what the laws of nature allow
Request for Information by OSTP on the American Research Environment
Resident Instruction Grants Program for Institutions of Higher Education in Insular Areas (RIIA) & Agriculture and Food Sciences Facilities and Equipment (AGFEI)
Science Committee Adds Rural STEM Education to Broadening Participation Push
Higher Education R&D Funding from All Sources Increased for the Third Straight Year in FY 2018
Higher Education Research and Development: Fiscal Year 2018
Expanding NIH’s Definition of Socio-Economic Disadvantaged to be More Inclusive and Diversify the Workforce
Department of Energy Announces $43 Million to Develop Carbon Capture and Storage Technology
Academies Panel to Delve Into Critical Questions Facing US R&D
Organic Transitions (ORG)
Investigation reveals widespread double dipping in NIH program to pay off school debt
Environmental Convergence Opportunities in Chemical, Bioengineering, Environmental, and Transport Systems (ECO-CBET)
DOE Early Career Research Program
NIH Director’s Blog: Why When You Eat Might Be as Important as What You Eat
SERDP and ESTCP Funding Opportunities – FY 2021
Doctorate Recipients from U.S. Universities: 2018
Doctorate Recipients from U.S. Universities: 2018 Data Tables
Federal R&D Funding, by Budget Function: Fiscal years 2018–20
Science and Engineering State Profiles: Fall 2019 Update
A Blizzard Ate My NIH Application! What Can I Do?
NIH Needs Your Feedback on a DRAFT NIH Policy for Data Management and Sharing
Future of Work at the Human-Technology Frontier: Core Research (FW-HTF)
Faculty Early Career Development Program (CAREER) Includes the description of NSF Presidential Early Career Awards for Scientists and Engineers (PECASE)
The Surprising Link between Recreational Math and Undecidability
New NIH "FORMS-F" Grant Application Forms and Instructions Coming for Due Dates on or after May 25, 2020
Federal R&D Funding, by Budget Function: Fiscal Years 2018-20
The United States Invests More in Applied and Basic Research than Any Other Country but Invests Less in Experimental Development than China
Here’s a better way to convert dog years to human years, scientists say
STC Seeks Insights on the American Research Environment
The United States Invests More in Applied and Basic Research than Any Other Country but Invests Less in Experimental Development than China

Semiconductor Synthetic Biology for Information Storage and Retrieval (SemiSynBio-II)
Top global health research stories of 2019 from Fogarty and NIH
Factors Influencing Public Trust in Science Explored at MIT Conference
Frequently Asked Questions (FAQs) about the National Artificial Intelligence (AI) Research Institutes:
Accelerating Research, Transforming Society, and Growing the American Workforce for NSF 20-503
Nominations are now open for the 2020 Borlaug CAST Communication Award
National Survey of College Graduates: 2017
Scientists Seek Clarity Amid US Security Push
Future of Work at the Human-Technology Frontier: Core Research (FW-HTF)
The STEM Teacher Leadership website (https://stemtlnet.org/) is now live!
How People Learn
Congress Perpetuates Dedicated Funding Stream for Minority Serving Institutions
Computational Tool Development for Integrative Systems Biology Data Analysis
The Spring NIH Regional Seminar is Warming Up with Early Bird Registration Rates
Updated Grant Application Instructions and Forms Coming in Spring 2020
Selecting the Correct Budget Format for Your NIH Application
Case Study in Review Integrity: Undisclosed Conflict of Interest
Lilly Endowment Announces $108 Million Higher Education Initiative
Strengthening Data Science Methods for Department of Defense Personnel and Readiness Missions
Refining the Concept of Scientific Inference When Working with Big Data: Proceedings of a Workshop
A 21st Century Cyber-Physical Systems Education
Indicators for Monitoring Undergraduate STEM Education
Graduate STEM Education for the 21st Century
Minority Serving Institutions: America’s Underutilized Resource for Strengthening the STEM Workforce
State Government R&D Expenditures Increased 3% in FY 2018; Energy-Related R&D Up 29%
Peer Review of IES Reports
Peer Review of IES Grant Applications
Standards and Review Office IES
Innovative Ideas and Investigators Wanted for Alzheimer’s and Related Dementias Research
New Data Released on Bachelor’s Degree Recipients
NSF Interactive Discussion: Computer Science Undergraduate Education in 2026 and Beyond
How real-world science sets The Expanse apart from other sci-fi shows
Conservation Collaboration Grants or Agreements Fiscal Year Department of Agriculture

Conservation Collaboration Grants or Agreements Fiscal Year Department of Agriculture

Conservation Collaboration Grants or Agreements Fiscal Year Department of Agriculture

Conservation Collaboration Grants or Agreements Fiscal Year Department of Agriculture
Katherine E. Kelly is a retired English professor from Texas A&M University. She 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 editorial services to ARFS clients on proposals, journal articles, and manuscripts and presents seminars on grant writing and funding in the humanities and humanistic social sciences.

If you’ve ever been curious about how academic peer review operates in major funding agencies, Lamont’s book will introduce you to the theory and practice of this process and its secretive deliberations. As an esteemed Harvard ethnographer and recipient of many grants and fellowships from selective funders, Lamont addresses her subject with assurance, empathy, rigor, and a high level of methodological self-consciousness. In fact, her introductory chapter, “Opening the Black Box of Peer Review,” would make a fine introduction to the world of grant seeking as well as a useful example of the genre of proposal writing for graduate students and beginning assistant professors.

The 21-page introduction directly answers the generic questions most funding agencies ask: What/whom are you studying? Why are you proposing to study this topic? What approach or methods does your study use? What are your findings? What is the significance of the study? What are the epistemological implications of the study? Is the study timely? How does the author account for her own biases in the study? How does the study distinguish itself from other similar studies in approach and results?

Lamont’s method deserves a few words. As an ethnographer, she used the interview as a main but not the sole source for gathering information from her subjects. She interviewed scholars from the humanities and social sciences participating in five distinct national funding competitions and twelve distinct panels over a two-year period in the late twentieth century. She held confidential interviews with each panelist as well as a number of program officers and panel chairs to learn, among other things, how each of them argued for and against specific proposals and how they viewed the outcomes of the competition both before and after the panel meetings.

Her findings portray the inexact science of academic evaluation optimistically, insofar as they acknowledge and welcome the apparent tension between each discipline’s definition of “excellence” and “diversity” in the context of rendering judgments of academic work. This is a point worth considering, as such judgments are used to allocate academic resources: “Evaluators are most concerned with disciplinary and institutional diversity, that is, ensuring that funding not be restricted to scholars in only a few fields or . . . universities. A few are also concerned with ethno-racial diversity, gender, and geographic diversity.” However, she notes, in the “real world of grant peer review, excellence and diversity are not alternatives; they are additive considerations.” In Lamont’s view, her research points to diversity as a support for the existence of various types of excellence.
How do evaluators make sense of various, competing views of excellence? In part, they do so by conducting their deliberations via face-to-face meetings, which may include debate, but certainly involve a frank airing of differences. Panelists’ discussions are constrained by rules, manners, and rituals, which encourage them to allow for difference and seek common ground. And why doesn’t this airing break down in hardened polarized camps of warring factions, such as we are seeing in current political cultures in the West? In part because the panelists who make the funding decisions are selected by Program Officers precisely for qualities such as friendliness, tact, and intellectual tolerance. Consequently, they tend to listen to one another and credit the expertise of their co-panelists, especially when a co-panelist who is an expert in the proposal’s field rates a proposal lower than a non-expert. This delicate negotiation, or what Lamont calls “emotion work,” involves discretion, attention, and deliberate withholding of snap judgments. It’s a powerful skill, the accounting for which sets Lamont’s revised model of evaluative culture apart from other models that omit emotion and embrace only reason. “Peer review,” Lamont notes, “is where agreement on quality is accomplished and where the principle of meritocracy is unquestioned.” Arriving at a civil consensus of merit while juggling varying meanings of diversity and excellence is a process repeated elsewhere in academic culture, such as during tenure and promotion hearings. So it’s essential that academics become self-aware about how we arrive at judgments while avoiding cynical dismissals of such judgments as inevitably biased, “elitist,” or self-interested.

Chapter three, “Disciplinary Cultures,” describes how some panelists who belong to various disciplines attempt to overcome their tendency to favor proposals in their own discipline (“homophily”). Lamont describes how panelists manage to reach conclusions about the relative merits of a number of competing ideas by resorting to “pragmatic fairness” as carried out by “customary rules of deliberation,” which are described in chapter four. This chapter pays particular attention to the blurring effects on academic judgment when a particular model or theory, here the political science paradigm of “rational choice” and the ascendancy of mathematical economics, come to dominate the field. One consequence is that practitioners of the dominant paradigm become unaware of the constructed nature of excellence. Panel, and therefore evaluative, dissonance can be the result.

Chapter six, “Considering Interdisciplinarity and Diversity” is especially worth reading as funders are calling increasingly for proposals that attempt to solve global problems through a careful meshing of disciplinary knowledges and methods. However, as a matter of empirical fact, many diverse, newer academic interdisciplines such as Women’s Studies and Cultural Studies, have had difficulty drawing institutional support. Interdisciplinarity as an academic force, therefore, is more likely to emerge from the linking of single-disciplinary scholars together in an interdisciplinary network, unless universities decide to advance the mixing of disciplines in a more radical way.

In sum, Lamont’s book builds on prior studies by attending to neglected aspects of the evaluation process. She examines how norms are given meaning; she scrutinizes how disciplinary differences and criteria of evaluation affect the evaluation process. She makes room for pleasure as one of the rewards earned in exchange for the considerable labor involved in peer review. Academics, administrators, grant offices, graduate students, and, most of all, faculty who aspire to evaluate award applicants and to win awards themselves, will find in this
book a great deal of careful thought, information, and pragmatic advice about the “curious world of academic judgment.”
Humanities and Arts Funding Opportunities and News

*Potential applicants should visit agency websites to confirm deadlines, requirements, etc. A listing of funding opportunities by due date extending through February 2020 is posted in the Humanities section of the 15 November 2019 issue of the Research Development & Grant Writing News. Opportunities are listed by application due date.

**National Endowment for the Arts** Translation Projects (Individuals)  
Application Deadline: January 15, 2020; Notification: December 2020; Earliest Start Date: January 1, 2021. Translation Projects enable recipients to translate work from other languages into English. Non-matching grants are for $12,500 or $25,000, depending upon the artistic excellence and merit of the project. [https://www.arts.gov/grants/apply-grant/grants-individuals](https://www.arts.gov/grants/apply-grant/grants-individuals)

**American Sociological Association** Minority Fellowship Program  
Application Deadline: January 31, 2019. Applications are reviewed and evaluated by the ASA Minority Fellowship Program Advisory Panel. Panel members are appointed by the ASA Executive Director and approved by ASA Council. The Advisory Panel convenes annually in early spring to select finalists. Awards are announced by April 30. The annual stipend for each award (August 1 - July 31) is $18,000. In addition, arrangements for the payments of tuition are made with universities or departments. There are also limited funds available for travel to the ASA Annual Meeting each August, regional or aligned association meetings in the spring or fall, and professional development training programs and workshops. [https://www.asanet.org/careers/grants-and-fellowships/minority-fellowship-program](https://www.asanet.org/careers/grants-and-fellowships/minority-fellowship-program)

**NEH Public Scholars** (Individuals)  
Application available November 14, 2019; Application due February 5, 2020; Expected notification date August 14, 2020; Project start date September 1, 2020 to September 1, 2021. The Public Scholars program supports the creation of well-researched nonfiction books in the humanities written for the broad public. It does so by offering grants to individual authors for research, writing, travel, and other activities leading to publication. Writers with or without an academic affiliation may apply, and no advanced degree is required. NEH especially encourages applications to this program from independent writers, researchers, scholars, and journalists. A free online information session for anyone interested in the program will be offered on Thursday, December 12 at 2 p.m. Eastern. A new initiative has been added: “A More Perfect Union”: NEH Special Initiative Advancing Civic Education and Celebrating the Nation’s 250th Anniversary.” [https://www.neh.gov/grants/research/public-scholar-program](https://www.neh.gov/grants/research/public-scholar-program)
NEH Summer Seminars and Institutes for K-12 Educators (Institutions) Application available December 13, 2019; Optional Draft due January 2, 2020; Application due February 13, 2020; Expected notification date August 31, 2020; Project start date October 1, 2020. NEH Summer Seminars and Institutes for K-12 Educators provide school teachers across the nation the opportunity to broaden and deepen their engagement with the humanities. One- to four-week residential programs, led by scholars and K-12 professionals, allow participants (NEH Summer Scholars) to study a variety of humanities topics. Seminars and Institutes focus on the intellectual quality of humanities education and address recent developments in scholarship, teaching, and/or curriculum. 
https://www.neh.gov/grants/education/summer-seminars-and-institutes-k-12-educators

Five College Women’s Studies Research Center--Call for Applications for Research Associates
Deadline 15 February 2020 (Unpaid Residency)
the Five College Women’s Studies Research Center encourages engaged, critical feminist scholarship from diverse perspectives. To support this work, the Center established its Associates Program more than 25 years ago. Scholars come to the Center from around the world, seeking a supportive environment to carry out their research. Provided with office space and access to extensive consortium resources, Associates gather regularly to discuss their research with each other and local faculty in a variety of settings. To apply, visit https://apply.interfolio.com/71449

NEH Institutes for Advanced Topics in the Digital Humanities (Institutions)
Application available November 20, 2019; Optional Draft due January 29, 2020; Application due March 5, 2020; Expected notification date August 31, 2020; Project start date September 1, 2020. The Institutes for Advanced Topics in the Digital Humanities (IATDH) program supports national or regional (multistate) training programs for scholars, humanities professionals, and advanced graduate students to broaden and extend their knowledge of digital humanities. Through this program, NEH seeks to increase the number of humanities scholars and practitioners using digital technology in their research and to broadly disseminate knowledge about advanced technology tools and methodologies relevant to the humanities. Applicants may apply to create institutes that are a single opportunity or are offered multiple times to different audiences. Institutes may be as short as a few days or as long as six weeks and held at a single site or at multiples sites; virtual institutes are also permissible.

National Endowment for the Arts Creative Writing Fellowships (Individuals)
Application Deadline: March 11, 2020; Notification: December 2020; Earliest Start Date: January 1, 2021.
Fellowships in fiction, poetry, and creative nonfiction enable recipients to set aside time for writing, research, travel, and general career advancement. Non-matching grants are for $25,000. https://www.arts.gov/grants/apply-grant/grants-individuals
NEH-Mellon Fellowships for Digital Publication (Individuals)
Application available February 8, 2020; Application due April 8, 2020; Expected notification date December 7, 2020; Project start date January 1, 2021.

Through NEH-Mellon Fellowships for Digital Publication, the National Endowment for the Humanities and The Andrew W. Mellon Foundation jointly support individual scholars pursuing interpretive research projects that require digital expression and digital publication. To be eligible for this special opportunity, an applicant’s plans for digital publication must be integral to the project’s research goals. That is, the project must be conceived as digital because the research topics being addressed and methods applied demand presentation beyond traditional print publication. Successful projects will likely incorporate visual, audio, and/or other multimedia materials or flexible reading pathways that could not be included in traditionally published books, as well as an active distribution plan. All projects must be interpretive.  

NEH Fellowships (Individuals)  
Application available February 8, 2020; Application due April 8, 2020; Expected notification date December 7, 2020; Project start date January 1, 2021. NEH Fellowships are competitive awards granted to individual scholars pursuing projects that embody exceptional research, rigorous analysis, and clear writing. Applications must clearly articulate a project’s value to humanities scholars, general audiences, or both. Fellowships provide recipients time to conduct research or to produce books, monographs, peer-reviewed articles, e-books, digital materials, translations with annotations or a critical apparatus, or critical editions resulting from previous research. Projects may be at any stage of development.  
https://www.neh.gov/grants/research/fellowships

NEH Awards for Faculty at Hispanic-Serving Institutions (Individuals)  
Application available February 8, 2020; Optional Draft due February 12, 2020;  
Application due April 8, 2020; Expected notification date December 7, 2020;  
Project start date January 1, 2021. The NEH Awards for Faculty program seeks to strengthen the humanities at Hispanic-Serving Institutions by encouraging and expanding humanities research opportunities for individual faculty and staff members. Awards support individuals pursuing scholarly research that is of value to humanities scholars, students, and/or general audiences. The program offers applicants flexibility in project types and award periods. Common to all projects must be humanities research.  
https://www.neh.gov/grants/research/awards-faculty-hispanic-serving-institutions

NEH Awards for Faculty at Tribal Colleges and Universities (Individuals)  
Application available February 8, 2020; Optional Draft due February 12, 2020;  
Application due April 8, 2020; Expected notification date December 7, 2020;  
Project start date January 1, 2021. The NEH Awards for Faculty program seeks to strengthen the humanities at Tribal Colleges and Universities by encouraging and expanding humanities research opportunities for individual faculty and staff members. Awards support individuals pursuing scholarly research that is of value to humanities scholars, students, and/or general audiences. The program offers applicants flexibility in project types and award periods.
Common to all projects must be humanities research.
https://www.neh.gov/grants/research/awards-faculty-tribal-colleges-and-universities

NEH Awards for Faculty at Historically Black Colleges and Universities (Individuals)
Application available February 8, 2020; Optional Draft due February 12, 2020;
Application due April 8, 2020; Expected notification date December 7, 2020;
Project start date January 1, 2021. The NEH Awards for Faculty program seeks to strengthen
the humanities at Historically Black Colleges and Universities (HBCUs) by encouraging and
expanding humanities research opportunities for individual faculty and staff members. Awards
support individuals pursuing scholarly research that is of value to humanities scholars, students,
and/or general audiences. The program offers applicants flexibility in project types and award
periods. Common to all projects must be humanities research.
https://www.neh.gov/grants/research/awards-faculty-historically-black-colleges-and-universities

NEH Fellowships for Advanced Social Science Research on Japan (Individuals)
Application available February 22, 2020; Application due April 22, 2020; Expected notification
date December 7, 2020; Project start date January 1, 2021.
The Fellowships for Advanced Social Science Research on Japan program is a joint activity of the
Japan-U.S. Friendship Commission (JUSFC) and the National Endowment for the Humanities.
The program aims to promote Japan studies in the United States, to encourage U.S.-Japanese
scholarly exchange, and to support the next generation of Japan scholars in the U.S. Awards
support research on modern Japanese society and political economy, Japan's international
relations, and U.S.-Japan relations. The program encourages innovative research that puts
these subjects in wider regional and global contexts and is comparative and contemporary in
nature. Research should contribute to scholarly knowledge or to the general public’s
understanding of issues of concern to Japan and the United States. Appropriate disciplines for
the research include anthropology, economics, geography, history, international relations,
linguistics, political science, psychology, and sociology. Awards usually result in articles,
monographs, books, e-books, digital materials, translations, editions, or other scholarly
resources.
https://www.neh.gov/grants/research/fellowships-advanced-social-science-research-japan

Ford Foundation Senior Fellowship Applications accepted from November 1, 2019 until January
31, 2020 at 11:59 PM EST. Awards are 12 months of tenure and may begin as early as
September 1, 2020 but no later than January 1, 2021. The Ford Foundation Senior Fellowship
award is open to individuals who have previously held a Ford Foundation Predoctoral,
Dissertation, or Postdoctoral Fellowship and currently hold a faculty appointment at an
accredited U.S. academic institution. Applicants must have held the Ph.D./Sc.D. for at least
seven years at the time of application. The Ford Foundation Senior Fellowship will be awarded
annually to one or more individuals. The term of the award will be for a period of not less than
6 months and not more than 12 months, depending on the work plan submitted.
https://sites.nationalacademies.org/PGA/FordFellowships/PGA_171447
Humboldt Research Fellowship for Postdoctoral Researchers  Rolling Deadline.
Submit an application if you have above average qualifications, at the beginning of your academic career, and completed your doctorate in the last four years. A Humboldt Research Fellowship for postdoctoral researchers allows you to carry out long-term research (6-24 months) in Germany. Applicants choose their own topic of research and their academic host. Scientists and scholars of all nationalities and disciplines may apply to the Alexander von Humboldt Foundation online at any time. We promote academic cooperation between excellent scientists and scholars from abroad and from Germany. Our research fellowships and research awards allow you to come to Germany to work on a research project you have chosen yourself together with a host and collaborative partner. [http://www.humboldt-foundation.de/web/about-us.html](http://www.humboldt-foundation.de/web/about-us.html)

**News**

2020 National Humanities Conference Call for Proposals is Now Available
We are pleased to announce that the Call for Proposals for the 2020 National Humanities Conference is now available! The conference will be held November 5-8 in Indianapolis, Indiana. Co-hosted by the National Humanities Alliance and the Federation of State Humanities Councils, the National Humanities Conference brings together representatives from colleges, universities, state humanities councils, cultural institutions, and other community-based organizations to explore approaches to deepening the public’s engagement with the humanities. Indianapolis is nicknamed the “Crossroads of America” because of its historic location along the old National Road and current site where four major interstates intersect. In this spirit, we invite proposals that explore the generative, exciting possibilities of public humanities work that happens at the crossroads. We encourage you to submit proposals and recruit others to do the same! Please contact Beatrice Gurwitz at bgurwitz@nhalliance.org with any questions or for support in building sessions. The Eighteenth International Conference on New Directions in the Humanities at Ca’ Foscari University of Venice, Venice, Italy, 1-3 July 2020. Special focus: Transcultural Humanities in a Global World. [https://thehumanities.com/2020-conference](https://thehumanities.com/2020-conference)
The Advantages of Coordinated Team Reviews of Proposal Drafts

Copyright 2019 Academic Research Funding Strategies. All rights reserved.  
By Mike Cronan, co-publisher

(Back to Page 1)

One key tenet in grant writing is that a proposal’s first substantive review should not be performed by program officers and reviewers who will be deciding a proposal’s fate. The critical first review should occur before the team of principal investigators submits the proposal. Unfortunately, this is often not the case, which explains why it is one of the more common reasons proposals are declined for funding. During the end-game period of 3 to 7 days prior to the proposal due date, the final iterations and fine tuning of the research narrative—when done carefully—can significantly improve the chances for a positive funding recommendation.

While most principal investigators recognize the need for continuous improvements to the research narrative in the weeks prior to submittal, in too many cases these improvements do not benefit from a coordinated internal review process grounded on an underlying strategy for advancing the project description towards perfection. At best, internal proposal reviews prior to the due date are ad hoc, siloed, and poorly coordinated interactions among internal reviewers.

For example, a draft of the research narrative typically is sent out ad hoc to principal investigators, project personnel, and perhaps a research development professional, with little thought given to encouraging all the ad hoc reviewers to work in concert to optimize the review process. A siloed review process is just as deleterious to a successful proposal as is a research narrative siloed by research task. In both cases, integration and synergy are the overall goals, but in too many instances, the final product falls short of those goals in the absence of a coordinating strategy that unifies rather than silos input.

For instance, one common mistake made in this ad hoc process is to send the draft proposal out to volunteer reviewers without also sending them the solicitation guidelines describing the project’s goals, objectives, narrative structure, and review criteria. In cases where the proposal is a resubmittal or perhaps based on a preliminary proposal, volunteer reviewers might not be given program officers’ prior reviews or relevant comments. In these cases, internal reviewers have no way of making one of the most important observations required of an internal review, i.e., does the proposal fully respond to the requirements detailed in the funding solicitation? In addition, they may not be told which important documents the agency has referenced in the funding solicitation that can deepen their insight into the motives of the specific program and how those fit the agency’s long-term research priorities. An isolated ad hoc review of a draft narrative without these accompanying documents is like an annual physical without a lipid blood panel. You want to make sure poor grants practices don’t clog the funding arteries.

Funding agencies also use the ad hoc review process to make funding determinations, but in those cases, the program officer provides the reviewers with information needed to make a judgment: objectives of the funding opportunity, overarching and project-specific
review criteria to be used in making a funding recommendation, etc. In many ways, a proposal PI undergoing an internal review should mirror the role of the agency program officer in providing guidance to the reviewers on the key underlying factors on which a funding recommendation is to be based.

Agency panel reviews resemble team reviews and, often, the workings of a mini-red team, wherein a team reaches a review consensus about the project narrative’s merits and weaknesses. In the same way that research proposals benefit from disciplinary teaming, a coordinated team-based process for proposal reviews significantly improves the chances of funding success. In many cases, the review will be disciplinary based. *Keep in mind that this does not have to be an onerous process; in most cases, it can be conducted easily with a well organized team review process where Word Track Edit is the integrator.* This has the benefit of allowing other members of the review team to see comments and suggestions by all who review the document and the PI to make a final determination to accept or reject comments and suggestions at each major iteration of a draft narrative.

*The bottom line is that a series of internal reviews of the research narrative draft--before submittal--can determine whether or not your proposal is funded.* How these reviews happen, how the review process is structured, and their frequency *deserve more thought and attention than they are normally given.* It remains a mystery that *planned end-game reviews of the project description often lack substance, coordination, and strategic care.* Internal reviews would do well to capitalize on the enormous benefits that can accrue to funding success by conducting a well-planned team review before submitting a proposal.
For researchers new to the National Institutes of Health, the complexities of NIH can be both puzzling and overwhelming. A great way to get up to speed is to attend an NIH Regional Seminar, held twice each year by NIH. In these seminars, NIH staff discuss a wide range of topics related to NIH programs, policies, and priorities. In addition to Q&A sessions after each presentation, they are available for scheduled one-on-one discussions.

We attended the most recent NIH Regional Seminar, which was held in November 2019 in Phoenix, Arizona (in collaboration with Arizona State University, Northern Arizona State, and the University of Arizona). In the keynote address, Michael Lauer, Deputy Director for Extramural Research, discussed the importance of measuring success not just in terms of research expenditures, but in terms of the results of the funded research. He stated that there is too much focus on getting the grant as the “finish line,” and that we need to focus more on doing good research (measured, for example, in numbers of citations).

Dr. Lauer also talked about how the NIH budget has affected funding rates over the years, and how lower funding rates in recent years have adversely affected early-stage scientists. An NIH Advisory Committee issued a report with recommendations on how to address this problem, and NIH is working on implementing many of these recommendations.

He also discussed concerns about how male dominated the NIH awardee pool is (especially for larger grants) and concerns about sexual harassment in research organizations. He mentioned that organizational climate is, by far, the most greatest predictor of harassment and bullying. Specifically, lack of sanctions and a sense that complaints are not taken seriously contribute to an unsafe environment. He mentioned that NIH maintains an email address and website that allow those experiencing or witnessing harassment or bullying as part of NIH-funded projects to report their concerns.

The breakout sessions were organized along three tracks:

- **All interests**, which focuses on topics of wide interest (such as diversity in the biomedical research workforce)
- **Administrators**, which focused on policy (such as revised HHS regulations for research involving human subjects) and process (such as administering research training awards).
- **Investigators**, which focused on basics (e.g., finding and understanding funding opportunity announcements), specific programs (e.g., K grants) and various aspects of developing grants (e.g., grant writing).

You can find all slides for all sessions here, and they can be downloaded. These presentations provide a treasure trove of information on just about any subject related to NIH grants, so be sure to check them out.

The next NIH seminar will take place in Boston on April 20-22, 2020. Registration is now open, and they do tend to fill up, so if you’d like to attend, you’ll want to go ahead and register now.
Two critical NSF reports remain of particular interest to research offices assisting faculty: (1) the recent 29-page NSF Office of Inspector General (OIG) Semiannual Report to Congress on research misconduct, particularly plagiarism, and (2) the 2011 34-page NSF report Technology For Plagiarism Detection that describes in detail how the OIG monitors proposals submitted to NSF for research misconduct, particularly the three most common types: plagiarism, falsification, and fabrication.

It remains a surprising, not to mention a discouraging comment on human nature, that the OIG has been hot on the trail of research misconduct in NSF proposals since 1989. Since that time, some 60 OIG reports have described a multitude of new cases and examples of research misconduct of surprising similarity year after year after year. Clearly, changing human nature is beyond the charge of research offices, but it is entirely within their purview to give faculty a heads up on NSF’s very rigorous expectations for a research narrative free of what the agency defines as research misconduct.

Some of the examples in the OIG report represent intentional fraud and embezzlement related to double dipping on salaries and misallocating project funds. But many of the other examples represent instances of research misconduct, particularly related to plagiarism, falsification, and fabrication in the project description or attached documents. In these cases, some motivation can be ambiguous, some can be inadvertent and unintentional, and other can be sufficiently blatant to warrant debarment from submitting further proposals.

The sunny side of all of this? In a significant number of cases, charges of research misconduct could easily have been avoided if the faculty member had been better informed about how NSF characterizes research misconduct. This latter point is critical in that a common and entirely rejected excuse often put forward to NSF for plagiarism, falsification, and fabrication in the research narrative is that the author was following a set of rules from prior writings, or from how it was done in a home country. NSF will have none of this. Research misconduct is what NSF says it is, not what the proposal author(s) believe it to be. So helping faculty navigate the landscape of research misconduct at NSF is an extremely valuable service research offices can provide to all faculty, particularly new faculty who can study examples from the NSF OIG report and then discuss the misconduct at length.

Moreover, reading both of these reports together gives a deeper insight into what characterizes research misconduct and the detection protocols NSF has put in place to determine when it has occurred in the proposal narrative and attached documents. Taken together, as noted above, both of these reports provide an excellent foundation for a research office workshop or seminar on research misconduct in NSF proposals. Research offices that help faculty avoid becoming ensnared in research misconduct, and thereby avoid its severe consequences, offer researchers an invaluable service.

Related to this in a complementary way, in a section on research rigor and integrity, a recent RFI by the Office of Science and Technology Policy (OSTP) cites a recent National
Academies report on research misconduct and reproducibility and replicability as foundational studies. Through the RFI mechanism, OSTP seeks guidance on how to ensure researchers are aware of relevant “ethical principles” and how to improve the reporting of research results, such as by changing incentive structures to encourage publication of study limitations and null findings and to promote research that is more easily “reproduced, replicated, or generalized.”

Finally, in Technology For Plagiarism Detection, NSF lists a few of “our favorite excuses and why these plagiarism excuses did not work.”

- “My graduate student / post doc / lab manager / etc. wrote that part and I assumed they knew how to cite.
- It’s only background material.
- The reviewers are smart enough to know what is mine and what is in the literature.
- I used the same words, but I meant something different.
- I was told that having between 70-80 citations in a proposal was enough. Anymore and I would look like I wasn’t proposing to do something new.
- My computer was attacked by a virus and in the ensuing confusion, combined with my influenza, caused me to inadvertently upload the incorrect version.
- I was distracted by bird vocalizations outside my thatched roof hut, grabbed my digital camera . . . , and when I returned to my computer where I thought I had saved my changes to the material, it had crashed with the wrong draft saved.”

One plagiarism case noted in Technology For Plagiarism Detection unfolded as follows:

- US researcher serves as peer reviewer for European Agency; keeps proposal; uses 2 pages of material for his next NSF proposal
- European authors selected to peer review his proposal
- OIG works with funding agency to get original document
- Copied text includes novel research idea never discussed before
- NSF concludes subject committed verbatim and intellectual theft
- Debars subject for two years
- Subject is working on “soft” money; has to seek employment

In the above report, NSF notes an “apparent shift of plagiarism technique from using single to multiple sources. Pre – 2000, plagiarism (was) often characterized by large blocks of text (and) figures (taken) from one or only (a) few sources. Currently, plagiarism (tends to take) single sentences adding up to larger blocks of text drawn from multiple sources (mosaic or patchwork plagiarism). For example, one proposal (contained) . . . text and figures from 24 sources and six proposals (took) . . . text and figures from 56 sources.”

A few examples (emphasis added) from the recent OIG report quoted verbatim below illustrate that research misconduct in the proposal narrative can occur at every academic level, from graduate student, to assistant professor, to professor. Many more examples are provided in the OIG report.

“PI Plagiarized From Awarded NSF Proposals Received From a Colleague”
A PI plagiarized text into an NSF proposal from two awarded NSF proposals he received in confidence from a colleague. The PI said he simply erred in not differentiating their content from his own in the final proposal. We referred the matter to the PI’s university, which concluded the PI committed plagiarism. It required the PI to complete training, work with a mentor, conduct student training, be barred from submitting NSF proposals for at least 3 years, and create a pre-submission review process. The university’s report, however, did not address the elements of a research misconduct finding.

“Graduate Student Falsified Examples To Support Her Conclusions

An NSF-funded graduate student submitted a manuscript containing falsified examples to a computer-science conference. The conference reviewer rejected the manuscript because he could not verify several examples of asserted code defects and repairs in public code repositories. The graduate student admitted to embellishing examples to better illustrate support for the results. The university’s subsequent investigation concluded that the student falsified a variety of unspecified data. A university office overseeing student conduct determined the discipline should be a 1-year suspension. The student appealed the suspension, and the university held a hearing, during which the student admitted to embellishing a specific example. The judicial panel concluded the student’s embellishment constituted misconduct and recommended a 6-month suspension. The student again appealed the suspension, and the university president upheld the finding and sanction.

“Assistant Professor Incorporated Student’s Plagiarized Summary In Proposal

We investigated a university assistant professor who copied a student’s summary of a separate project into her proposal as a description of preliminary work. The entire summary was copied from two published articles. The university determined that, as the PI on the proposal, the assistant professor was responsible for the content of the proposal and recklessly plagiarized the two articles and knowingly plagiarized her student’s summary. We concurred and recommended that NSF require 1 year of certifications and impose a 1-year ban on serving as an NSF reviewer, advisor, or consultant.

“PI Plagiarized In NSF CAREER Proposal

An NSF PI plagiarized text from nine source documents into his NSF Faculty Early Career Development Program (CAREER) proposal. The university investigation committee determined the PI’s actions met the definition of plagiarism but concluded his actions were ‘inappropriate but not malicious.’ The committee recommended the PI’s proposals and publications be monitored for a period of 2 years and that he receive mentoring for 2 years."

While the motivations of above members of the research community vary, perhaps one area where research offices can have the most impact is in helping people avoid, as NSF noted above, actions that are “inappropriate but not malicious,” thereby helping them avoid career damaging outcomes that could and should have been avoided.

While the motivations of above members of the research community vary, perhaps one area where research offices can have the most impact is in helping people avoid, as NSF noted above, actions that are “inappropriate but not malicious,” thereby helping them avoid career damaging outcomes that could and should have been avoided.
The new NSF solicitation, **Environmental Convergence Opportunities in Chemical, Bioengineering, Environmental, and Transport Systems (ECO-CBET)**, with preliminary proposals due February 12 and full proposals due April 30, is one more step taken by an agency continuously placing itself at the forefront of scientific research and innovation. If you have been paying attention to NSF’s evolution over the past several years by reading agency reports, Dear Colleague Letters, new funding solicitations, and the documents referenced in those solicitations, this new program announcement should come as no surprise. Rather, it anticipates how **NSF continues to transform how new science is done** through such terms as “convergence,” “transformational,” “10 Big Ideas,” “Grand Challenges,” and the like, and it grounds those aspirational terms in the details and specifics of a major funding solicitation.

With this in mind, the ECO-CBET solicitation seeks to address critical environmental and sustainability challenges whose solutions require imaginative approaches from various fields, perspectives, and disciplines. The motivating document for ECO-CBET is the National Academies of Sciences, Engineering, and Medicine (NASEM) report "**Environmental Engineering for the 21st Century: Addressing Grand Challenges.**" This report identifies “five critical challenges we must address as a society:

- Sustainably supply food, water, and energy
- Curb climate change and adapt to its impacts
- Design a future without pollution and waste
- Create efficient, healthy, and resilient cities
- Foster informed decisions and actions.”

Meeting the challenges in this report, NSF notes (emphasis added), “will require modifications in educational curriculum and creative approaches to foster **interdisciplinary research on complex social and environmental problems**...This solicitation aims to address these grand challenges by **supporting a collaborative research model that seamlessly integrates sustainability, environmental engineering, and process science and engineering**...A key objective of the solicitation is to encourage conversations and robust collaborations amongst the chemical process, transport phenomena, bioengineering, and environmental and sustainability research communities **such that unanticipated solutions may arise**...Teams should be constructed in such a manner that **expertise is complementary and distinct**, drawing from the program descriptions as inspiration...**Non-traditional collaborations between research communities is highly encouraged**... There should be at least three named investigators to ensure a diversity of perspectives... Teams may also wish to consider, as appropriate, incorporating individuals with expertise in **manufacturing or social sciences.**”

Planning, developing, and writing a proposal funded under this program will be a challenge best begun by undertaking a comprehensive, team-based, strategic interpretation of
the program guidelines. In addition, would-be applicants should be able **clearly to describe, with specific details, how your capacities and experience** in the relevant sciences map to the goals of this program. In addition, you must demonstrate, how your proposed collaborative research model seamlessly integrates sustainability, environmental engineering, and process science and engineering.

Keep in mind that NSF **expects you** to make an informed and sufficiently insightful interpretation of the goals and objectives of the program to ensure success. That is not a trivial expectation. **You will have to define the aspirational language of the solicitation within the detailed specifies of how your proposal fully responds to the solicitation.** For instance, some challenging thinking will be required to explain how your proposed research benefits from **non-traditional collaborations between research communities**, or to explain in a concrete way the **unanticipated solutions that may arise** from the proposed research. You must define such terms **within the context of what you propose with sufficient specificity** to convince reviewers and program officers that your proposal animates the agency’s aspirational language in a concrete way. Bottom line, this solicitation will require serious strategic thought about how to fulfill the program’s intent. Responding to this solicitation is not for the timid, or for those who propose patchwork and incremental advancements in research. It **is meant for those who can propose novel solutions and fresh perspectives on both the science and the collaborative team model.**

Moreover, **even if you are not planning** to submit a proposal under this solicitation, **what it describes offers critical information that research offices can interpret in a generic way to achieve a more complex and nuanced understanding** of NSF’s future direction. This better understanding will, in turn, give research offices the ability to assist faculty on other similar efforts. For example, the goals of the solicitation include (emphasis added):

- “Encouraging new ways of thinking about environmental problems **through atypical scientific collaborations** and leveraging this diversity of perspectives to create innovative, holistic solutions;
- **Integrating** fundamental chemical process, transport, and bioengineering science with environmental engineering and sustainability research toward reducing and mitigating pollution and waste; and
- Training a **future workforce** prepared to develop and apply fundamental knowledge and approaches to solve environmental and sustainability problems.”

In the end, whether or not you submit to this program, the solicitation itself defines common and evolving NSF expectations for what research at that agency will look like in the future and it provides an excellent example of a “casebook” NSF solicitation that can be used to gain better insight into what success at NSF looks like.
One of the more common missed opportunities to strengthen and validate claims of research significance in the proposal narrative arises from the author(s) insufficiently “seeding” the project description with parenthetical phrases or clauses. These are inserted into a passage, paragraph or sentence to serve as an explanatory elaboration on the topic or issue being discussed. It is important to do this for several reasons, not the least of which is that it can be done fairly easily at any stage of the narrative’s draft development, including, even in the final hours before the proposal is transmitted to the funding agency, although that practice is not recommended.

Moreover, the importance of explanatory clauses can be seen when you consider some of the more common reasons proposals are poorly reviewed. The common reasons include--

- Program officers and reviewers struggling with the clarity of the narrative;
- Sensing that the narrative lacks specifics and details that would bolster claims of research significance;
- Feeling the narrative is overly generalized and lacks validating information;
- Sensing the narrative does not sufficiently explain the value-added benefits of the research to the agency mission priorities;
- Deciding that how the research will be accomplished is not adequately addressed; and
- Concluding that the goals and objectives are vague, etc.

In short, one of the best ways to address the common concerns of program officers and reviewers that impact the funding decision is to search every proposal page, paragraph, and/or sentence to identify places where a brief explanatory clause or phrase can be inserted. Moreover, it is important to keep in mind that the need for explanation does not amount to rewriting a poorly written sentence. The addition of an explanatory clause makes a good sentence better and more convincing—lights it up, so to speak.

So how exactly is this done? In most cases, you will be reviewing a draft document and looking for places where a brief elaboration can be made within or at the end of an existing sentence to provide richer detail or an important validating reference. This is accomplished by, for example, replacing a period in a sentence with a comma followed by an introductory “for example,” “for instance,” “such as,” “furthermore,” “moreover,” “including,” etc., followed by a brief elaboration thoughtfully chosen and crafted to transition a somewhat ordinary sentence into a more compelling one. Brevity is the key here, since you are not launching into a new direction of thought or argument but merely, as noted, bolstering an existing statement.

For example, perhaps your proposal on smart-grid security includes a statement such as “The proposed research is based on our small-scale test bed success in reducing the computational load related to identifying cryptographic signatures and development of a novel way to incorporate challenge-response algorithms to identify counterfeit or “spoofed” GPS time
"stamps." This would be significant in and of itself. But instead of letting the sentence stand as written, you could replace the period with a comma, and continue briefly to expand the relevance of your proposed research by noting, “moreover, our security solutions to spoofed GPS signals has relevance in other critical societal domains, such as the operational security of drones, smart cars, ships, airplanes, critical civil infrastructures, etc.”

The explanatory clause accomplishes an important additional objective: it helps to convince reviewers to fund your research. It expands the scope and scale of your proposed research, giving it broad societal benefits beyond your immediate objective of preventing malicious time stamps in the smart grid.

Moreover, a close review of the first few drafts of a proposal by colleagues and professionals in a research office will often serve as the initial identification of those sentences that can benefit from brief explanatory clauses expanding on the significance of the proposed research activities in some way. After all, the foundation of a funded proposal is how successfully you make the case that the proposed research will advance the mission objectives of the funding agency or advance the disciplinary field in some way. **Seeding the research narrative with brief explanatory phrases and clauses is one key way to do this.** Done well, these phrases anticipate reviewers’ questions about why your proposed research is important and they provide a brief, specific answer.
Text analysis of thousands of grant abstracts shows that writing style matters

SERDP Funding Opportunities Webinar – FY 2021
The SERDP and ESTCP Executive Director and Deputy Director conducted an online seminar SERDP and ESTCP Funding Opportunities – FY 2021 on November 12, 2019, from 1:00-2:00 p.m. ET. The briefing offers valuable information for those interested in new SERDP funding opportunities. During the online seminar, participants asked questions about the funding process, the current SERDP solicitations, and the proposal submission process.

Presentation Slides

NIH Needs Your Feedback on a DRAFT NIH Policy for Data Management and Sharing
NIH has released for public comment a Draft NIH Policy for Data Management and Sharing along with supplemental draft guidance. Since releasing a Request for Information last year on Proposed Provisions of a Draft NIH Data Management and Sharing Policy, NIH has received helpful feedback that has been incorporated into this version of the draft policy proposal. The draft policy requires all NIH-funded grantees to submit a Data Management and Sharing Plan outlining how researchers plan to manage scientific data, including when and where the scientific data will be preserved and shared. Plans may include consideration of other factors (e.g., legal, ethical) that may appropriately limit data sharing.

Continue the conversation and let the NIH know what you think works and what doesn’t in the proposed policy by submitting your comments through the web-portal no later than January 10, 2020. For more insight on the draft policy, see Dr. Carrie Wolinetz’s Under the Poliscope blog post and check out the informational public webinar on Monday, December 16 (12:30pm to 2pm ET).

The United States Agency for International Development (USAID) has joined with several U.S. Government (USG) supported agencies to support Partnerships for Enhanced Engagement in Research (PEER). Administered by the U.S. National Academies of Sciences, Engineering, and Medicine (NASEM), PEER is a competitive grants program that invites scientists in developing countries, partnered with USG-supported collaborators, to apply for funds to support research and capacity-building activities on topics with strong potential development impacts. This innovative program is designed to leverage the investments other USG-supported agencies have made in scientific research and training while supporting the initiatives of developing country scientists. Learn more...

Tickborne Disease Research Needs Your Expertise
Funding News Edition: December 05, 2019
See more articles in this edition
Apply for grant funds to study tickborne disease and improve fundamental knowledge, diagnosis, prevention, and/or treatment through a new Notice of Special Interest (NOSI):
Advancing Research for Tickborne Diseases (TBDs). NIAID participates in this NOSI along with other NIH institutes and centers.

Scientific Focus
The NOSI encourages new applications for research that could advance the priorities detailed in the NIH Strategic Plan for Tickborne Disease Research pdf:
- Improve fundamental knowledge of TBDs
- Advance research to improve the diagnosis of TBDs
- Accelerate research to improve TBD prevention
- Promote research to improve treatment for all forms of TBDs
- Develop tools and resources to advance TBD research

As described in the NOSI, NIAID is especially interested in the following scientific areas:
- Biology of tickborne pathogens, their vectors, animal reservoirs, and human hosts, and the interactions among these elements as they help in understanding the underlying causes for human disease
- Basic science behind tickborne infections
- New approaches to prevent, diagnose, and treat tickborne infections
- Non-infectious TBDs, particularly alpha-gal syndrome, to understand its pathogenesis and develop improved diagnostics and therapeutic approaches

How To Apply
Since NOSIs are a relatively new type of opportunity, you may be surprised to note that the NIH Guide notice does not include a grant application link. Instead, you must apply through one of the funding opportunity announcements (FOAs) listed in the NOSI’s Related Announcements section. Choose whichever listed FOA seems like the best fit for your planned research and small business status. Follow that FOA’s due dates, instructions, budget, project period, and other administrative requirements. Note: For funding consideration, be sure to identify the relevant NOSI in your application. Include “NOT-AI-20-005” (without quotation marks) in the Agency Routing Identifier field (box 4B) of the SF 424 (R&R) application form. The NOSI is open for due dates from January 5, 2020, through January 8, 2023. Direct your NIAID-related NOSI application questions to Dr. Samuel Perdue, our scientific/research contact. For peer review and grants management inquiries, find contact information listed in Section VII of your chosen FOA. Content last reviewed on December 5, 2019

NSF Merit Review System and Grant Writing
This event takes participants on a journey through the National Science Foundation Merit Review system. Participants will be introduced to the structure of NSF and the path that proposals take from pre-submission through award or decline. In small groups, participants will review brief proposal summaries and reflect on their Intellectual Merit, and Broader Impact. They will also reflect on possible funding opportunities. Participants gain insight into writing a good review as well as how to improve their own proposals. The session will include tips for writing strong proposals and an invitation to review proposals for NSF. You are invited to register here for the session: https://www.surveymonkey.com/r/SIGCSE-NSF-grants. Presenters are current NSF program officers and scientific staff from Education and Human Resources (EHR), and Computer and Information Science and Engineering (CISE). Rollins (PhD Computer Science, University of California at Santa Barbara) is also a Professor in the
Department of Computer Science at the University of San Francisco. She has previously presented versions of this event at several conferences and institutions of higher education. Yang (PhD Computer Science, Florida International University) is also a Professor at University of Tennessee at Chattanooga and former director of the UTC InfoSec Center. Butler (Sc.B. Physics, Brown University) has expertise in program data visualization. Audience feedback has been positive.
Research Development & Grant Writing News

Educational Grant Writing Web Resources

(Text analysis of thousands of grant abstracts shows that writing style matters

Peer Review of IES Reports
Peer Review of IES Grant Applications
Standards and Review Office IES

The STEM Teacher Leadership website (https://stemtlnet.org/) is now live!

How U.S. 15-year-old Students Performance in Reading, Mathematics, and Science Literacy Compares Internationally
A new web report highlights key comparative performance information about 15-year-old students in the United States and 77 other education systems that participated in the Program for International Student Assessment (PISA) 2018.

A Look at Graduation Rates and Other Postsecondary Data
This provisional set of web tables presents fully edited and imputed data findings from the Integrated Postsecondary Education Data System (IPEDS) winter data collection, including data on graduation rates for selected cohorts, outcome measures, student financial aid, and admissions.

From Director Schneider: Update on Topic Areas and Upcoming RFAs
Here’s an update on several months of work trying to reimagine IES’ research topics. I thought my focus on changing topic areas was going to be a gangbuster reform; however, few people shared my enthusiasm. I thank all of you who took the time to send their thoughts and opinions about the topic areas—but the consensus was “Why bother?” This does not mean that this effort was a failure—indeed, there were important lessons to be had. And even if existing topic areas remain for now, we will change and clarify the RFAs in response to comments we received. Read the full blog. The Institute of Education Sciences is the independent research, evaluation, and statistics arm of the U.S. Department of Education. For more information, visit the IES website or follow IES on Facebook and Twitter.

Release of the PIAAC U.S. 2012/2014/2017 restricted use file
The National Center for Education Statistics (NCES) released the Restricted Use File (RUF) today (December 13, 2019) for the Program for the International Assessment of Adult Competencies (PIAAC) U.S. combined 2012/2014/2017 sample. The PIAAC U.S. 2012/2014/2017 RUF contains individual unit data including both responses to the background questionnaire and the cognitive assessment from the U.S. PIAAC data collections completed in 2012, 2014 and 2017. A total of 12,330 respondents ages 16-74 are included in the RUF. The RUF can be accessed through a restricted use license agreement with the NCES. To apply for a restricted-use data license, follow the instructions at https://nces.ed.gov/statprog/instruct.asp.
Dear Colleagues:
The National Science Foundation is currently working to finalize a revised Proposal and Award Policies and Procedures Guide (PAPPG) for use in 2020. We anticipate that the revised PAPPG will be released in the coming months and, as is standard practice, will be effective 90 days after its release. We wanted to highlight some important information to assist the community in preparing for this new PAPPG as it relates to the preparation and submission of the Biographical Sketch and Current and Pending Support sections of NSF proposals that fall under this revised PAPPG.

- NSF is partnering with the National Institutes of Health (NIH) to use SciENcv: Science Experts Network Curriculum Vitae as an NSF-approved format for use in preparation of both the Biographical Sketch and Current and Pending Support sections of an NSF proposal.
- Use of an NSF-approved format for the Biographical Sketch and Current and Pending Support documents will be required upon implementation of the PAPPG. NSF is encouraging proposers to begin using SciENcv for preparation of the Biographical Sketch now.
- SciENcv allows proposers to integrate their ORCiD to enable pre-population for the Biographical Sketch. Additional information is available on the ORCiD website.
- SciENcv will produce NSF-compliant PDF versions of these documents. Proposers must save these documents and submit them as part of their proposals via FastLane, Research.gov or Grants.gov.
- Additional resources including video tutorials are available on the SciENcv website.

NSF will continue to communicate with the community regarding the 2020 PAPPG and will provide further notice to the community as soon as the revised PAPPG is released. We encourage you to sign up for notifications about future PAPPG implementation webinars. In the meantime, proposers should continue to follow the guidance in the current PAPPG, (19-1).

Please direct any further questions to policy@nsf.gov.

Updated Grant Application Instructions and Forms Coming in Spring 2020
NIH will require the use of updated application forms and instructions (FORMS-F) for due dates on or after May 25, 2020 (NOT-OD-20-026). A preview of form changes and clarification of how the changes impact research training grant, fellowship, and career development award applications (NOT-OD-20-033) are already available. Additional details will be posted early next year. In the meantime, continue to use FORMS-E application packages for due dates on or before May 24, 2020 despite the expiration dates noted on each form. We are working with the Office of Management and Budget to renew our forms and new expiration dates will be reflected on our forms when the FORMS-F application packages are posted.

Selecting the Correct Budget Format for Your NIH Application
Providing budget information is a necessary part of requesting federal funding. The amount of budget detail needed for funding consideration varies based on the type of funding you are requesting. The funding opportunity announcement, application instructions, and the
associated form package hold the key for determining the prefect level of budget detail and format needed to apply. Each opportunity announcement includes award budget and project period information; any opportunity-specific budget guidance; and the specific forms appropriate for the opportunity.

Some grant programs require all applicants to use a specific budget format. For example, applicants for R35 Outstanding Investigator Awards must provide detailed budgets. Some director awards (DP1, DP2, DP3) and a few other programs simply use the total funds requested information collected on the SF424 (R&R) form and don’t include a budget form at all. For these programs there is no choice of budget format – you simply fill out the forms presented to you. Many research grant programs, however, require applicants to choose between two budget formats (e.g., R01, R03, R21, R15, R34, U01):

1. the modular budget format using the PHS 398 Modular budget form, or
2. the detailed budget format using the R&R Budget form and associated subaward budget form (if needed).

When presented with budget format options, you need to carefully read the funding opportunity and application guide instructions and choose the budget format that matches your situation.

**Dear Colleague Letter: Supporting Transition of Research into Cities Through the U.S. ASEAN (Association of Southeast Asian Nations Cities) Smart Cities Partnership**

Through this Dear Colleague Letter (DCL), the National Science Foundation’s (NSF) Directorate for Computer and Information Science and Engineering (CISE) together with the Department of State’s Bureau of East Asia and Pacific Affairs wishes to notify the U.S. community of its intention to support the following high-impact research-transition funding requests aligned with the U.S.-ASEAN Smart Cities Partnership:

- Supplemental funding requests for active awards funded by the NSF Cyber-Physical Systems (CPS) and Smart and Connected Communities (S&CC) programs; and
- Early-concept Grants for Exploratory Research (EAGER) proposals exploring early-stage, untested, but potentially transformative, research ideas or approaches building on prior success in activities related to smart and connected communities and/or transitioning to practice research that is relevant to communities.

S&CC research integrates social and technological dimensions and is targeted at one or more communities. While S&CC research may eventually yield successful outcomes in the targeted communities, when initially applied to new environments and cultural contexts, new challenges will emerge. Such challenges introduce an element of high risk where the solutions have a corresponding potential for high impact in improving quality of life. Through this DCL, NSF is specifically announcing its intention to support such activities, where the "new environment" is within the ASEAN region. Supplemental funding requests and EAGER proposals will provide support for periods of up to two years and up to $300,000.

Both supplemental funding requests and EAGER proposals are for PIs or project teams that have demonstrated success or potential for success in their outcomes to date. These activities must also involve high-impact research and advance smart and connected communities in one of the ASEAN cities listed below, which are part of the ASEAN Smart Cities Partnership.
The United States Agency for International Development (USAID) has joined with several U.S. Government (USG) supported agencies to support Partnerships for Enhanced Engagement in Research (PEER). Administered by the U.S. National Academies of Sciences, Engineering, and Medicine (NASEM), PEER is a competitive grants program that invites scientists in developing countries, partnered with USG-supported collaborators, to apply for funds to support research and capacity-building activities on topics with strong potential development impacts. This innovative program is designed to leverage the investments other USG-supported agencies have made in scientific research and training while supporting the initiatives of developing country scientists. Learn more...


The Office of Energy Efficiency and Renewable Energy (EERE) intends to issue, on behalf of the Bioenergy Technologies Office (BETO), a Funding Opportunity Announcement (FOA) entitled “FY20 Bioenergy Technologies Multi-Topic FOA”. BETO develops technologies that convert domestic biomass and waste resources into fuels, products, and power to enable affordable energy, economic growth, and innovation in renewable energy and chemicals production. The activities funded through this opportunity will be a component of the comprehensive U.S. energy strategy to enhance energy supply, create domestic jobs, secure the nation’s global leadership in bioenergy technologies and improve U.S. energy security. This FOA will support high-impact technology research and development (R&D) to enable growth and innovation of the Bioeconomy. The topic areas will focus on BETO’s objectives to reduce the minimum fuel selling price of drop-in biofuels, lower the cost of biopower, and enable high-value products from biomass or waste resources.

Please see the full text of the Notice of Intent in the Documents section below. This notice of intent (NOI) is issued so that interested parties are aware of EERE’s intention to issue this FOA in the near term. All of the information contained in this NOI is subject to change. EERE will not respond to questions concerning this NOI. Once the FOA has been released, EERE will provide an avenue for potential applicants to submit questions. EERE plans to issue the FOA via the EERE Exchange website https://eere-exchange.energy.gov/. If applicants wish to receive official notifications and information from EERE regarding this FOA, they should register in EERE Exchange. When the FOA is released, applications will be accepted only through EERE Exchange.

Dear Colleague Letter: Data Science Activities for the Civil, Mechanical and Manufacturing Innovation Communities

One of NSF’s Ten Big Ideas, Harnessing the Data Revolution, aims to enable new modes of data-driven discovery that will allow new fundamental questions to be asked and answered at the frontiers of science and engineering. The Division of Civil, Mechanical and Manufacturing Innovation (CMMI) of the Engineering Directorate seeks to engage the communities of CMMI in these activities through innovation, collaboration and learning.

With this Dear Colleague Letter, CMMI invites current grantees to request supplemental funds to expand the breadth of their current activities through exploration and implementation of Data Science approaches. This may include the addition of a new collaborator, student, or postdoctoral researcher; expansion of the activities of currently funded awards to include new
data-driven approaches to address the current award scope; additional training of participants in Data Science methods; community-building activities to enhance current research programs; or other approaches and activities that expand the impact of current CMMI awards through Data Science approaches and techniques. This supplemental funding opportunity is intended to introduce new Data Science approaches to current activities and is not intended for data collection, curation or infrastructure development unless those activities are part of the development and deployment of new data-driven analysis or techniques.

To be considered, supplemental funding requests must significantly enhance currently funded CMMI awards while incorporating data-driven approaches into the research activities. Activities should promote multidisciplinary research, learning and/or collaboration and supplemental funding requests must state explicitly how the proposed work enhances the impact of the original award. The end date of the original award must be at least 90 days after the submission of the supplemental funding request.

Supplements will be considered for active awards in CMMI Core Programs and for awards made under certain program solicitations, including CAREER awards. Submission of supplemental funding requests will be accepted any time. Proposed budget requests may not exceed 20% of the original award budget amount and are not anticipated to exceed $70,000.

Interested PIs should contact the cognizant Program Officer for the active award they seek to supplement prior to submission of the supplemental funding request. For further information, PIs may also contact Alexis Lewis, ENG/CMMI, alewis@nsf.gov.

U.S. colleges and universities should take a more intentional, inclusive, and evidence-based approach to mentoring students in STEMM (science, technology, engineering, mathematics, and medicine) – a shift that could engage and help retain a broader group of students in these fields, says a new report from the National Academies of Sciences, Engineering, and Medicine.

Effective mentoring relationships have an overall positive effect on academic achievement, retention, and degree attainment, as well as on career success and satisfaction, the report says. Mentored students pursue graduate study more frequently than students without mentoring support and are more likely to stay in STEMM. Mentorship can also increase access, equity, and inclusion in STEMM. Studies have shown, for example, that effective mentorship for students from underrepresented groups enhances their recruitment into and retention in research-related career paths.

Despite its importance, mentorship rarely receives the focused attention, evaluation, and recognition given to other aspects of professional development such as teaching and research, the report says. With few exceptions, the nation’s academic institutions have largely left mentorship to happen organically or on an ad hoc basis. Moreover, studies report that STEMM students from underrepresented groups typically receive less mentorship than their peers in well-represented groups.

“There is a gap between what we know about effective mentoring and how it is practiced in our nation’s colleges and universities,” said Angela Byars-Winston, chair of the committee that wrote the report, and professor of medicine at the University of Wisconsin, Madison. “A growing body of evidence exists about how to create and sustain successful, inclusive mentoring relationships. We hope that our report can catalyze institutions’ use of that evidence to create affirming environments and more effectively foster the talents of all of their students.”

The report (downloadable as free pdf) was released along with an online interactive guide to support institutions, departments, and faculty members in implementing the report’s recommendations.

Frontiers in Massive Data Analysis

Data mining of massive data sets is transforming the way we think about crisis response, marketing, entertainment, cybersecurity and national intelligence. Collections of documents, images, videos, and networks are being thought of not merely as bit strings to be stored, indexed, and retrieved, but as potential sources of discovery and knowledge, requiring sophisticated analysis techniques that go far beyond classical indexing and keyword counting, aiming to find relational and semantic interpretations of the phenomena underlying the data.

Frontiers in Massive Data Analysis examines the frontier of analyzing massive amounts of data, whether in a static database or streaming through a system. Data at that scale--terabytes and petabytes--is increasingly common in science (e.g., particle physics, remote
sensing, genomics), Internet commerce, business analytics, national security, communications, and elsewhere. The tools that work to infer knowledge from data at smaller scales do not necessarily work, or work well, at such massive scale. New tools, skills, and approaches are necessary, and this report identifies many of them, plus promising research directions to explore. Frontiers in Massive Data Analysis discusses pitfalls in trying to infer knowledge from massive data, and it characterizes seven major classes of computation that are common in the analysis of massive data. Overall, this report illustrates the cross-disciplinary knowledge--from computer science, statistics, machine learning, and application disciplines--that must be brought to bear to make useful inferences from massive data.

**Training Students to Extract Value from Big Data: Summary of a Workshop**

As the availability of high-throughput data-collection technologies, such as information-sensing mobile devices, remote sensing, internet log records, and wireless sensor networks has grown, science, engineering, and business have rapidly transitioned from striving to develop information from scant data to a situation in which the challenge is now that the amount of information exceeds a human's ability to examine, let alone absorb, it. Data sets are increasingly complex, and this potentially increases the problems associated with such concerns as missing information and other quality concerns, data heterogeneity, and differing data formats.

The nation's ability to make use of data depends heavily on the availability of a workforce that is properly trained and ready to tackle high-need areas. Training students to be capable in exploiting big data requires experience with statistical analysis, machine learning, and computational infrastructure that permits the real problems associated with massive data to be revealed and, ultimately, addressed. Analysis of big data requires cross-disciplinary skills, including the ability to make modeling decisions while balancing trade-offs between optimization and approximation, all while being attentive to useful metrics and system robustness. To develop those skills in students, it is important to identify whom to teach, that is, the educational background, experience, and characteristics of a prospective data-science student; what to teach, that is, the technical and practical content that should be taught to the student; and how to teach, that is, the structure and organization of a data-science program.

Training Students to Extract Value from Big Data summarizes a workshop convened in April 2014 by the National Research Council's Committee on Applied and Theoretical Statistics to explore how best to train students to use big data. The workshop explored the need for training and curricula and coursework that should be included. One impetus for the workshop was the current fragmented view of what is meant by analysis of big data, data analytics, or data science. New graduate programs are introduced regularly, and they have their own notions of what is meant by those terms and, most important, of what students need to know to be proficient in data-intensive work. This report provides a variety of perspectives about those elements and about their integration into courses and curricula.

**Data Science for Undergraduates: Opportunities and Options**

Data science is emerging as a field that is revolutionizing science and industries alike. Work across nearly all domains is becoming more data driven, affecting both the jobs that are available and the skills that are required. As more data and ways of analyzing them become
available, more aspects of the economy, society, and daily life will become dependent on data.
It is imperative that educators, administrators, and students begin today to consider how to
best prepare for and keep pace with this data-driven era of tomorrow. Undergraduate teaching,
in particular, offers a critical link in offering more data science exposure to students and
expanding the supply of data science talent. Data Science for Undergraduates: Opportunities
and Options offers a vision for the emerging discipline of data science at the undergraduate
level. This report outlines some considerations and approaches for academic institutions and
others in the broader data science communities to help guide the ongoing transformation of
this field.
New Funding Opportunities
(Back to Page 1)

Content Order
New Funding Posted Since November 15 Newsletter
URL Links to New & Open Funding Solicitations
Solicitations Remaining Open from Prior Issues of the Newsletter
Open Solicitations and BAAs

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

New Funding Solicitations Posted Since November 15 Newsletter

Addressing Systems Challenges through Engineering Teams (ASCENT)
ECCS, through its ASCENT program, offers its engineering community the opportunity to address research issues and answer engineering challenges associated with complex systems and networks that are not achievable by a single principal investigator or by short-term projects and can only be achieved by interdisciplinary research teams. ECCS envisions a connected portfolio of transformative and integrative projects that create synergistic links by investigators across its three ECCS clusters: Communications, Circuits, and Sensing-Systems (CCSS), Electronics, Photonics and Magnetic Devices (EPMD), and Energy, Power, Control, and Networks (EPCN), yielding novel ways of addressing challenges of engineering systems and networks. ECCS seeks proposals that are bold and ground-breaking, transcend the perspectives and approaches typical of disciplinary research efforts, and lead to disruptive technologies and methods or enable significant improvement in quality of life. LOI January 7; full February 19.

NIAID Investigator Initiated Program Project Applications (P01 Clinical Trial Not Allowed)
This Funding Opportunity Announcement (FOA) invites submission of investigator-initiated Program Project (P01) applications. The proposed programs may address scientific areas relevant to the NIAID mission including the biology, pathogenesis, and host response to microbes, including HIV; the mechanisms of healthy immune system development and function across the lifespan; and immune dysfunction resulting in autoimmunity, immunodeficiency, allergy, asthma, and transplant rejection; and translational research to develop vaccines, therapeutics, and diagnostics to prevent and treat infectious and immune-mediated diseases. Each P01 application submitted to this FOA must include at least two related, synergistic research projects that share a common central theme, focus, and/or overall objective; and an administrative core. A P01 may include scientific cores, if needed for proposed research. Due January 24.
**Secondary Education, Two-Year Postsecondary Education, and Agriculture in the K-12 Classroom Challenge Grants Program (SPECA)**

The Secondary Education, Two-Year Postsecondary Education, and Agriculture in the K-12 Classroom Challenge Grants (SPECA) program seeks to: (a) promote and strengthen secondary education and two-year postsecondary education in the food, agriculture, natural resources and human (FANH) sciences in order to help ensure the existence of a workforce in the United States that's qualified to serve the FANH sciences system; and (b) promote complementary and synergistic linkages among secondary, two-year postsecondary, and higher education programs in the FANH sciences in order to advance excellence in education and encourage more young Americans to pursue and complete a baccalaureate or higher degree in the FANH sciences. Due February 6.

**Environmental Convergence Opportunities in Chemical, Bioengineering, Environmental, and Transport Systems (ECO-CBET)**

Creating solutions to pressing environmental and sustainability challenges will require input and imaginative approaches from various fields, perspectives, and disciplines. The National Academies of Sciences, Engineering and Medicine (NASEM), in their report "Environmental Engineering for the 21st Century: Addressing Grand Challenges," identified five critical challenges we must address as a society:

- Sustainably supply food, water, and energy
- Curb climate change and adapt to its impacts
- Design a future without pollution and waste
- Create efficient, healthy, and resilient cities
- Foster informed decisions and actions

The report further states, "The challenges provide focal points for evolving environmental engineering education, research, and practice toward increased contributions and a greater impact. Implementing this new model will require modifications in educational curriculum and creative approaches to foster interdisciplinary research on complex social and environmental problems." This solicitation aims to address these grand challenges by supporting a collaborative research model that seamlessly integrates sustainability, environmental engineering, and process science and engineering.

Accordingly, the Environmental Convergence Opportunities in Chemical, Bioengineering, Environmental, and Transport Systems (ECO-CBET) solicitation will support activities that confront vexing environmental engineering and sustainability problems by uncovering and incorporating fundamental knowledge to design new processes, materials, and devices from a systems-level perspective. Projects should be compelling and reflect sustained, coordinated efforts from interdisciplinary research teams. A key objective of the solicitation is to encourage conversations and robust collaborations amongst the chemical process, transport phenomena, bioengineering, and environmental and sustainability research communities such that unanticipated solutions may arise. Furthermore, training the future workforce to actively engage and be successful in interdisciplinary research will be necessary to continually innovate given the scope of the environmental problems faced by our global community. Preliminary due February 12; full due April 30.
National Robotics Initiative 2.0: Ubiquitous Collaborative Robots (NRI-2.0)
The program supports four main research themes that are envisioned to advance the goal of ubiquitous co-robots: **scalability**, **customizability**, **lowering barriers to entry**, and **societal impact**, including human safety. Topics addressing **scalability** include how robots can collaborate effectively with orders of magnitude more humans or other robots than is handled by the current state of the art; how robots can perceive, plan, act, and learn in uncertain, real-world environments, especially in a distributed fashion; and how to facilitate large-scale, safe, robust and reliable operation of robots in complex environments. **Customizability** includes how to enable co-robots to adapt to specific different tasks, environments, or people, with minimal modification to hardware and software; how robots can personalize their interactions with people; and how robots can communicate naturally with humans, both verbally and non-verbally. Topics in **lowering barriers to entry** should focus on lowering the barriers for conducting fundamental robotics research and research on integrated robotics application. This may include development of open-source co-robot hardware and software, as well as widely-accessible testbeds. Outreach or using robots in educational programs do not, by themselves, lower the barriers to entry for robotics research. Topics in **societal impact** include fundamental research to establish and infuse robotics into educational curricula, advance the robotics workforce through education pathways, and explore the social, economic, ethical, security, and legal implications of our future with ubiquitous collaborative robots. **Due February 12-26.**

EHR Core Research (ECR): Building Capacity in STEM Education Research (ECR: BCSER)
ECR’s Building Capacity for STEM Education Research (ECR: BCSER) solicitation supports projects that build individuals’ capacity to carry out high quality STEM education research that will enhance the nation’s STEM education enterprise and broaden the pool of researchers that can conduct fundamental research in STEM learning and learning environments, broadening participation in STEM fields, and STEM workforce development.

Specifically, ECR: BCSER supports activities that enable early and mid-career researchers to acquire the requisite expertise and skills to conduct rigorous fundamental research in STEM education. ECR: BCSER seeks to fund research career development activities on topics that are relevant to qualitative and quantitative research methods and design, including the collection and analysis of new qualitative or quantitative data, secondary analyses using extant datasets, or meta-analyses.

This career development may be accomplished through investigator-initiated projects or through professional development institutes that enable researchers to integrate methodological strategies with theoretical and practical substantive issues in STEM education. Early and mid-career faculty new to STEM education research, particularly underrepresented minority faculty and faculty at minority-serving and two-year institutions, are encouraged to submit proposals.

ECR: BCSER especially welcomes proposals that pair well with the efforts of NSF INCLUDES ([https://www.nsf.gov/news/special_reports/nsfincludes/index.jsp](https://www.nsf.gov/news/special_reports/nsfincludes/index.jsp)) to develop STEM talent from all sectors and groups in our society. Proposers are encouraged to identify topics that support the thrust of NSF INCLUDES projects. **Due February 28.**

NSF Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM)
IMPORTANT INFORMATION AND REVISION NOTES

1. The S-STEM program team will host webinars after the release of this solicitation. In the webinars, key features and expectations of the S-STEM program will be discussed. Information regarding the webinars will be posted to the S-STEM program webpage: https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5257.

2. The solicitation explicitly notes that not all STEM degrees are eligible for the S-STEM program. Eligible degrees for the S-STEM program have been more clearly defined and can be found in section "SUMMARY OF PROGRAM REQUIREMENTS/General Information/Synopsis of Program."

3. Principal Investigators (PIs) interested in submitting a request for supplemental funding should (a) contact their cognizant program officer before submission to discuss the proposal idea, and (b) follow the guidelines for supplemental funding requests for existing awards in the PAPPG.

4. The requirement that students be enrolled full-time has been eliminated. Students must now be enrolled at least half-time as defined by the institution.

5. All proposals must include specific tabular information described in section V.A.11.

6. The requirement of a third-year review only applies to Track 3 projects.

7. All projects are expected to contribute to the STEM education knowledge base.

Any proposal submitted in response to this solicitation should be submitted in accordance with the revised NSF Proposal & Award Policies & Procedures Guide (PAPPG) (NSF 19-1), which is effective for proposals submitted, or due, on or after February 25, 2019. Due March 25.

Dimensions of Biodiversity FY2020
The 2020 Dimensions of Biodiversity program is restricted to projects supported by international partnerships with the National Natural Science Foundation of China (NSFC), the São Paulo Research Foundation (FAPESP) of Brazil, and the National Research Foundation (NRF) of South Africa. Proposals are to be submitted jointly, with the US PIs submitting to NSF and the collaborating Chinese, Brazilian, or South African PIs submitting to their appropriate national funding agencies. Due March 27.

Solicitations Remaining Open from Prior Issues of the Newsletter

Science and Technology Studies (STS)
The Science and Technology Studies (STS) program supports research that uses historical, philosophical, and social scientific methods to investigate the intellectual, material, and social facets of the scientific, technological, engineering and mathematical (STEM) disciplines. It encompasses a broad spectrum of topics including interdisciplinary studies of ethics, equity, governance, and policy issues that are closely related to STEM disciplines.

The program’s review process is approximately six months. It includes appraisal of proposals by ad hoc reviewers selected for their expertise and by an advisory panel that meets twice a year. The deadlines for the submission of proposals are February 2nd for proposals to be funded as early as July, and August 3rd for proposals to be funded in or after January. There
is one exception: Doctoral Dissertation Improvement Grant proposals will have only one
deadline per year, August 3rd.

The Program encourages potential investigators with questions about the program to
contact one of the Cognizant Program Directors. Potential investigators who have concerns
about whether their proposal fits the goals of the program are encouraged to send a one-page
prospectus of their proposal idea to the Cognizant Program Directors. Guidelines for developing
one-page prospectuses are provided below under Guidelines for Developing Effective STS
Proposals. Due February 3.

**Frontier Research in Earth Sciences (FRES)**
The FRES program will support research in Earth systems from the core through the critical
zone. The project may focus on all or part of the surface, continental lithospheric, and deeper
Earth systems over the entire range of temporal and spatial scales. FRES projects should have a
larger scientific scope and budget than those considered for funding by disciplinary programs in
the Division of Earth Sciences (EAR). FRES projects may be interdisciplinary studies that do not
fit well within EAR's disciplinary programs or cannot be routinely managed by sharing between
disciplinary programs. Innovative proposals within a single disciplinary area with outcomes of
potential broad relevance to Earth Science research are also encouraged. Investigations may
employ any combination of field, laboratory, and computational studies with observational,
theoretical, or experimental approaches. Projects should be focused on topics that meet the
guidelines for research funded by the Division of Earth Sciences. Due February 5.

**HHMI's Driving Change initiative**
The goal of the HHMI Driving Change (DC) initiative is to drive genuine and lasting culture
change on university campuses so undergraduate students from all backgrounds, particularly
those who belong to historically excluded groups, will excel in STEM and graduate from college
well prepared to pursue advanced degrees and eventually assume leadership roles in STEM.
This initiative encourages a comprehensive approach to culture change with three interlocking
elements:

1. **A robust framework to support student success in STEM**
The first element focuses on the development of a coherent set of activities that provides a
robust framework to support student success in STEM. Each grantee campus will
create its version of the University of Maryland, Baltimore County (UMBC) Meyerhoff Scholars
Program (MYP), committing to achieve the outcomes and honor the underlying values of each
of the MYP components.

2. **A more inclusive STEM learning environment**
The second element focuses on creating a more inclusive STEM learning environment that
affects all STEM students at the university. Each campus planning to submit a grant proposal
will examine its current environment through a self-study. The findings of the self-study will
identify practices and behaviors that should change in order to achieve greater inclusivity in the
learning environment for all students, especially those students who are from groups
historically excluded from STEM.

3. **A learning community of institutions**
The third element reaches beyond the individual grantee university by convening a learning community of institutions that are engaged in DC. The DC learning community will meet regularly throughout the five years of the initiative to share their aspirations, experiences, and progress.

HHMI expects to award up to six grants to research universities with awards beginning as early as September 2021. Each grant will provide up to $500,000 per year for five years and will be non-renewable. These grants are intended to provide “start-up” funds to assist the grantee institution as it launches its DC program. The grant will not pay for student tuition and fees, nor will it provide indirect costs to the grantee institutions. The grantee university will carefully assess its progress, evaluate its program, and initiate strategies that will sustain progress beyond the duration of the HHMI grant. LOI February 7.

**NSF 20-516 Improving Undergraduate STEM Education: Pathways into the Earth, Ocean, Polar and Atmospheric & Geospace Sciences (IUSE:GEOPAths)**

The National Science Foundation's (NSF's) Improving Undergraduate STEM Education (IUSE) Initiative is a Foundation-wide effort to accelerate improvements in the quality and effectiveness of undergraduate education in all STEM fields including the learning, social, behavioral, and economic sciences. Undergraduate STEM education is critical for preparing both a diverse STEM workforce and a STEM-literate public that is ready to support and benefit from the progress of science [Reference 1]. The IUSE initiative provides a Foundation-wide framework of investments to support the agency's commitment to the highest caliber undergraduate STEM education. By improving the quality and effectiveness of undergraduate education in all STEM fields, IUSE investments enable NSF to lead national progress toward a diverse and innovative workforce and a STEM-literate public. Through the IUSE framework, NSF coordinates its investments in undergraduate programs and undergraduate STEM education to maximize impact, and to use shared metrics and appropriate program evaluation approaches. These investments are made across all directorates and address both STEM education in general and specific disciplinary needs. IUSE investments support a variety of activities including the inclusion of inquiry-based and active learning approaches in undergraduate STEM instruction, efforts to increase undergraduate STEM research experiences and courses, and research on the persistence and graduation of students in STEM programs. In addition, specific emerging cross-disciplinary needs include data science preparation for students in all majors, recruitment and retention of women and of students from underrepresented groups in STEM degree programs, incorporation of undergraduate research in STEM fields for STEM majors and non-majors, and re-envisioning of introductory courses in light of new research findings and theories. IUSE also seeks to broaden participation in STEM fields from all sectors and groups in society and proposers are encouraged to establish linkages, as appropriate, with components of the national network of NSF INCLUDES projects [Reference 2 in the Program Description section]. The Directorate for Geosciences (GEO) contributes to the IUSE initiative through the Improving Undergraduate STEM Education: Pathways into the Geosciences - Earth, Ocean, Polar and Atmospheric Sciences (IUSE:GEOPAths) funding opportunity. IUSE:GEOPAths invites proposals that specifically address the current needs and opportunities related to education within the geosciences community through the formation of STEM Learning Ecosystems that engage students in the study of the Earth, its oceans, polar regions and atmosphere. The
The primary goal of the IUSE:GEOPAths funding opportunity is to increase the number of students pursuing undergraduate and/or postgraduate degrees through the design and testing of novel approaches that engage students in authentic, career-relevant experiences in geoscience. In order to broaden participation in the geosciences, engaging students from historically excluded groups or from non-geoscience degree programs is a priority. While maintaining elements from the legacy tracks of GEOPATHS, this solicitation features three new funding tracks that focus on Geoscience Learning Ecosystems (GLEs): 1. GEOPAths: Informal Networks (IN). Collaborative projects in this track will support geoscience learning and experiences in informal settings for teachers, pre-college (e.g., upper level high school) students, and early undergraduates in the geosciences. 2. GEOPAths: Undergraduate Preparation (UP). Projects in this track will engage pre-college and undergraduate students in extra-curricular experiences and training in the geosciences with a focus on service learning [Reference 3 in the Program Description section] and workplace skill building. 3. GEOPAths: Graduate Opportunities (GO). Projects in this track will improve research and career-related pathways into the geosciences for undergraduate and graduate students through institutional collaborations with a focus on service learning and workplace skill building. Due February 14.

DE-FOA-0002184, Environmental System Science, Department of Energy - Office of Science
The DOE SC program in Biological and Environmental Research (BER) hereby announces its interest in receiving applications for research in Environmental Systems Science (ESS), including Terrestrial Ecosystem Science (TES) and Subsurface Biogeochemical Research (SBR). The goal of the Environmental System Science (ESS) activity in BER is to advance a robust, predictive understanding of the set of interdependent physical, biogeochemical, ecological, hydrological, and geomorphological processes for use in Earth system, ecosystem and reactive transport models. Using an iterative approach to model-driven experimentation and observation, and interdisciplinary teams, ESS-supported scientists work to unravel the coupled physical, chemical and biological processes that control the structure and functioning of terrestrial ecosystems and integrated watersheds across critical spatial and temporal scales. This FOA will consider applications that focus on improving the understanding and representation of terrestrial and subsurface environments in ways that advance the sophistication and capabilities of local, regional, and larger scale models. Using new measurements, field experiments, more sophisticated modeling and/or synthesis studies, this FOA will encompass two topic areas: 1) Terrestrial Ecology, specifically linking above and belowground processes, as well as methane biogeochemistry; and 2) Subsurface and Watershed Hydro-biogeochemistry, specifically studying the function and dynamics of hydro-biogeochemical processes within watersheds. All applications are required to clearly delineate an integrative, hypothesis-driven approach and describe the existing needs/gaps in state-of-the-art models. Applicants should provide details on how the results of the proposed research will be used to improve the predictability and sophistication of integrated watershed systems and/or terrestrial ecosystem models. Due Feb. 20.

NSF 20-515 Future of Work at the Human-Technology Frontier: Core Research
The specific objectives of the Future of Work at the Human-Technology Frontier program are to (1) facilitate convergent research that employs the joint perspectives, methods, and knowledge
of computer science, design, engineering, learning sciences, research on education and workforce training, and social, behavioral, and economic sciences; (2) encourage the development of a research community dedicated to designing intelligent technologies and work organization and modes inspired by their positive impact on individual workers, the work at hand, the way people learn and adapt to technological change, creative and supportive workplaces (including remote locations, homes, classrooms, or virtual spaces), and benefits for social, economic, educational, and environmental systems at different scales; (3) promote deeper basic understanding of the interdependent human-technology partnership to advance societal needs by advancing design of intelligent work technologies that operate in harmony with human workers, including consideration of how adults learn the new skills needed to interact with these technologies in the workplace, and by enabling broad workforce participation, including improving accessibility for those challenged by physical or cognitive impairment; and (4) understand, anticipate, and explore ways of mitigating potential risks arising from future work at the human-technology frontier. Ultimately, this research will advance understanding of how technology and people interact, distribute tasks, cooperate, and complement each other in different specific work contexts of significant societal importance. It will advance the knowledge base related to worker education and training and formal and informal learning to enable all potential workers to adapt to changing work environments. It will advance our understanding of the links between the future of work at the human-technology frontier and the surrounding society, including the intended potential of new technologies and the unintended consequences for workers and the well-being of society. For the purposes of this solicitation, work is defined as mental or physical activity to achieve tangible benefit such as income, profit, or community welfare. The Future of Work at the Human-Technology Frontier is, in turn, a conceptualization of work in the future that will be enabled or improved by advances in intelligent technology and their synergistic integration with human skill to achieve broad participation in the workforce and improve the social, economic, and environmental well-being of society. To reach this goal, research is sought that is anchored in work. Proposals must clearly define the work and work context addressed by the research. Technological innovations should be integrated with advances in the learning sciences, research on education and workforce training, and social, behavioral, and economic science perspectives. Potential results should contribute to fundamental advances in optimizing the human-technology team, the science and technology of future workforce development and education, work environments, and positive work outcomes for workers and society at large. Proposals are encouraged that are oriented toward the future of work at the human-technology frontier and that are not overly couched in current technology or work practices. A proposal for a research grant in this program must focus on advancing fundamental understanding of future work, and potential improvements to work, workplaces, workforce preparation, or work outcomes for workers and society. **Due March 9.**

**DE-FOA-0002204  Energy Frontier Research Centers**

The Department of Energy’s (DOE) Office of Basic Energy Sciences (BES) announces the call for Energy Frontier Research Centers (EFRC) proposals and encourages both new and renewal applications. Applications will be required to address priority research directions and opportunities identified in recent BES workshop and roundtable reports, the scientific grand
challenges identified in the report Directing Matter and Energy: Five Challenges for Science and the Imagination, and the opportunities described in the report Challenges at the Frontiers of Matter and Energy: Transformative Opportunities for Discovery Science. All of these reports are described below. BES is soliciting proposals in four (4) topical areas: 1) Environmental Management (new and renewal proposals); 2) Quantum Information Science (new proposals only); 3) Microelectronics (new proposals only); and 4) Polymer Upcycling (new proposals only). Funding will be competitively awarded to the successful Energy Frontier Research Center applications selected by Federal officials, based on a rigorous merit review process as detailed in Section V of this Funding Opportunity Announcement (FOA). Due April 7.

N00173-19-S-BA01 NRL Long Range Broad Agency Announcement (BAA) for Basic and Applied Research

The NRL’s Broad Agency Announcement (BAA) issued under the provisions of paragraphs 35.016 and 6.102(d)(2) of the Federal Acquisition Regulations (FAR). Proposals may range from theoretical studies to proof-of-concept to include fabrication and delivery of a prototype. However, this is limited to research procurements for which it would be impossible to draft an adequate RFP in sufficient detail without restraining the technical response and thus hindering competition rather than expanding it. BAA topics include all NRL sites located in the Washington, DC area, the Stennis Space Center, MS, and Monterey, CA. Proposals submitted in response to a BAA announcement that are selected for award are considered to be the result of full and open competition and are in full compliance with the provisions of Public Law 98-369, "The Competition in Contracting Act of 1984."

NRL is interested in receiving proposals for the research efforts described under this BAA. This announcement is an expression of interest only and does not commit the Government to make any award or to pay for any proposal preparation costs. The cost of proposal preparation for response to a BAA is not considered an allowable direct charge to any resultant contract or any other contract; however, it may be an allowable expense to the normal bid and proposal indirect cost specified in FAR 31.205-18. Open to Sept. 10, 2020.

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.]

HR001119S0071, DSO Office-wide Broad Agency Announcement, Department of Defense DARPA - Defense Sciences Office 2020 BAA

The mission of the Defense Advanced Research Projects Agency (DARPA) Defense Sciences Office (DSO) is to identify and create the next generation of scientific discovery by pursuing high-risk, high-payoff research initiatives across a broad spectrum of science and engineering disciplines and transforming these initiatives into disruptive technologies for U.S. national security. In support of this mission, the DSO Office-wide BAA invites proposers to submit innovative basic or applied research concepts that address one or more of the following

Open Solicitations and BAAs
technical domains: (1) Frontiers in Math, Computation and Design, (2) Limits of Sensing and Sensors, (3) Complex Social Systems, and (4) Anticipating Surprise. Each of these domains is described below and includes a list of example research topics that highlight several (but not all) potential areas of interest. Proposals must investigate innovative approaches that enable revolutionary advances. DSO is explicitly not interested in approaches or technologies that primarily result in evolutionary improvements to the existing state of practice. Open to June 12, 2020.

**Access to Historical Records: Major Initiatives FY 2021**

The National Historical Publications and Records Commission seeks projects that will significantly improve public discovery and use of major historical records collections. The Commission is especially interested in collections of America’s early legal records, such as the records of colonial, territorial, county, and early statehood and tribal proceedings that document the evolution of the nation’s legal history. For more information about how to become an invited applicant, please see the Preliminary Proposal announcement. (https://www.archives.gov/nhprc/announcement/preliminary-proposal/prelim.html) All types of historical records are eligible, including documents, photographs, born-digital records, and analog audio and moving images. Projects may:

- Digitize historical records collections, or related collections, held by a single institution and make them freely available online
- Provide access to born-digital records
- Create new freely-available virtual collections drawn from historical records held by multiple institutions
- Create new tools and methods for users to access records

The NHPRC welcomes collaborative projects, particularly for bringing together related records from multiple institutions. Projects that address significant needs in the field and result in replicable and scalable approaches will be more competitive. We also encourage organizations to actively engage the public in the work of the project. Applicants should also consult Access to Historical Records: Archival Projects program, which has different requirements and award amounts. For a comprehensive list of Commission limitations on funding, please see: "What we do and do not fund" (http://www.archives.gov/nhprc/apply/eligibility.html). Applications that consist entirely of ineligible activities will not be considered. Due July 9, 2020.

**BAA-AFRL-RQKMA-2016-0007 Air Force Research Laboratory, Materials & Manufacturing Directorate, Functional Materials and Applications (AFRL/RXA) Two-Step Open BAA**

Air Force Research Laboratory, Materials & Manufacturing Directorate is soliciting White Papers and potentially technical and cost proposals under this two-step Broad Agency Announcement (BAA) that is open for a period of five (5) years. Functional Materials technologies that are of interest to the Air Force range from materials and scientific discovery through technology development and transition, and support the needs of the Functional Materials and Applications mission. Descriptors of Materials and Manufacturing Directorate technology interests are presented in the context of functional materials core technical competencies and applications. Applicable NAICS codes are 541711 and 541712. Open to April 20, 2021.
Army Research Office Broad Agency Announcement for Basic and Applied Scientific Research
This BAA sets forth research areas of interest to the ARO. This BAA is issued under FAR 6.102(d)(2), which provides for the competitive selection of basic and applied research proposals, and 10 U.S.C. 2358, 10 U.S.C. 2371, and 10 U.S.C. 2371b, which provide the authorities for issuing awards under this announcement for basic and applied research. The definitions of basic and applied research may be found at 32 CFR 22.105.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 provision of Public Law 98-369, "The Competition in Contracting Act of 1984" and subsequent amendments. Open to April 30, 2022.

FA9453-17-S-0005 Research Options for Space Enterprise Technologies (ROSET)
The Air Force Research Laboratory (AFRL) Space Vehicle Directorate (RV) is interested in receiving proposals from all offerors to advance state of the art technology and scientific knowledge supporting all aspects of space systems including payload adapters, on-orbit systems, communications links, ground systems, and user equipment. Efforts will include basic and advanced research, advanced component and technology development, prototyping, and system development and demonstration and will span the range from concept and laboratory experimentation to testing/demonstration in a relevant environment. Specific tasks include design, development, analysis, fabrication, integration, characterization, testing/experimentation, and demonstration of hardware and software products. Open to September 22, 2022.

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 submission 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.**
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 - Workshops, seminars and webinars on how to find and compete for research funding from NSF, NIH, DoE and other government agencies as well as foundations. Proposal development retreats for new faculty.

- 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 and other junior investigator programs

- Assistance on your project narrative: in-depth reviews, rewrites, and edits

- Editing and proof reading of journal articles, book manuscripts, proposals, etc.

- Facilities and Instrumentation - Assistance in identifying and competing for grants to fund facilities and instrumentation

- Training for Staff - Professional Development for research office and sponsored projects staff

Workshops by Academic Research Funding Strategies

We offer workshops on research development and grant writing for faculty and research professionals based on all published articles.

(View Index of Articles)

Copyright 2019 Academic Research Funding Strategies. All rights reserved.