Check Out Our eBook!

New Faculty Guide to Competing for Research Funding provides an invaluable tool to faculty writing research grants, or for use by research offices developing grantwriting workshops to help faculty write more competitive proposals. View Table of Contents and Order

This year we will again offer a CAREER Webinar for faculty interested in pursuing an NSF CAREER grant. The webinar is scheduled for Thursday, April 18th from 2 – 4 pm Eastern Time. Cost is $275 per institution. A link to the registration page and more info is posted at our website (here).

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About the editor

Katherine E. Kelly, PhD, is a retired English professor from Texas A&M University. She is the author of several books and numerous articles 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.
The combination of a too subtle program officer and a too optimistic grant applicant often leads to an unsatisfactory conclusion. When this dynamic occurs, it is usually the result of a program officer attempting to encourage rather than discourage an applicant who then exercises selective hearing. The ground becomes set for this dynamic when an applicant poses general questions to a program officer as he first considers a response to a solicitation. These questions will not elicit a critical review of the proposed idea, but rather more general observations that carry no commitment on the likelihood of funding success whatsoever. Such a commitment is the purview of the review panel. But an overly optimistic applicant may misinterpret a program officer’s indication of an idea’s likely fit for an agency’s solicitation as a signal that the agency is likely to fund the idea were it to be proposed. It is not unheard of for an overly optimistic applicant to tell colleagues after consulting with a program officer that “The agency really wants to fund this idea. We just have to submit a proposal.” Unfortunately, the kindness that motivates an officer’s subtlety and indirectness does not always offer the best approach for those who passionately believe in the exceptionalism of their ideas.

There are many good reasons to contact an agency program officer to provide clarification on all sorts of issues related to submitting a proposal. But if an applicant believes that such a conversation gives her an inside track to funding success, then she is likely suffering from what psychologists call optimism bias, or, as former Federal Reserve Board Chairman Alan Greenspan described the dot-com bubble of the 1990’s, as "irrational exuberance.” Reading too much into a program officer’s encouraging comments occurs more often among inexperienced investigators and more often on the more prestigious programs, e.g., many NSF cross-cutting programs, various institutional grants, or center-level proposals from various agencies. Many of the most prestigious programs, i.e., those highly visible programs most sought after by universities, draw large numbers of applicants but low funding rates. This environment often serves as a Petri dish for breeding excessive and unrealistic expectations, or “irrational exuberance.”

Hoping for success in such environments is fine, but like all things related to successful grant writing, you must temper optimism with self-discipline and realistic self-assessment. Don’t expect a program officer to assume the role of the person responsible for your own realistic assessment of the quality of your research idea and your plans for achieving it. It is, therefore, important when talking to a program officer to look for subtle signals and “tells” that indicate whether your idea may need to be more fully developed before it can compete for funding. Take care to listen closely and respect the fact that some program officers prefer to use indirectness to signal discouraging news. However, if you are a hopelessly experiential learner, then you may have to wait for the brutally frank opinions expressed by reviewers. After all, if you talk to an agency program officer about submitting a proposal to that agency, it is unlikely that the officer will give any of the following responses:
Sure, I would love to tell you the probability of your being funded, but that is not permitted, although I do have a number in mind.

Your idea is not very exciting or novel in any way whatsoever.

I am looking at a pile of declined proposals that advanced the same research as you propose.

We did fund some research in this area back in the 1980s.

Why does “cold fusion” keep coming to mind when I am talking with you?

Your research is not in an area the agency views as worth funding.

My impression is that you are on a fishing expedition and that you will propose any research you think we might fund.

We do not fund “Field of Dreams” proposals. If you build it, do it with your money, not ours, because we don’t think anyone will come, even the ghosts of researchers past.

You seem to have insufficient experience and expertise in the research topic; in fact, it appears you have none.

Why are you wasting my time asking questions you could easily answer yourself by a close reading of the solicitation and the referenced documents?

Have you actually read the solicitation?

Yes, NSF has entered into a national conspiracy to deny funding to your region of the county and only make awards to the less deserving regions that we favor.

Fortunately, most program officers can handle these situations with grace and subtlety, signaling to the potential applicant that perhaps a reassessment and reconsideration of the planned proposal is in order. The problem arises when the program officer is too kind, too subtle, too indirect, and too encouraging to a potential applicant who then begins to see a realistic self-assessment as a waste of time. As Mark Twain once commented, “The only thing sadder than a young pessimist is an old optimist.” So make sure that when you talk to a program officer, you really listen to ensure that your optimism does not drown out the conversation. You want to come away better able to make a realistic self-assessment of the appropriateness of your research to a particular program area. Outside of the Three Stooges, no one likes to hit another person in the forehead with a ball-peen hammer to get a point across, so don’t expect that of the program officer. At some point, the reviewers may oblige you if you continue to avoid performing your own self-assessment before developing, writing, and submitting a proposal.
NSF held an informational INSPIRE webcast on January 29. The webcast featured a discussion of the INSPIRE funding mechanism, the current INSPIRE solicitation (NSF 13-518), and the FY2013 INSPIRE competition. INSPIRE Program Officers addressed frequently asked questions (FAQs) and answered questions submitted by the online audience. These online questions can be the most helpful segment of these webinars when they prompt the program officers to go beyond a verbatim reading of published information. The officer’s elaboration of the formal announcement and guidelines posted on the official website can illuminate and clarify the official posting. The recent INSPIRE webcast has been archived and is available through the TV Worldwide webpage. Registration is required to view the archived webcast. What follows is a summary report based on the INSPIRE webcast and materials presented during the -90minute webcast two weeks ago.

INSPIRE represents a small (less than 2%) part of the NSF portfolio and is an experiment intended only for bold, exceptional proposals that may be at a disadvantage in the standard process, where they might be viewed as too speculative. With this in mind, it is helpful to review what NSF means by transformational research when considering the INSPIRE program (see NSF FAQ for Potentially Transformative Research), particularly in terms of how NSF pushes the transformational boundary in defining the INSPIRE domain. For more background on the establishment of this program, see the NSF INSPIRE/CREATIV Webinar Report in the December 15, 2011 issue of this newsletter.

In 2012, about 12% of the inquiries, i.e., LOIs, (2012 CREATIV inquiries were the counterparts of INSPIRE Track 1 LOIs in 2013) resulted in an invitation to submit a proposal. The program directors functioned as a strict, rigorous filter. When program directors declined an inquiry, they gave as their most common reason that the inquiry was suited for submission to a regular research program utilizing a standard review process, possibly involving multiprogram coreview. INSPIRE is intended for proposals whose bold, interdisciplinary approaches put them at a disadvantage in standard review processes.

As is customary with NSF webinars, the INSPIRE webinar did not address any issues not accessible in the official program documents already posted to the NSF website; however, like all webinars, it did offer an opportunity to hear a more nuanced discussion of the program and to overhear questions answered in a way that would likely deepen an understanding of the program objectives and the application process. Given the competitiveness of the INSPIRE program, proposers would be wise to view the archived webinar to enhance the competitiveness of their efforts.

Moreover, the required Letter of Intent (LOI) for the INSPIRE program differs from the normal process in that NSF staff will rule out prospective proposals on the basis of their review of the LOIs (note the LOI must be submitted through FastLane and not Grants.gov). In other NSF solicitations, LOIs are intended for NSF’s information only and are not reviewed. However, in the case of INSPIRE, you must make a substantive scientific case in the LOI that your proposed
research is of the quality expected of an INSPIRE grant. Moreover, there are two parts to the letter of intent (LOI): the directly-submitted FastLane form and the offline Supplement Form sent to inspire@nsf.gov. There are technical restrictions on the FastLane LOI form: the "Synopsis" and "Other Comments" data fields are limited to 2,500 characters each, and they accept plain text only. This means that, within the FastLane form, your space to make a scientific case for your project idea is limited to 5,000 plain-text characters. The Supplement Form allows you more space, and enables you to send formatted text, tables, figures, etc.

The descriptive material about your project is limited to 5,000 plain-text characters in the FastLane form (2,500 each for the Synopsis and Other Comments data fields), plus 10,000 characters (approximately 2 single-spaced pages) in the Supplement Form for Track 1, or 15,000 characters (approximately 3 single-spaced pages) in the Supplement Form for Track 2. If you include figures or tables in your Supplement Form, NSF will estimate the number of characters that would occupy a comparable space on the form and will subtract that amount from your character limit.

The INSPIRE funding opportunities are being offered as approved pilot activities that deviate in certain ways from established NSF policies. This is particularly important given that a Track 1 ($1 M) award must be substantially cofunded by two or more intellectually distinct NSF divisions or programs and Track 2 ($3 M) projects must be substantially cofunded by at least three intellectually distinct NSF divisions or programs whose research communities do not have a well-established history of collaboration. The Director’s INSPIRE awards provide an additional $500,000 to the PI but are by nomination only.

Importantly, the January 31 webinar discussion by program officers often referred to a graphical representation of the awards’ interdisciplinary connections among all NSF research directorates and programmatic offices. It may be seen at INSPIRE Links: 2012 Awards. This admittedly busy graphic does help explain the relational configurations among NSF divisions and offices that were put forward by those successful for funding in 2012.

In 2012, as was noted by program officers conducting the recent webinar, 40 awards were made across 20 states (FY 2012 INSPIRE Links; see Recent Awards and Abstracts for more detailed information). However, it is worth noting that no awards were made to faculty at predominately undergraduate institutions (PUIs) in 2012. However, regardless of institution, the take-away message from the INSPIRE webinar is: do your homework on the NSF website before you submit the required Letter of Intent using Fastlane.

In the webinar, NSF stressed that the formal process begins with submission of a FastLane letter of intent (LOI) for INSPIRE solicitation NSF 13-518. You should put considerable thought and planning into your proposal idea. Define the size and scope of your project in order to determine which of the two basic INSPIRE funding opportunities (Track 1 and Track 2) to pursue, and to estimate the total funding request as required by the LOI. (The third INSPIRE funding opportunity, Director’s Awards, is available only indirectly by submitting a Track 1 LOI as a single investigator.) Identify at least two (for Track 1) or three (for Track 2) appropriate NSF program directors to evaluate your LOI. Do this thoughtfully--carefully consider the program directors you name for their relevance to the project. Naming program directors who are far removed from your topic will lead to delays and unproductive effort both for you and for them. Do not name senior managers.
If you are considering a submission to the INSPIRE program, it may be helpful to differentiate this program from the EAGER projects, which are limited to two years' duration and $300,000 in funding, as explained in the Grant Proposal Guide. EAGER supports exploratory work in its early stages on untested, but potentially transformative, research ideas or approaches. EAGER awards are typically supported by one disciplinary program, entirely with its own funds. The INSPIRE Track 1 mechanism, on the other hand, allows for increased project scope beyond the exploratory stage in both duration and funding level. Track 1 requires interdisciplinarity in both content and cofunding in keeping with the goals of INSPIRE. Also, the FY 2013 INSPIRE budget request provides NSF-wide funding to leverage the investments of the cofunding programs in Track 1 awards (also see Where To Submit Potentially Transformative Research Proposals).

The INSPIRE awards program was established to address some of the most complicated and pressing scientific problems that lie at the intersection of traditional disciplines. It is intended to encourage investigators to submit bold, exceptional proposals that some may consider to be at a disadvantage in a standard NSF review process; it is not intended for proposals that are more appropriate for existing award mechanisms. INSPIRE is open to interdisciplinary proposals on any NSF-supported topic, submitted by invitation only after a preliminary inquiry process initiated by submission of a required Letter of Intent. In fiscal year 2013, INSPIRE provides support through the following three pilot grant mechanisms:

- **INSPIRE Track 1.** This is essentially a continuation of the pilot CREATIV mechanism from FY 2012, which was detailed for 2012 in Dear Colleague Letter NSF 12-011.

- **INSPIRE Track 2.** These are "midscale" research awards at a scale larger than Track 1, allowing for requests of up to $3,000,000 over a duration of up to five years. Expectations for crosscutting advances and for broader impacts are greater than in Track 1, and the review process includes external review.

- **Director’s INSPIRE Awards.** These are prestigious individual awards to single-investigator proposals that present ideas for interdisciplinary advances with unusually strong, exciting transformative potential.

As with CREATIV in 2012, only internal review is required for INSPIRE Track 1. On the basis of the LOI, program directors will determine whether to invite a full proposal, which they can subsequently review internally. The process is relatively straightforward, and the split funding commitments occur at a level that permits programs to invest in them comfortably. In view of the greater magnitude of Track 2, its process is necessarily more complicated. Beyond scientific backing of LOIs by program directors, full-proposal invitations require potential support such that a strong full proposal would have a reasonable prospect of being awarded at or near the LOI’s requested budget level. INSPIRE Track 2 does not seek to make awards with greatly reduced budgets. Thus, the LOI review entails assessment of resource interest as well as scientific interest. Subsequently, invited full proposals are reviewed externally by a blue-ribbon panel of broad scientific thinkers, as well as internally for more specialized expertise by program directors (and by external ad hoc reviewers, as needed). Pending availability of funds, we anticipate that most Track 1 full proposals will result in awards, as was the case for CREATIV in 2012 (and for EAGER proposals in recent years). Track 2 invitations will be calibrated to create a healthy competition for available funds.
Preparing for Transagency Research: NSF/USDA/NIFA

The new program solicitation for NSF Water Sustainability and Climate (WSC) posted February 1 (NSF 13-535) offers a good example of how transdisciplinary, transagency research requires a more comprehensive strategic plan by the principal investigators to develop, write and submit a competitive proposal. WSU is a program of three NSF directorates (Geosciences, Engineering, and Social, Behavior, and Economic Sciences) and the USDA’s National Institute of Food and Agriculture (NIFA). The WSC solicitation seeks to enhance the understanding and predict the interactions between the water system and land use changes (including agriculture, managed forest, and rangeland systems), the built environment, ecosystem function and services, and climate change/variability through place-based research and integrative models.

Importantly, WSC enables interagency cooperation on one of the most pressing problems of the millennium--water sustainability, including how it is likely to affect our world, and how we can proactively plan for its consequences. It allows the partner agencies--NSF and USDA/NIFA--to combine resources to identify and fund the most meritorious and highest-impact projects that support their respective missions, while eliminating duplication of effort and fostering collaboration between agencies and the investigators they support.

Three categories of awards are anticipated for WSC (total funding of $26 M). Both NSF and USDA/NIFA funds will be used to support Category 1 & 3 awards: (C-1) small team synthesis, modeling, integration, and assessment projects that will use existing data (or new measurements) to study entire watersheds and groundwater sites; and (C-3) synthesis, modeling, and integration grants that will use only existing data to integrate and synthesize across watershed and groundwater sites. Some projects may be funded directly by USDA/NIFA.

There are many benefits to transdisciplinary, transagency research opportunities. However, to compete successfully for these grants, the research team will often be required to expand the scope and scale of the process for planning, developing, and writing the proposal beyond the typical requirements for a single-agency submission (see Integrating PI Experiences from Various Agencies in the December 15, 2012 issue of this newsletter). Most importantly, the research team will need to become sufficiently familiar with both partner agencies to ensure that the research narrative clearly conveys why the proposed research is significant to both agencies, brings value-added benefits to the research mission of both agencies, and fosters the desired collaboration among both agencies and investigators.

In this regard, considering transagency research among any partnered agencies requires the research team to be familiar with the mission, culture, and research priorities of each agency participating in the partnership. For example, research teams responding to the WSC solicitation may have experience almost exclusively at one agency, in this case either NSF or USDA/NIFA, or the team may have members with experience at both NSF and USDA/NIFA. Regardless, the research team putting forward any transagency proposal needs to be sufficiently informed about the mission, culture, and research priorities of each partner agency to ensure an integrated understanding of both agencies. This is similar to ensuring that a
transdisciplinary proposal transitions the research narrative from silos to synergy. Similarly, in transagency research, investigators must ground their research in and exploit the potential synergy between the partner agencies within the context of complementary mission interests. While the example of transagency research addressed herein relates to the WSC solicitation by NSF/USDA/NIFA, the process of developing transagency research proposals is largely generic in terms of understanding how transagency solicitations expand the scale and scope of the required planning, development, and writing of a competitive proposal. For example, transagency proposals are submitted by an interdisciplinary or transdisciplinary research team of PI/coPIs rather than by a single or a few coPIs working in a single, focused discipline. The transition from a single-PI proposal to a research team proposal in and of itself represents a significant change in the organizational management of the planned grant. Synthesis, integration, and synergy will become the goals of the proposed research and the research team must configure itself to achieve those goals. This is particularly relevant in relation to developing a more nuanced understanding of the partner agency’s research objectives and how the proposed research fits the mission of the partner agencies and how that research can be integrated to achieve value-added benefits for both of the partner agencies.

In the case of the WSC, for example, the USDA/NIFA areas of interest for the WSC solicitation originate in several documents from that agency about which potential applicants need to be sufficiently informed to write a competitive proposal. This applies specifically to the USDA Strategic Plan for 2010-2015 under Strategic Goal 2, Objective 2.2: Lead Efforts to Mitigate and Adapt to Climate Change, in particular the strategy to "Develop models, national observing and monitoring systems, decision support tools, and new technology and adaptation strategies for communities, agriculture producers, and natural resource managers"; and "Encourage the adoption of reasonable, transparent, and science-based programs to adapt to, or mitigate the effects of, climate change on agriculture and forestry."

Moreover, additional USDA/NIFA documents also address the benefits of the transagency partnership. The WSC solicitation for 2013 specifically supports the USDA Research, Education, and Economics Action Plan Goal 2: Responding to Climate and Energy Needs, Sub-goal 2A: Responding to Climate Variability, with direct reference to "Create adaptation strategies, including ‘transformative’ systems as described by the 2010 National Research Council publication Toward Sustainable Agricultural Systems in the 21st Century, e.g., crop-livestock, organic, agro-forestry, etc., to sustain and increase the resiliency of crop, livestock, and forest tree production systems, biodiversity, and ecosystem services, including practices and technologies that increase the resilience of subsistence food systems to climate variability, weather extremes, and changes in the composition of the atmosphere."

Given the above, the WSC solicitation serves both as a specific opportunity and as an example of generic transagency opportunities for approaching the effort to be competitive. As is the case for all transdisciplinary and transagency initiatives, the first caveat is that the research team must have a plan and a vision to transition the effort from silos to synergy. Silos are like weeds and they will infest a research narrative if the team members do not guard vigilantly against them. For example, for a research team considering the NSF/USDA/NIFA solicitation, the first order of business is not to treat NSF as Silo 1, USDA as Silo 2, and NIFA as Silo 3. Do sufficient homework and reading of referenced program documents to understand
the motivation of the transagency partnership and what the partnered institutions hope to gain from the partnership in terms of significant, value-added benefits to their *shared and programmatically integrated mission objectives* and how these, in turn, impact the research mission priorities of the each agency. Once this is understood, it will then provide an important context for the research narrative, enabling the final proposal to make a clear and compelling case for the research team’s understanding of two things: (1) the integrative research objectives of the agency partners, and (2) how the proposed research enables NSF and USDA/NIFA “to combine resources to identify and fund the most meritorious and highest-impact projects that support their respective missions, while eliminating duplication of effort and fostering collaboration between agencies and the investigators they support.”
Whether you are a newcomer or an experienced researcher with NSF, you may have noticed that the language the agency uses in its solicitations and on its website constantly evolves and changes. In this sense, NSF’s mantra of lying at the frontiers of scientific discovery applies both to the ideas it funds and to the language it uses to describe that frontier. **Fluency in the language used by a funding agency can be exploited to gain additional marginal advantage in writing a successful research narrative.** By contrast, failure to learn an agency’s language, either by ignoring that language or showing an indifference to it, can significantly reduce the competitiveness of a proposal. This can occur in several ways: for instance, it may impede your understanding of the solicitation, reduce the clarity with which you interpret the goals and objectives of the agency, and/or degrade the quality of your research narrative, particularly if you are not able to translate your ideas into the language of the funding agency when required.

It is the rare research narrative that does not offer several opportunities to echo the funding agency’s language as a way of enhancing a proposal’s merits. In this regard, “echo” does not mean “parrot.” **Fluency** is the operative term here. Adopting the agency’s preferred language must be done carefully and appropriately when describing your research. However, if you have not become comfortable with the agency’s language, then you have lost an opportunity to gain another competitive advantage in the research narrative.

The recent changes to the NSF merit review process that went into effect this past January 14 offer one example of how NSF language is evolving ([New Merit Review Website](#)). Other instances of language change can be found in NSF solicitations, reports, workshops, and the like. Several key language changes at NSF have to do with the evolving definition of terms most often used to describe NSF expectations in solicitations, including broader impacts, innovation, synergy, societal goals, transdisciplinarity, and value-added benefits, among others.

Whether you are writing a proposal to NSF or assisting with the development and writing of a proposal to NSF, it is important to keep in mind that **fluency in NSF's language and terms will translate into a significant competitive advantage during your proposal's review.** If NSF’s language sounds “foreign” to you, then you need to make that language familiar as quickly as possible. The following examples of NSF terms represent a good starting point for this process. In occasional subsequent articles on this topic, more terms will be addressed that play an important role in the competitiveness of your proposals. Understanding and using these clearly and unambiguously will help you demonstrate a clear understanding of the agency’s expectations.

**Broader Impacts**

As is the case with “societal benefits,” the most convincing and compelling definition of **broader impacts** will be one that you **self-define as a logical consequence of the research you propose** and which you have clearly embedded in the context of that research. The most
effective definition of broader impacts will appear to emerge from the research you propose rather than from a repetition of apparently undigested NSF language. In fact, the revised review criteria that became effective January 14 were motivated by many examples of proposers who interpreted NSF examples of broader impacts as a mandatory listing of activities required in the project description, regardless of their relevance to the proposed research. To avoid making this mistake, self-define broader impacts within the context of the proposed research, ensuring that the definition makes sense within that context.

Any definition and discussion of broader impacts needs to begin with an understanding of how NSF defines broader impacts at the more general and more global scale (see below NSF quote), and then quickly contextualize it to the scale of your proposed research in a manner that grows out of what you propose. Too often, proposers waste precious time trying to find a prescriptive definition of broader impacts (or societal benefits) published by NSF, or attempt to use a pre-existing or “canned” description and force fit it to their particular proposal (see Do Not Build Your Proposal Out of Spare Parts, October 1, 2011). This never works. There is no easy way around the fact that the broader impacts narrative section (now mandatory under revised merit review criteria) in your proposal must be well thought out and make sense within the context of the research you propose. So review the NSF general discussion of broader impacts below, and then start the harder task of self-defining what broader impacts means within the context of your unique research. And remember, sometimes the outcome of your research itself may represent the most compelling broader impacts if you succeed in what you propose.

NSF: “Broader impacts may be accomplished through the research itself, through the activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to, the project. NSF values the advancement of scientific knowledge and activities that contribute to achievement of societally relevant outcomes. Such outcomes include, but are not limited to: full participation of women, persons with disabilities, and underrepresented minorities in science, technology, engineering, and mathematics (STEM); improved STEM education and educator development at any level; increased public scientific literacy and public engagement with science and technology; improved well-being of individuals in society; development of a diverse, globally competitive STEM workforce; increased partnerships between academia, industry, and others; improved national security; increased economic competitiveness of the United States; and enhanced infrastructure for research and education.”

Innovation

NSF’s Strategic Plan for FY 2011 to 2016, Empowering the Nation through Discovery and Innovation, focuses on using discovery and innovation to benefit large segments of society. The fact that innovation appears in the title of this strategic document shows the importance the agency places on this concept. To expand your working definition of what NSF means by innovation, familiarize yourself with the NSF Innovation Corps (I-Corps) program. It focuses on a set of activities and programs that prepare scientists and engineers to extend their focus beyond the laboratory in order to broaden the impact of select, NSF-funded, basic-research projects through innovation. While innovation is the focus of this program, it
appears often as an important component of many NSF programs, making it essential to develop a definition of its meaning. NSF defines innovation as a way to help translate scientific and engineering discoveries into useful technologies, products and processes.

The agency objective in advancing innovation is to address the fact that, while knowledge gained from NSF-supported basic research frequently advances a particular field of science or engineering, some results also show immediate potential for broader applicability and impact in the commercial world. Such results may be translated into technologies with near-term benefits for the economy and society. I-Corp, for example, combines experience and guidance from established entrepreneurs with a targeted curriculum that teaches grantees to identify valuable product opportunities that can emerge from academic research, and offers entrepreneurship training to student participants. NSF seeks to advance this topic through what it often refers to as “innovation ecosystems.” The NSF investment in innovation ecosystems seeks to build on NSF’s investment in fundamental research to offer academic researchers and students an opportunity to learn firsthand about technological innovation and entrepreneurship to fulfill the promise of their discoveries.

Societal Goals/Impacts/Benefits/Implications

NSF now specifically addresses societal goals in the revised review criteria (effective January 14, 2013). The second of three guiding principles NSF recently published as part of the revised guidelines states: “NSF projects, in the aggregate, should contribute more broadly to achieving societal goals.” Moreover, the potential for the proposed activity to benefit society or advance desired societal outcomes is now one element of the five elements (described by NSF as “the things NSF cares about”) that NSF reviewers and program officers are to consider under the new guidelines in evaluating how well proposals address both the Intellectual Merit and Broader Impacts criteria. Here again, a good working definition of what NSF means by societal goals/impacts is important to developing a competitive proposal.

Like the broader impacts criterion, advancing societal goals often presents a challenge for principal investigators to address in the research narrative, and often confuses proposers trying to understand NSF’s expectations. This difficulty arises when principal investigators expect NSF to tell them precisely what the agency means by Societal Goals/ Impacts/ Benefits/ Implications. But this will never happen. In the end, the definition of societal goals and societal benefits as addressed in the research narrative needs to be organic to, or a logical extension of, the proposed research. Your specific definition of societal impacts needs to be incubated in the context of your research rather than from a prescriptive definition provided by NSF. As in the case of broader impacts, NSF provides a generic sense of these terms with the expectation that they will be tightly mapped to the context of your particular proposal. Basically, NSF expects that the research team responding to the societal benefits requirements in any solicitation will do so through a process of thoughtful consideration of the implications of the research within the context of its presentation in the project description. Your societal benefits discussion should be a logical outgrowth of that within your specific context. The most convincing and compelling societal benefits statement definition will be the one you self-define in the context of your proposed research. This brings to mind the position in which Nobel physicist I. I. Rabi found himself after the end of WWII when he told his research
colleagues that they were facing deep budget cuts to the laboratory: “Well, there is no more money available for equipment. Now we are going to have to start to think.” And so it will be for PIs deciding how to define and respond to NSF requirements related to societal impacts.

Transformative Research

Transformative research has become the mantra of many research agencies. However, it is advisable to recognize an agency-specific component to the definition. “Transformative research” means something different at NIH than it means at NSF, a difference that your research narrative will need to recognize. This article, will focus on the NSF definition of transformative research as addressed in the agency’s 2007 report, "Enhancing Support of Transformative Research at the National Science Foundation. In this report, the National Science Board presented its findings and recommendations that NSF should enhance its ability to identify and fund transformative research. NSF has consequently adopted the following working definition for transformative research:

"Transformative research involves ideas, discoveries, or tools that radically change our understanding of an important existing scientific or engineering concept or educational practice or leads to the creation of a new paradigm or field of science, engineering, or education. Such research challenges current understanding or provides pathways to new frontiers."

Transformative research results often do not fit within established models or theories and may initially be unexpected or difficult to interpret; their transformative nature and utility might not be recognized until years later. Characteristics of transformative research are that it:

(a) Challenges conventional wisdom,
(b) Leads to unexpected insights that enable new techniques or methodologies, or
(c) Redefines the boundaries of science, engineering, or education.

Transformative research often results from a novel approach or new methodology. Thus, some (but not all) transformative research will be viewed as risky. An interdisciplinary approach to research often produces transformative research, but not all interdisciplinary research is transformative and not all transformative research is interdisciplinary. Although there is no set formula that produces transformative research, everyone seems to agree that “you know it when you see it.” Additionally, the Advisory Committee for GPRA (Government Performance and Results Act of 1993) Performance Assessment (AC/GPA) identified awards it considered potentially transformative in the Report of the Advisory Committee for GPRA Performance Assessment, FY2009.

The following are examples of transformative research. The letters that follow reference the characteristics listed above:

- The continental drift model—at first controversial and then proved correct 50 years later based on new analytical methods and sampling of the ocean floor. (a)
- The discovery of metallic glasses, at first an obscure theoretical possibility that eventually made possible the operation of today’s integrated circuits. (a)
- The idea that polar ice sheets could serve as neutrino detectors, originally tested in Greenland through an NSF SGER award. (a, b)
- The discovery of the widespread exchange of genetic information in the environment, both among microbes and between microbes and higher organisms, which alters
evolutionary changes such as in the development of disease resistance and revises our fundamental understanding of The Tree of Life. (a, b).

- Research into large-scale, hypertext web searches that eventually led to the creation of Google. (b)
- The use of magnetic resonance imaging as a tool for monitoring brain function, which greatly expanded the limits of behavioral research. (b)
- The cross-disciplinary coordination of investigations into cognitive simulation and pedagogical techniques that resulted in today’s highly effective cognitive tutors. (b)
- The development of the Force Concept Inventory in Physics, which set a direction for improvement in education based on measurement of students’ deep understanding of scientific concepts. (b, c)
- Research on Very Large Scale Integrated circuit design methodology that not only led to the microelectronic revolution’s cell-phones, personal data assistants, and supercomputers, but also provided the intellectual framework of abstraction that pervades most of today’s computer science. (c)
- The careful refinement of distance measures in the Universe, intended to fine-tune cosmological parameters, which instead gave rise to radically new physics, and the concept of dark energy. (c)
Many large and center-level research solicitations reference documents, reports, technical workshops, conferences, and the like, either internal or external to the funding agency, that form the underpinnings for the agency initiating and funding the research program. This is particularly the case for large, research center solicitations sponsored by NIH, NSF, DOE, DOD, and NOAA, among others, that represent major agency investments over five, ten, or more years, in topic areas critical to the agency mission. Reviewing and understanding the often numerous documents referenced in a solicitation can be a time-consuming but important task. Such a review can give the researcher a competitive advantage in a well-written and well-argued research narrative. Researchers often overlook this opportunity to enhance their competitiveness by hesitating to invest the time it takes to review referenced documents and cite them in their own research narrative where such references can bolster the case for funding.

Of course, references cited in the solicitation by the funding agency play an altogether different role in the research narrative than do the references to cited articles authored by members of the research team. These can convince program officers and reviewers of the experience and capacity of the research team to perform. Clearly, references to cited articles authored by team members, particularly those demonstrating a history of collaboration, are the more valuable. But arguments woven into the research narrative demonstrating the research team’s understanding of its research within the broader context of the funding agency’s motives can provide an additional competitive advantage in the review process.

After all, all grants, but particularly center-level and center grants, are highly competitive and so every opportunity must be taken to gain every possible competitive advantage, both large and small. While a brilliant idea and the capacity to implement and manage the research forms the essential core of a successful proposal, a multitude of other competitive advantages must be seized to ensure success in a highly competitive environment. No competitive advantage is too small to ignore in planning, developing, and writing a competitive proposal.

An informed understanding of all the referenced documents in the research solicitation is one such area that offers another way to write a more complete, and hence successful, project description. Given this, someone needs to assume this role, particularly in the case of solicitations in which the funding agency embeds significant background references. This task can be performed by someone on the research team or by an experienced research development staff member. Regardless, the person in this role must have the capacity to translate a review of the documents referenced in the solicitation in a way that extracts relevant knowledge that can then be woven into the project narrative to clearly demonstrates the team’s nuanced understanding of the role their research can play in advancing the goals and objectives of the funding agency.
While many possible ways can be found to determine who might best play the role of researching the solicitation references for relevance to the research narrative, it is important that this role be fulfilled. The selected person should pursue this information early in the planning and development of the proposal so that the results can be seeded into the research narrative to make the project description stronger and better argued. Failing to perform this step represents an potential competitive advantage lost.
Research Grant Writing Web Resources

The Evolution of Behavioral and Social Sciences at NIH
There is consensus among the OBBSR and affiliated researchers and leaders: behavioral and social sciences research at NIH is enjoying a new-found level of appreciation. Traditionally, as the nation’s medical research agency, the NIH focused most of its efforts on the biology of illness and disease; however, a shift began in 1995 with the inception of the OBSSR, which recognized the importance of individual and social factors on illness and disease.

Senior Policy Leader, Ellen Stover, a 40-year veteran scientist with NIH, said they used to fight about funding for behavioral and social sciences research, but now she describes a climate of acceptance: “People like immunologists, biochemists and neuroscientists are turning to the more behavioral sciences for approaches, particularly in the adherence arena…I think there has been an appreciation from the medical community, and the biomedical community, that many of our approaches are very worthwhile and useful.”

Don't Underestimate NSF's New Grant-Submission Rules

Energy Department Launches New Database to Support Sustainable Development of Ocean Energy Resources
As part of an international collaboration with the International Energy Agency, the Energy Department today launched a new database that includes results of environmental monitoring and research efforts on wave, tidal, and current energy development worldwide. Called “Tethys,” after the Greek titaness of the ocean, the database will help industry regulators and energy project developers deploy sustainable ocean energy projects in an environmentally responsible manner. Developed through a partnership with the International Energy Agency's Ocean Energy Systems initiative (OES), the Tethys database and an accompanying report identify research on potential environmental effects and monitoring methods for ocean power. The database and report also provide the emerging global ocean energy industry with real-world data—documenting interactions between wave, tidal, and current devices, marine wildlife, and oceans' physical systems—that will help safely explore and expand the use of clean, renewable energy sources like ocean power. The Tethys database also features an interactive map of ocean energy environmental monitoring and research projects around the world to aid developers and regulatory agencies in siting and permitting future projects. The Energy Department encourages researchers in this area to submit their work to the database to further expand and improve this valuable resource. Learn more about DOE's efforts to support the responsible deployment of wave, tidal and current energy technologies.

SBIR Alerting Service
Pacific Northwest National Laboratory's free, award-winning SBIR/STTR Alerting Service is a nationwide resource that improves small business access to a substantial source of R&D capital for entrepreneurial ventures: $2.2 billion in annual federal research and development funds from 11 federal agencies.
Many entrepreneurial ventures nationwide rely on funding from the Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) programs as their primary source of capital for technology development and early-stage commercialization. The Alerting Service searches for and consolidates funding solicitations and other information from multiple agency websites and issues an electronic alert bi-weekly at no cost to subscribers.

Contents of Current Alert - February 1, 2013
- SBA SBIR Size Rule Notice
- National SBIR Conference Announcement and Spring Regional SBIR Events
- PHS 2013-2 Omnibus Solicitation for SBIR/STTR Grants Released
- DoD STTR Program 2013.A Solicitation Pre-release
- Conferences and Workshops
- Open Solicitations

SBIR Proposal Writing Basics: Articles

Catalyzing New International Collaborations

Proposals Accepted Anytime: Applicants are advised to submit proposals at least nine months prior to the expected date of the proposed activity.

The Catalyzing New International Collaboration (CNIC) program is designed to promote professional development of U.S. STEM researchers and to advance their research through international engagement.

Frequently Asked Questions for NSF 12-573, Catalyzing New International Collaborations

ELIGIBILITY
1. Who is eligible for the CNIC program?
2. How is a ‘new’ collaboration defined?
3. Where can I use a CNIC award?
4. What areas of research are supported by CNIC awards?
5. What forms of collaboration are funded?
6. Can CNIC support international workshops?
7. What if I have an active NSF Award?

COMMUNICATION WITH NSF REQUIRED BEFORE SUBMISSION
8. Why do I need to contact a disciplinary program officer prior to submission?
9. What is the difference between disciplinary and country/regional program officers?
10. How should I document my communication with NSF program officers in the proposal?
11. What should I include in the one-page summary of my intended CNIC proposal?
12. What can be supported with CNIC funds?
13. Do I need to include students?
14. Can postdoctoral fellows or students apply independently for a CNIC award?
15. How long can the project last?
16. What information do I need to include about the non-US based collaborator?
17. What is the average award size?
18. When should I submit my proposal?
19. How long will it take to get an answer?
20. How will my non-US based collaborator be funded?

SELECTION
21. What should I do to prepare a strong proposal?
22. How is a CNIC proposal tested for compliance?
23. How many awards will be made?
24. How will proposals be reviewed?

**e-Source: Your Digital Source for Behavioral Research**
OBSSR has teamed with the New England Research Institutes to create eSource – a comprehensive online resource for anyone interested in using behavioral and social science research methods to address our nation’s most critical public health issues. e-Source is a digital anthology that aims to provide easy-to-understand text in a user-friendly, dynamic online environment.

   eSource includes 20 interactive chapters with authoritative answers to methodological questions on behavioral and social science research. With contributions from a team of international experts, this anthology provides the latest information on addressing emerging challenges in public health.

   Content is free for everyone and registering for a new account unlocks enhanced features like the ability to save personalized notes and join discussion topics. e-Source provides answers at every stage of your project and addresses challenges often encountered in behavioral and social science research. Visit [http://www.esourceresearch.org](http://www.esourceresearch.org).
In Search of Leading Indicators in Education

What is ERIC?
The Education Resources Information Center (ERIC) is an internet-based digital library of education research and information sponsored by the Institute of Education Sciences (IES) of the U.S. Department of Education. ERIC provides access to bibliographic records of journal and non-journal literature from 1966 to the present. ERIC also contains a growing collection of materials in Adobe PDF format. ERIC’s mission is to provide a comprehensive, easy-to-use, searchable Internet-based bibliographic and full-text database of education research and information for educators, researchers, and the general public. Activities that fulfill the ERIC mission are broadly categorized as collection development, content authorizations and agreements, acquisitions and processing, database and website operations, and communications.

Steps to Applying for IES Grants
1. Identify a current funding opportunity that matches your research interests and identify the relevant Letter of Intent and application deadlines.
2. Register for a funding opportunities webinar to learn more about the application process and choosing an appropriate funding opportunity.
3. Download the appropriate Request for Application, application submission guide, and application package.
4. Submit your (optional but strongly encouraged) Letter of Intent.
5. Submit your application to Grants.gov before the application deadline.

Note: See "Other IES Funding Opportunities" for IES grants

Funding Opportunities for Research and Research Training
The Institute of Education Sciences' overarching priority is research that contributes to school readiness and improved academic achievement for all students, and particularly for those whose education prospects are hindered by inadequate education services and conditions associated with poverty, race/ethnicity, limited English proficiency, disability, and family circumstance. Please read an Overview of IES Research and Research Training Grant Programs for background information before proceeding. Please note that not all of IES' research and research training programs are offered each funding year and that the requirements for research and research training programs may change from one year to the next.

The FY 2012 Research and Research Training competitions are now closed. For FY 2013, the Institute supports the following research and research training programs (announced in the Federal Register on March 6, 2012).

Research Programs
- Education Research Programs (84.305A)
- Special Education Research Programs (84.324A)
Research Development & Grant Writing News

- **Statistical and Research Methodology in Education** (84.305D)
- Special Education Initiative: **Accelerating the Academic Achievement of Students with Learning Disabilities Research Initiative** (84.324D) **NEW**
- **Evaluation of State and Local Education Programs and Policies** (84.305E)
- **Researcher-Practitioner Partnerships in Education Research** (84.305H) **NEW**

**Research Training Programs**

- Research Training Programs in the Education Sciences (84.305B)
  - Postdoctoral Research Training Program in the Education Sciences
  - Researcher and Policymaker Training Program in the Education Sciences **NEW**
- Research Training Program in Special Education (84.324B)
  - Early Career Development and Mentoring Program **NEW**

**Other IES Funding Opportunities**

- Comprehensive Center Evaluation RFP
- Grants for Statewide, Longitudinal Data Systems
- Unsolicited Grant Opportunities

**Note:** For FY 2013, the Institute does not anticipate competing the **Predoctoral Interdisciplinary Research Training Program in the Education Sciences** (84.305B), the **Postdoctoral Research Training Program in Special Education** (84.324B), the **National Research and Development Centers** (84.305C), or the **Special Education Research and Development Centers** (84.324C).

**Research Funding Webinars**

*Do you have questions about the grant application process for research or research training grant competitions?* The National Center for Special Education Research and the National Center for Education Research within the Institute of Education Sciences periodically host a series of webinars related to research funding opportunities. **Sign up** now to receive valuable information on choosing the correct funding opportunity, grant writing, the application process, and more.

- For more information regarding webinar topics, dates, and registration process, **browse here**.
- To view slides from previous webinar sessions, **browse here**.

Please register for the **IES Newsflash** for e-mail notifications about future webinars and upcoming funding opportunities.

**Need Help?**

For general inquires, contact the **Institute of Education Sciences**. For questions about specific funding opportunities, contact the **National Center for Education Research** (84.305 RFAs) or the **National Center for Special Education Research** (84.324 RFAs).

**What Works Clearinghouse**

Educators trying to make choices to help students and schools meet high standards can become overwhelmed by the amount of education research. It can also be hard to identify research with credible and reliable evidence to use in making informed decisions.
As an initiative of the U.S. Department of Education’s Institute of Education Sciences (IES), the What Works Clearinghouse (WWC) was created in 2002 to be a central and trusted source of scientific evidence for what works in education. What does that mean?

- **Central.** We want to be the place you turn to when you want to know about education research. We have reviewed thousands of studies on hundreds of education programs, products, practices, and policies.

- **Trusted.** We strive to provide accurate information on education research. All of our procedures and policies are publicly available, and our goal is to provide transparent reviews of the research literature.

- **Scientific evidence.** In order to tell you what works, we conduct thorough reviews of the research literature and critically assess the evidence presented.

- **What works.** This website delivers information from our reviews through the “Find What Works” tool, pulling findings from multiple reports, a searchable database of research studies we have reviewed, and publications we have written on our reviews.

The WWC is administered by Joy Lesnick, the IES project officer, through a contract with Mathematica Policy Research, a nationally recognized leader in education research and in rigorous reviews of scientific evidence. Below are links to key contributors to the WWC.
ARPA-E Releases Smart Storage Request for Information
WASHINGTON, DC -- ARPA-E issued a Request For Information (RFI) regarding the development of technologies to support transformational research and development for advanced management strategies for Energy Storage Systems. ARPA-E seeks input from researchers of various backgrounds, and representing a broad range of fields and disciplines, with the goal of evaluating novel approaches to providing diagnostic, prognostic, and control capabilities in order to significantly increase performance and accelerate adoption of energy storage technologies. More information is available in the RFI. Please note that in accordance with the terms of the RFI, responses must be received by March 9, 2012 at ARPA-E-RFI-SMART@hq.doe.gov. Responses received via any other means will not be considered. Please also note that this RFI is not a FOA and requests for funding cannot be accommodated under this RFI.

Apply for CSC Research Funds
The Department of the Interior Climate Science Centers (CSCs) are seeking proposals for Fiscal Year (FY) 2013 and/or FY 2014, as appropriate. Each CSC has developed a set of science priorities or needs for this funding opportunity. More details can be found in the full Funding Opportunity document, the CSC websites, and the CSC links below. For more information about the project selection, review, and award process; please view the webinar presentation (recorded December 20, 2012): CSC Solicitation, Review and Award Process. PowerPoint slides from this presentation are also available for viewing here.

Dear Colleague Letter: Veteran's Research Supplement (VRS) Program
The National Science Foundation (NSF) recognizes that veterans represent a potential underutilized workforce for the U.S. science and engineering research and industry communities. Many veterans are transitioning from active military service to civilian careers and exploring education options through the post-9/11 GI Bill. At a time when the U.S. is challenged with a science, technology, engineering, and mathematics (STEM) workforce shortage, NSF is exploring alternate pathways of veterans’ engagement into STEM fields.

Recommendations from the NSF Engineering Education and Centers (EEC) Division Workshop entitled "Veterans' Education for Engineering and Science" in April 2009 stated: "NSF and other federal science and engineering agencies should create an education/career development program focused on getting veterans into science and technology careers. NSF already has grant programs that fund student's research experiences. The cost to expand and enrich such programs is a small fraction of the cost of the post-9/11 veteran educational benefit. Yet by expanding it, the community could engage a significant number of veterans with the potential to pursue careers in fields of engineering, science and technology." (http://www.nsf.gov/eng/eeec/VeteranEducation.pdf)
Subsequent to this report, the Industrial Innovation and Partnerships Division (IIP) successfully piloted the Research Experiences for Veterans (REV) supplement opportunity with the Industry/University Cooperative Research Centers (I/UCRC) sites in 2011 (NSF 11-054) and 2012 (NSF 12-063). In 2012 IIP and EEC launched the Research Experiences for Veterans and Teachers (REV/T) with the I/UCRCs and Engineering Research Centers (ERCs) via NSF 12-073. In addition, the Engineering Directorate endorsed the Engineering Research Experience for Veterans (EREV) for the Grant Opportunities for Academic Liaison with Industry (GOALI) program in 2012 (NSF 12-074).

Dear Colleague Letter - Workshop for Engaging Social, Behavioral, and Economic Scientists through Social and Policy Entrepreneurship

America's advancement has originated in part from the ability to capitalize on scientific discovery and innovation. While a strong capacity for leveraging fundamental scientific discoveries into powerful engines of commercial innovation is essential to maintain our competitive edge, actionable knowledge is equally critical to other national priorities, such as quality education, public health, and environmental sustainability. Much scientific knowledge - especially in the social, behavioral, and economic sciences - will produce the greatest societal benefit by informing public policy or contributing to innovative social ventures, rather than through the production of commercial products. Increasing the accessibility of such science for policy-makers, non-profit organizations, and community groups is an important step toward achieving many important social goals. Taking advantage of the potentially applicable results of these sciences requires more than simply fostering better communication; explicit attention to the interactions among scientific innovation, public decision-making, and social action is needed.

Building on the National Science Foundation's commitment to increasing the broader impacts of its science, the Directorate for Social, Behavioral, and Economic Sciences (SBE) seeks to explore possible avenues for guiding scientific discoveries closer to the development of public policy and social ventures. To this end, SBE would like to invite proposals for organizing interdisciplinary, multi-sector workshops that focus on (but are not limited to) the following topics and issues:

- What is the nature of the system within which scientific knowledge is transformed into public policy or social action? What interactions characterize this system? What system failures or barriers impede the utilization of non-commercial science by governments, non-profit organizations, community groups, and other social ventures? How can universities and scholars best serve this system?
- What non-commercial pathways best connect academic science to public policy and management and to social ventures designed to meet public needs? What types of interactions with scientists are most fruitful in these contexts?
- How should scholars, social entrepreneurs, policy-makers, and administrators engage each other to facilitate better application of SBE science?
- What skill sets and partnerships do scientists need to develop in order to optimize the transformation of their science into actionable and useful knowledge in the non-commercial contexts of public policy, management, and social need?
• What types of curricula or educational activities should be developed to advance knowledge in the area of social and policy entrepreneurship?

**DOE RFI for Automotive Fuel Cell Cost and Durability Targets**
The U.S. Department of Energy (DOE) is issuing a Request for Information (RFI) seeking input from stakeholders on proposed cost targets for fuel cells designed for automotive applications. The purpose of this RFI is to solicit feedback from developers, manufacturers, end users, and other stakeholders on proposed cost and durability targets for automotive fuel cell systems. The proposed targets are $40/kW in 2020 and $30/kW for the ultimate target (2030) for automotive fuel cell system cost, and 5000hrs or 150,000 miles for durability. This RFI is not and will not lead directly to a Funding Opportunity Announcement; therefore the DOE is not accepting applications at this time. The full content of the announcement can be found on the EERE Exchange website at [https://eere-exchange.energy.gov](https://eere-exchange.energy.gov). Comments in response to this RFI must be provided as an attachment to an e-mail message addressed to FCcosttargets@go.doe.gov. All responses to this RFI must be delivered electronically to the aforementioned e-mail address. DOE would prefer that responses to this RFI be no more than 5 pages in length. Targets should represent values required to meet end user expectations, and should not reflect the abilities or limitations of a particular technology. Any questions related to this RFI should be submitted to the email address provided above. DOE will not publish any report or compendium of responses received from this RFI. **Respond by April 1.**

**OMB Issues Proposed Guidance on Federal Grants Reform**
The Office of Management and Budget has published the Proposed Guidance, *Reform of Federal Policies Relating to Grants and Cooperative Agreements: Cost Principles and Administrative Requirements (Including Single Audit Act).* See Federal Register. OMB provided the preliminary Federal Register Notice, the full text of the Proposed Guidance, and six additional crosswalks and comparisons between the current OMB circulars and the proposed guidance.

• [Notice of Proposed Guidance in Federal Register (Summary and Description of Changes)]
• Proposed OMB Uniform Guidance: Cost Principles, Audit, and Administrative Requirements for Federal Awards (FULL TEXT)
• Crosswalk from existing to proposed guidance
• Crosswalk from proposed guidance to predominant source in existing guidance
• Administrative Requirements Text Comparison
• Cost Principles Text Comparison
• Audit Requirements Text Comparison
• Definitions Text Comparison
The competitiveness of proposals can be enhanced by grounding the arguments you make in the proposal narrative, as appropriate, on national reports, agency research roadmaps, and research workshops that demonstrate your understanding of the national research agenda and how your research advances and maps to that agenda.

The Mathematical Sciences in 2025
The mathematical sciences are part of nearly all aspects of everyday life—the discipline has underpinned such beneficial modern capabilities as Internet search, medical imaging, computer animation, numerical weather predictions, and all types of digital communications. *The Mathematical Sciences in 2025* examines the current state of the mathematical sciences and explores the changes needed for the discipline to be in a strong position and able to maximize its contribution to the nation in 2025. It finds the vitality of the discipline excellent and that it contributes in expanding ways to most areas of science and engineering, as well as to the nation as a whole, and recommends that training for future generations of mathematical scientists should be re-assessed in light of the increasingly cross-disciplinary nature of the mathematical sciences. In addition, because of the valuable interplay between ideas and people from all parts of the mathematical sciences, the report emphasizes that universities and the government need to continue to invest in the full spectrum of the mathematical sciences in order for the whole enterprise.

Future U.S. Workforce for Geospatial Intelligence
*Future U.S. Workforce for Geospatial Intelligence* assesses the supply of expertise in 10 geospatial intelligence (GEOINT) fields, including 5 traditional areas (geodesy and geophysics, photogrammetry, remote sensing, cartographic science, and geographic information systems and geospatial analysis) and 5 emerging areas that could improve geospatial intelligence (GEOINT fusion, crowdsourcing, human geography, visual analytics, and forecasting). The report also identifies gaps in expertise relative to NGA’s needs and suggests ways to ensure an adequate supply of geospatial intelligence expertise over the next 20 years.

Strategy for Management & Disposal of Used Nuclear Fuel and High-Level Radioactive Waste
The Obama Administration’s broad-brush response to the findings and recommendations of the Blue Ribbon Commission on America’s Nuclear Future (BRC). The Department of Energy (DOE) established the BRC in 2010 following the Administration’s decision to terminate further work on the proposed Yucca Mountain nuclear waste repository. The commission issued its draft report in the summer of 2011, and sent its final report to President Barack Obama and DOE Secretary Steven Chu a year ago.

Making Research Findings More Understandable and Useful
In November 2012, NCSER released a report to help researchers translate effect size statistics into more interpretable forms that are helpful to practitioners, policymakers, and researchers. Specifically aimed at researchers who conduct and report education intervention studies,
Translating the Statistical Representation of the Effects of Education Interventions into More Readily Interpretable Forms provides researchers with suggestions on ways to include measures of practical effects in the analysis of their research findings.

When researchers describe the findings of their studies on the effects of educational interventions, they report on whether there were statistically significant differences between the intervention group and the control group on the outcomes of interest (for example, academic achievement). Statistical significance, however, is not generally understood by those who have not been trained in conducting research. In addition, as the report’s lead author Mark Lipsey of Vanderbilt University explains, "Practical and statistical significance are not the same thing," and statistical significance provides "little insight into the practical magnitude of the effect. For example, even if the results indicate a statistically significant effect of an intervention, is this effect meaningful in terms of real student learning or achievement, or is there only a trivial impact?"

The report explains ways in which researchers can help show the practical significance of their findings to a wide audience by providing appropriate effect size statistics and describing results in terms of benchmarks or units that are more easily understood and directly relevant to the intended outcomes of an educational intervention. Even researchers who do regularly include measures of practical significance in their scientific papers may learn new ways of expressing their ideas.

Lipsey and colleagues hope this report encourages investigators of educational interventions to routinely make these translations when they write their results for dissemination. "We hope the suggestions provided in this report will encourage researchers to take that extra step," said Lipsey. "The more interpretable our research results are, the more informative they are for researchers and non-researchers alike."
New Funding Solicitations Posted Since January 15 Newsletter

Collaborative Center for Aeronautical Sciences
AFRL/RQAC has a mandate to support a wide range of computational requirements for future Air Force systems. However, the initial focus for this Collaborative Center will be on developing and integrating all of the computational tools required to perform reliable, high-fidelity, multi-disciplinary analysis of high speed flows, fine-scale unsteady flows, and computational methods. As such, the CCAS will need to perform research in the following technical areas:i. High Speed Aero-Physics (for example, thermal/chemical non-equilibrium, rarefied/continuum flow, MHD, hypersonic configurations, shock-shock and shock boundary layer interactions, scramjet flow path analysis, supersonic combustion, steady and unsteady heat transfer, conjugate heat transfer, thermal loads, flow control, etc.)ii. Fine-Scale Unsteadiness (for example, boundary layers, transition prediction, turbulence excitation/suppression, turbulence models, LES/DNS, separated flow, flow control, plasma/fluidic/mechanical actuation, secondary flow, shear layers, wake flow, acoustic/EM wave propagation, etc.) Due February 25.

FY2013 Marine Debris Research Grants
Funding for this purpose comes through the NOAA Marine Debris Program as appropriations to the Office of Response and Restoration, National Ocean Service. NOAA expects to fund research projects in focus areas that have not previously been addressed to scientific standards. This document describes the types of marine debris research that NOAA envisions funding and describes criteria under which applications will be evaluated for funding consideration. Projects selected through this announcement will be implemented through a grant to the awarded institution. Funding requested for research grants in FY2013 is expected to be greater than funds available for this purpose and the selection process is anticipated to be highly competitive. Funding of up to $500,000 is expected to be available to fund marine debris research grants in 2013. Typical awards will range from $25,000 to $200,000. Due February 28.

FY2013 Marine Debris Prevention, Education and Outreach Partnership Grants
The MDP invites applicants requesting funding to establish national and regional projects focusing on marine debris prevention, education, and outreach activities. These outreach projects will use existing networks, expand on existing resources, and/or disseminate or develop tools to support these activities. Projects are expected to catalyze the public or a target audience to address marine debris in a way that will benefit living marine resources and/or navigation safety. NOAA envisions working jointly on such projects through its Marine Debris
Program to identify, evaluate, fund, and administer projects that address marine debris to restore NOAA trust resource species and ecosystems. This document describes the types of marine debris projects that NOAA envisions establishing, portrays the qualities that NOAA has found to be ideal in previous projects, and describes criteria under which applications will be evaluated for funding consideration. Applications selected through this announcement will be implemented through cooperative agreements, and will involve joint selection of any multiple marine debris projects funded as sub-awards made through the recipient organization. Funding requested to establish projects in FY2013 is expected to be greater than funds available for this purpose and the selection process is anticipated to be highly competitive. Funding of up to $500,000 is expected to be available to establish marine debris projects in 2013. Typical awards will range from $20,000 to $150,000. This announcement is a focused effort to fund projects addressing marine debris prevention and outreach. **Due February 28.**

**Folger Shakespeare Library Short-term Fellowships**
Short-term Fellowships are supported by the Library’s own endowments and carry a stipend of $2,500 per month. Some Fellowship endowments seek to support scholars working on a specific topic or from a specific region, while others are unrestricted. See the list of specialized endowments on the [Short-term Fellowships Application Guidelines](#) page. Short-term Fellows are selected by an internal committee and one external scholar. The criteria for success are the same as for long-term Fellowships. **Number of Fellowships awarded: 35-40. Due March 1.**

**1890 Institution Teaching, Research and Extension Capacity Building Grants (CBG) Program**
The 1890 CBG is intended to strengthen teaching, research and extension programs in the food and agricultural sciences by building the institutional capacities of the 1890 Land-Grant Institutions, and Tuskegee University. The CBG program supports projects that strengthen teaching programs in the food and agricultural sciences in the need areas of curriculum design and materials development, faculty development, and others. CBG supports projects that strengthen research and extension programs in need areas of studies and experimentation, extension program development support systems, and others. The CBG also support integrated project grants. The intent of this initiative is to increase and strengthen food and agriculture sciences at the 1890s through integration of education, research and extension. Applications submitted to CBG must address at least one of the following NIFA strategic goals: sustainable bioenergy; food security; childhood obesity prevention; climate change; or food safety. **Due March 5.**

**Feed the Future Food Security Innovation Lab: Collaborative Research on Sorghum and Millet**
The Leader Award will be for five years, with a maximum USAID funding level of $13,700,000 to be provided incrementally over that five-year period. In addition, the cumulative amount of Associate Awards issued during those five years will not exceed $10,000,000. **Due March 8.**

**Office of Postsecondary Education (OPE): Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP)**
The GEAR UP Program is a discretionary grant program that provides financial support for academic and related support services that eligible low-income students, including students with disabilities, need to enable them to obtain a secondary school diploma and prepare for and succeed in postsecondary education. Due March 11.

**Crosscutting Research: Development of Novel Architecture for Optimization of Advanced Energy Systems**

The objective of this activity is to competitively solicit projects in novel technologies under the Crosscutting Research Program Area to support Department of Energy Strategic Goals. The United States Department of Energy National Energy Technology Laboratory is seeking innovative research and development of novel sensor and control systems for use in advanced power generation systems. New sensor and control technology will contribute the goals of high efficiency, near zero emission, and effective carbon capture for the next generation power generation technologies. These technologies include advanced combustion, gasification, turbines, fuel cells, gas cleaning and separation technologies, and carbon dioxide separation and capture technologies. The inclusion of transformational power generation and emission control technology will enable high process efficiency and integration to achieve performance goals at reasonable cost. Integration of new technology will introduce unprecedented levels of complexity and process conditions that must be addressed by improved sensor and control technology. To manage complexity and achieve performance goals, advances in the capability and architecture of instrumentation, sensors, and process controls are vital in assuring integrated unit operations, predictive on-line maintenance, and continuous life cycle monitoring and real-time process optimization. Innovations in these areas are being supported by the National Energy Technology Laboratory’s Crosscutting Research Program which aims at bridging the gap between the basic sciences and applied research as it relates to Advanced Power Systems that utilize domestic resources. Long-range transitional type research is needed to support the identification and growth of novel concepts that will lead to scientific breakthroughs and early adoption of innovative concepts into applications for power generation. Due March 14.

**Small Business Innovation Research (SBIR) Technology Commercialization Assistance Program**

NIST invites applications for a program involving technical and business engagement activities directed at small firms participating in NIST’s SBIR Program. The recipient will provide NIST SBIR Phase I and/or Phase II awardees with technical and business expertise and resources to identify optimum pathways to promote successful transition of the Phase I and/or Phase II results to commercialization. Due March 15.

**The National Institute of Standards and Technology (NIST) Summer Institute for Middle School Science Teachers**

The Summer Institute featuring hands-on activities, lectures, tours, and visits with NIST scientists and engineers in their laboratories. Dates: July 8-19, 2013. The Research Experience for Teachers is a follow-on program that provides two local middle school science teachers with six weeks of real-world research experience at NIST. Completion of the NIST Summer Institute is
a prerequisite for participating in the Research Experience for Teachers. Dates: To be determined by participants and the NIST researchers they work with. Due March 20.

**FOA: Advanced Biomass Feedstock Logistics Systems II**
The lack of logistics systems capable of handling and delivering sufficiently high tonnage year-round volumes of high quality feedstocks to support the rapid escalation of cellulosic biofuels production has been identified as a significant barrier to the expansion of a sustainable domestic biofuels industry. In particular, biomass physical and chemical quality parameters have repeatedly been identified as significant challenges to the smooth operation and economic viability of biorefineries. This FOA will focus on developing and demonstrating strategies, equipment, and rapid analytical methods to manage feedstock quality within economic constraints throughout the feedstock supply chain. The main effort in Proposals must be directed toward full-scale demonstration of integrated feedstock supply chain systems that can deliver the volume of high quality, affordable, high impact feedstocks required by commercial biorefineries over a significant geographic area in the United States. DOE plans to support the increased production of high volumes of sustainably produced domestic biofuels from cellulosic feedstocks by seeking Proposals to design new systems or adapt existing systems to handle industrial scale volumes of cellulosic feedstocks from the harvest point to the throat of the biorefinery reactor. The full Funding Opportunity Announcement (FOA) is posted on the EERE Exchange website at [https://eere-exchange.energy.gov](https://eere-exchange.energy.gov). Applications must be submitted through the EERE Exchange website to be considered for award. The applicant must first register and create an account on the EERE Exchange website. A User Guide for EERE Exchange can be found at [https://eere-exchange.energy.gov/Manuals.aspx](https://eere-exchange.energy.gov/Manuals.aspx) after logging into the system. Information on where to submit questions regarding the content of the announcement and where to submit questions regarding submission of applications is found in the full FOA posted on the EERE Exchange website. Due March 22.

**Combined Heat and Power Technical Assistance Partnerships**
The Department of Energy’s Office of Energy Efficiency and Renewable Energy, Advanced Manufacturing Office seeks to enable the use of combined heat and power (CHP), including waste heat to power and district energy with CHP, as solutions to the energy issues facing our nation. On August 30, 2012, President Barack Obama signed the Executive Order, “Accelerating Industrial Energy Efficiency,” promoting American manufacturing by helping to facilitate energy efficiency at industrial facilities. This Executive Order establishes a national goal of deploying 40 gigawatts of new, cost effective CHP in the United States by the end of 2020. The objective of this Funding Opportunity Announcement is to seek applications to establish regional Combined Heat and Power Technical Assistance Partnerships (CHP TAPs) which will be a critical component of the Presidential initiative. These CHP TAPs will provide the essential support to continue to develop the market for CHP – this includes education and outreach and technical assistance to a variety of stakeholders including end-users (commercial, industrial, institutional and more), state decision makers, electric and gas utilities, trade associations and non-profit organizations. This assistance will include evaluating the economic, energy, reliability and environmental value of proposed systems. The CHP TAPs will represent multi-state regions that
will be CHP experts who provide fact-based, un-biased information on CHP, including technologies, project development, project financing, local electric and natural gas utilities interfaces, and related state best practice policies. They will be vendor, fuel, and technology neutral. Due March 22.

**ICECool Applications (ICECool Apps)**
ICECool is exploring disruptive thermal technologies that will mitigate thermal limitations on the operation of military electronic systems, while significantly reducing size, weight, and power consumption (SWaP). The specific goal of ICECool Applications is to enhance the performance of RF power amplifiers and embedded computing systems through the application of chip-level heat removal with kW-level heat flux and heat density with thermal control of local submillimeter hot spots, while maintaining these components in their commonly-accepted temperature range by judicious combination of intra- and/or interchip microfluidic cooling and on-chip thermal interconnects. See the full DARPA-BAA-13-21 document attached. Due March 22.

**FY2013 NETL University Turbine Systems Research (UTSR) Program**
The goal of this Funding Opportunity Announcement is to solicit and competitively award cost-shared applications from U.S. universities, colleges, and university-affiliated research institutions to facilitate the development and demonstration of next-generation turbine technology with the goal of producing reliable, affordable, clean, efficient, and cost-effective energy supplies and to address the need for engineering and scientific solutions for gas turbines fueled with coal derived hydrogen, synthesis gas and natural gas fuels. Due March 27.

**FY 2013 Request for Proposals for the Pollution Prevention Information Network (PPIN) Grant**
Pollution Prevention Information Network (PPIN) grant program seeks to improve development and dissemination of P2 information by funding regional P2 information centers. These centers serve state, tribal, and local government needs in addition to providing P2 information directly to businesses. The regional centers collaborate and coordinate on P2 information development and dissemination activities nationally in order to decrease duplication of effort and promote efficiency. Information and training are used to assist businesses in identifying better environmental strategies for reducing or eliminating waste and conserving natural resources. Grantees of this program have created a national network called the Pollution Prevention Resource Exchange (P2Rx) which provides information and services on their websites (see: http://www.epa.gov/oppt/p2home/pubs/p2rx.html ). Due April 5.

**Innovation for Increasing Cybersecurity for Energy Delivery Systems (I2CEDS) - 2013**
to Achieve Energy Delivery Systems Cybersecurity. The Roadmap synthesizes expert input from the energy delivery control systems community, including owners and operators, commercial vendors, national laboratories, industry associations, and government agencies. The Roadmap presents a strategic framework supported by key milestones that must be met to achieve the Roadmap vision that by 2020 resilient energy delivery systems are designed, installed, operated and maintained to survive a cyber-incident while sustaining critical functions. This announcement focuses on providing tools and technologies research, development and demonstration to support the Cybersecurity for Energy Delivery Systems Program (CEDS) within the Power Systems Engineering Research and Development (PSE R&D) Division of the Office of Electricity Delivery and Energy Reliability (OE). The CEDS program has established partnerships over the past several years throughout the energy sector, government, national laboratories and universities to reduce the risk of energy delivery disruption resulting from a cyber event. The CEDS program desires to advance research, development and demonstration of tools and technologies that align with the strategic framework of the energy sector’s Roadmap, address Roadmap milestones and work toward achieving the Roadmap vision. Due April 5.

**Organic Transitions Program**

The overall goal of the Organic Transitions Program (ORG) is to support the development and implementation of research, extension and higher education programs to improve the competitiveness of organic livestock and crop producers, as well as those who are adopting organic practices. In FY 2013, ORG will continue to prioritize environmental services provided by organic farming systems in the area of soil conservation and climate change mitigation, including greenhouse gases (GHG). Two new priorities have been added to support (1) the development of educational tools for Cooperative Extension personnel and other agricultural professionals who advise producers on organic practices and (2) the development of cultural practices and other allowable alternatives to substances recommended for removal from the National Organic Programs National List of Allowed and Prohibited Substances. Practices and systems to be addressed include those associated with organic crops, organic animal production, and organic systems integrating plant and animal production. Due April 5.

**Foundational Program to Advance Cell Efficiency II (FPACE II) - Model Systems**

With this Funding Opportunity Announcement (FOA), the Department of Energy (DOE) SunShot Initiative is soliciting collaborative research teams to define and fabricate model systems that utilize a single p-n junction device structure and have the potential to approach Shockley-Queisser power conversion efficiency limits (for a chosen bandgap and absorber material). The emphasis of this FOA is assembling cohesive and highly diverse teams of experts within and outside the PV community who can achieve the goals of creating a model system concept and a subsequent device that can approach theoretical limits. DOE SunShot anticipates significant collaboration between experts in fundamental materials, characterization, device physics, ab-initio simulations, and PV device integration to adequately address these issues. The full Funding Opportunity Announcement (FOA) is posted on the EERE eXCHANGE website at [https://eere-exchange.energy.gov](https://eere-exchange.energy.gov). Applications must be submitted through the EERE eXCHANGE website to be considered for award. The applicant must first register and create an
account on the EERE eXCHANGE website. A User Guide for the EERE eXCHANGE can be found on the EERE website http://eere.energy.gov/financing/exchangeExchange/Manuals.aspx after logging in to the system. Information on where to submit questions regarding the content of the announcement and where to submit questions regarding submission of applications is found in the full FOA posted on the EERE Exchange website. Due April 8.

**Agriculture and Food Research Initiative - Childhood Obesity Prevention**

This Challenge Area Focuses on the societal challenge to end obesity among children, the number one nutrition-related problem in the US. Food is an integral part of the process that leads to obesity and USDA has a unique responsibility for the food system in the United States. This program is designed to achieve the long-term outcome of reducing the prevalence of overweight and obesity among children and adolescents 2-19 years. The Childhood Obesity Program supports Multi-function Integrated Research, Education, and/or Extension Projects and Food and Agricultural Science Enhancement (FASE) Grants. Due April 11.

**Google Faculty Research Awards**

Google Research Awards are one-year awards structured as unrestricted gifts to universities to support the work of world-class full-time faculty members at top universities around the world. Faculty members can apply for Research Awards by submitting a proposal to one of our two 2013 funding rounds. Our 2013 deadlines are April 15 and October 15. Recipients are selected through a comprehensive internal review process and notified of their awards within 4 months of the initial submission. Faculty members can apply for up to 150,000 USD in eligible expenses, but actual award amounts are frequently less than the full amount requested. Most awards are funded at the amount needed to support basic expenses for one graduate student for one year. Please see our FAQs for more details on eligibility and budgets. Due April 15.

**NEH Awards for Faculty**

This program supports individual faculty or staff members at Hispanic-Serving Institutions, Historically Black Colleges and Universities (HBCUs), and Tribal Colleges and Universities, who pursue research of value to humanities scholars, students, or general audiences. Awards are designed to be flexible, allowing applicants to define the audience, type of research, award periods, and administrative arrangements that best fit their projects. Awards can be used for a wide range of projects that are based on humanities research. Eligible projects include pursuing research in primary and secondary materials; producing articles, monographs, books, digital materials, archaeological site reports, translations, editions, or other scholarly resources; and conducting basic research leading to the improvement of an existing undergraduate course or the achievement of institutional or community research goals. Common to all applications—regardless of their outcome—must be humanities research supporting the goals of the project. Due April 16.

**Systems Biology Enabled Research on the Role of Microbial Communities in Carbon Cycling**

The Office of Biological and Environmental Research (BER) of the Office of Science (SC), U.S. Department of Energy (DOE) hereby announces its interest in receiving applications for
research that supports the Genomic Science research program (http://genomicscience.energy.gov). In this Funding Opportunity Announcement (FOA), applications are solicited for: i.) systems biology studies on regulatory and metabolic networks of microbes, microbial consortia, and microbe-plant interactions involved in biogeochemical cycling of carbon, ii.) development of genomics approaches to investigate microbial community functional processes involved in carbon cycling in terrestrial ecosystems, and iii.) development of genomics enabled methods and technologies for imaging and analysis of microbiomediated carbon cycling processes in terrestrial ecosystems. FedConnect. Due April 19.

**Endangered Language Fund**
You can download a PDF of this Request for Proposals here. The Endangered Language Fund provides grants for language maintenance and linguistic field work. The work most likely to be funded is that which serves both the native community and the field of linguistics. Work which has immediate applicability to one group and more distant application to the other will also be considered. Publishing subventions are a low priority, although they will be considered. Proposals can originate in any country. The language involved must be in danger of disappearing within a generation or two. Endangerment is a continuum, and the location on the continuum is one factor in our funding decisions. Eligible expenses include consultant fees, tapes, films, travel, etc. Overhead is not allowed. Grants are normally for a one year period, though extensions may be applied for. We expect grants in this round to be less than $4,000 in size, and to average about $2,000. Due April 22.

**The Impact of Safety Equipment Modalities on Reducing Correctional Officer Injuries**
NIJ seeks proposals to conduct research on differences in safety equipment modalities; that is, policies and practices among correctional agencies regarding what safety equipment staff may use, when and how it may be used, and how those modalities affect officers’ physical safety. For the purpose of this solicitation, safety equipment is defined as equipment used by correctional officers to protect them from assaults and to reduce injuries. Due April 25.

**Evaluating the Efficacy of Lighting, Markings, and Paint Schemes in Reducing the Incidence of Law Enforcement Vehicle Crashes**
The purpose of the National Institute of Justice (NIJ) Research, Evaluation, and Development Project Grants program is to encourage and support research, development, and evaluation to improve criminal justice policy and practice in the United States. With this solicitation, NIJ seeks proposals to conduct evaluations of the impact of alternative lighting, markings, and painting schemes for law enforcement vehicles on the incidence of traffic accidents involving law enforcement vehicles. NIJ is also interested in determining how these schemes may otherwise affect law enforcement operations. Due April 25.

**NIJ FY 13 Establishing a National Criminal Justice Technology Research, Test, and Evaluation Center**
NIJ seeks proposals to establish a Criminal Justice Technology Research, Test, and Evaluation (RT&E) Center within the NIJ-funded NLECTC System. This Center will conduct focused RT&E
activities to inform NIJ’s non-forensic technology research and development (R&D) efforts. It will also conduct RT&E activities to support NIJ’s efforts to inform practitioners, policymakers, and researchers (‘the field’) regarding technologies or technology-related issues for purposes of improving criminal justice policy and practice. **Due April 25.**

**NIJ FY 13 Identifying the Highest Priority Criminal Justice Technology Needs**
NIJ seeks proposals to help inform development of NIJ’s technology research, development, test, and evaluation (RDT&E) investments. Many different considerations shape the goals and objectives of NIJ’s technology RDT&E programs. The most important are the technology needs of the criminal justice practitioner. This solicitation seeks applications to assist NIJ in identifying and assessing the highest priority technology needs of law enforcement, courts, and corrections agencies and potential solutions to those needs. **Due April 25.**

**NIJ FY 13 Applied Technology Research and Development to Optimize Criminal Justice Use of Social Media in the "Web 3.0" Environment**
NIJ seeks proposals for research and development leading to the introduction into practice of needed technologies to enhance the ability of criminal justice agencies to use social media as “Web 3.0” continues to develop and mature. **Due April 25.**

**NIJ FY 13 Applied Technology Research and Development for Criminal Justice Purposes**
NIJ seeks proposals for applied technology research and development projects leading to the introduction into practice of improved technologies for use by law enforcement, courts, and corrections agencies. NIJ is particularly interested in (1) the application of expert systems technologies to enhance the performance of non-expert practitioners and (2) improved devices to locate and track offenders that are under supervision in the community. NIJ will also entertain proposals for applied technology research and development to meet other demonstrated, high-priority needs of law enforcement, courts, and corrections agencies. **Due April 25.**

**Research and Evaluation on the Impact of Social Media on Policing**
NIJ seeks proposals for research that will explore the impact of the current state of social media technology on police practices and outcomes. Although social media technology is now ubiquitous in our society and particularly within law enforcement agencies, it is unclear how this technology is being used by departments, both officially and unofficially, and how this use has translated into public safety outcomes. **Due April 26.**

**The Impact of Probation/Parole Officer Home Visits on Offender Outcomes**
NIJ seeks proposals for research on the impact that probation/parole officer home visits have on offender outcomes, specifically what practices agencies are using, what offender outcomes can be attributed to these practices, and what dosage is needed to achieve these outcomes. **Due April 26.**

**Research and Evaluation on Justice Systems: Investigator-Initiated**
NIJ seeks proposals for social and behavioral science research on, and evaluations related to, justice systems topics relevant to State, local, tribal, or Federal criminal and juvenile justice policy and practice. Application titles should clearly indicate the justice systems focus area selected. Most justice systems topics, including but not limited to general policing, corrections (institutional, community, and offender reentry), and courts (prosecution, defense including indigent, adjudication, and sentencing) that are relevant to policymakers and practitioners are eligible for consideration. **Due April 26.**

**Research and Evaluation on Policing**
NIJ seeks proposals to conduct research on policing to promote officer safety and wellness, understand the impact of police technology on crime control and disorder, promote police integrity, and explore the costs and benefits of the consolidation of police agencies at the State, local, and tribal levels. Effective practices in these areas are of critical importance to improving law enforcement operations and ensuring trust and confidence in the police in communities throughout the country. **Due April 26.**

**Broadening Participation Research Initiation Grants in Engineering 2013 (BRIGE)**
The Broadening Participation Research Initiation Grants in Engineering (BRIGE) solicitation is designed to promote the development of early career faculty who will become champions for diversity and broadening participation of underrepresented groups in engineering throughout their careers. BRIGE awards will enable early career faculty to integrate effective diversity and broadening participation strategies in their engineering research, education, and innovation activities. **Due April 29.**

**Preservation and Access Research and Development**
Preservation and Access Research and Development grants support projects that address major challenges in preserving or providing access to humanities collections and resources. These challenges include the need to find better ways to preserve materials of critical importance to the nation’s cultural heritage—from fragile artifacts and manuscripts to analog recordings and digital assets subject to technological obsolescence—and to develop advanced modes of searching, discovering, and using such materials. Applicants should define a specific problem, devise procedures and potential solutions, and explain how they would evaluate their projects and disseminate their findings. Project results must serve the needs of a significant number of humanists. **Due May 1.**

**NIJ FY 13 Research on Firearms and Violence**
This solicitation seeks applications for research on firearms and violence such as, but not limited to, the effects of criminal justice interventions on reducing gun violence, improving data systems for studying gun violence, illicit gun markets, and the effects of firearm policies and legislation on public safety. **Due May 2.**

**Desistance From Crime Over the Life Course**
This solicitation seeks proposals to conduct research that enhances knowledge of the process of desistance from crime. NIJ encourages applicants to submit proposals for bold, innovative approaches to enhancing understanding of the processes underlying desistance from crime. **Due May 9.**

**Violet and Cyril Franks Scholarship**
The APF Violet and Cyril Franks Scholarship supports graduate-level scholarly projects that use a psychological perspective to help understand and reduce stigma associated with mental illness. The scholarship helps address research which shows that stigma is a significant barrier to treatment and recovery for many of the 50 million Americans living with mental illness. **Due May 15.**

**NIH Summer Research Experience Programs (R25)**
The purpose of the NIH Summer Research Experience Program (referred to as the Summer Research Program) is to provide a high quality research experience for high school and college students and for science teachers during the summer academic break. The NIH expects that such programs will: help attract young students to careers in science; provide opportunities for college students to gain valuable research experience to help prepare them for graduate school; and enhance the skills of science teachers and enable them to more effectively communicate the nature of the scientific process to their students. The programs would also contribute to enhancing overall science literacy. Summer Research Programs that expand and complement existing summer educational and training programs are encouraged. Note: Not all participating Institutes and Centers (ICs) support all aspects of this program. Therefore, prospective applicants must consult the Table of IC-Specific Information, Requirements and Staff Contacts in this announcement to determine if your application will be accepted for review, and should contact staff at the relevant IC (see also Section VII) to discuss the proposed Program.  **Due May 21.**

**Water Sustainability and Climate**
The goal of the Water Sustainability and Climate (WSC) solicitation is to enhance the understanding and predict the interactions between the water system and land use changes (including agriculture, managed forest and rangeland systems), the built environment, ecosystem function and services and climate change/variability through place-based research and integrative models. Studies of the water system using models and/or observations at specific sites, singly or in combination, that allow for spatial and temporal extrapolation to other regions, as well as integration across the different processes in that system are encouraged, especially to the extent that they advance the development of theoretical frameworks and predictive understanding. **Due September 10.**

**High-End Instrumentation Grant Program (S10)**
The ORIP High-End Instrumentation Grant (HEI) program encourages applications from groups of NIH-supported investigators to purchase a single major item of equipment to be used for biomedical research that costs at least $750,000. The maximum award is $2,000,000.
Instruments in this category include, but are not limited to, biomedical imaging systems, NMR spectrometers, mass spectrometers, electron microscopes and supercomputers. **Due Sept. 13.**

**United States Army Research Institute for the Behavioral and Social Sciences Broad Agency Announcement for Basic, Applied, and Advanced Scientific Research (FY13-18)**

Announcement for Basic, Applied, and Advanced Scientific Research. This Broad Agency Announcement (BAA), 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 US 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. The funding opportunity is divided into two sections: (1) Basic Research and (2) Applied Research and Advanced Technology Development. The four major topic areas of research interest include the following: (1) Training; (2) Leader Development; (3) Team and Inter-Organizational Performance in Complex Environments; and (4) Soldier/Personnel Issues. Funding of research and development (R&D) within ARI areas of interest will be determined by funding constraints and priorities set during each budget cycle. **Open to February 5, 2018.**

**Research Interests of the Air Force Office of Scientific Research**

The Air Force Office of Scientific Research (AFOSR) manages the basic research investment for the U.S. Air Force (USAF). To accomplish this task, AFOSR solicits proposals for basic research through this general Broad Agency Announcement (BAA). This BAA outlines the Air Force Defense Research Sciences Program. AFOSR invites proposals for research in many broad areas. These areas are described in detail in Section I of the BAA, Funding Opportunity Description. AFOSR plans, coordinates, and executes the Air Force Research Laboratory’s (AFRL) basic research program in response to technical guidance from AFRL and requirements of the Air Force; fosters, supports, and conducts research within Air Force, university, and industry laboratories; and ensures transition of research results to support USAF needs. The focus of AFOSR is on research areas that offer significant and comprehensive benefits to our national warfighting and peacekeeping capabilities. These areas are organized and managed in five scientific directorates: Dynamical Systems and Control (RTA), Quantum & Non-Equilibrium Processes (RTB), Information, Decision, and Complex Networks (RTC), Complex materials and Devices (RTD), and Energy, Power, and Propulsion (RTE). The research activities managed within each directorate are summarized in Section I of the BAA. **Open until superseded.**
Links to New & Open Funding Solicitations

Links verified: Monday, February 11, 2013

- SAMHSA FY 2013 Grant Announcements and Awards
- DARPA Microsystems Technology Office Solicitations
- Open Solicitations from IARPA (Intelligence Advanced Research Projects Activity)
- Bureau of Educational and Cultural Affairs, Open Solicitations, DOS
- ARPA-E Funding Opportunity Exchange
- DOE Funding Opportunity Exchange
- NIAID Funding Opportunities List
- NPS Broad Agency Announcements (BAAs)
- NIJ Current Funding Opportunities
- NIJ Forthcoming Funding Opportunities
- Engineering Information Foundation Grant Program
- Comprehensive List of Collaborative Funding Mechanisms, NORDP
- ARL Funding Opportunities — Open Broad Agency Announcements (BAA)
- HHS Grants Forecast
- American Psychological Association, Scholarships, Grants and Awards
- EPA 2013 Science To Achieve Results (STAR) Research Grants
- NASA Open Solicitations
- Defense Sciences Office Solicitations
- The Mathematics Education Trust
- EPA Open Funding Opportunities
- DOE Funding Opportunity Exchange
- CDMRP FY 2013 Funding Announcements
- Office of Minority Health
- Department of Justice Open Solicitations
- DOE/EERE Funding Opportunity Exchange
- New Funding Opportunities at NIEHS (NIH)
- National Human Genome Research Institute Funding Opportunities
- Army Research Laboratory Open Broad Agency Announcements (BAA)
- SBIR Gateway to Funding
- Water Research Funding
- Fellowship and Grant Opportunities for Faculty Humanities and Social Sciences
- DARPA Current Solicitations
- Office of Naval Research Currently Active BAAs
- HRSA Health Professions Open Opportunities
- NIH Funding Opportunities Relevant to NIAID
- National Institute of Justice Current Funding Opportunities
- Funding Opportunities by the Department of Education Discretionary Grant Programs
- EPA’s Office of Air and Radiation (OAR) Open Solicitations
Solicitations Remaining Open from Prior Issues of the Newsletter

**Plant Feedstock Genomics for Bioenergy: A Joint Research FOA USDA, DOE**
The U.S. Department of Energy's Office of Science, Office of Biological and Environmental Research (BER), and the U.S. Department of Agriculture (USDA), National Institute of Food and Agriculture (NIFA), hereby announce their interest in receiving applications for genomics based research that will lead to the improved use of biomass and plant feedstocks for the production of fuels such as ethanol or renewable chemical feedstocks. Specifically, applications are sought for fundamental research on plants that will improve biomass characteristics, biomass yield, or sustainability. Systems biology approaches to identify genetic indicators enabling plants to be efficiently bred or manipulated, or research to predict phenotype from underlying genotype that could lead to improved feedstock characterization and sustainability are also encouraged. **Due February 25.**

**NEA Literature Fellowships: Prose, FY 2014**
The NEA Literature Fellowships program offers $25,000 grants in prose (fiction and creative nonfiction) and poetry to published creative writers that enable the recipients to set aside time for writing, research, travel, and general career advancement. The NEA Literature Fellowships program operates on a two-year cycle with fellowships in prose and poetry available in alternating years. **For FY 2014, which is covered by these guidelines, fellowships in prose (fiction and creative nonfiction) are available. Due February 28.**

**FY2013 Integrated Ocean Observing System Community Modeling to Support the Coastal and Ocean Modeling Testbed (COMT)**
NOAA, along with the Integrated Ocean Observing System (IOOS®) stakeholders, views a community coastal and ocean modeling test environment as essential to a sustained and operational IOOS. A modeling environment was established with the Coastal and Ocean Modeling Testbed (COMT), [http://testbed.ioos.us](http://testbed.ioos.us). The program priorities for this funding opportunity are to operate and continue to develop this community modeling environment while transitioning specific models, tools, toolkits and other capabilities to Federal operational facilities to improve understanding and prediction of consequences of coastal ocean extreme events and chronic conditions affecting the U.S. Ultimately, the goal is to protect lives and livelihoods for the public affected by any of these coastal ocean extreme events. Of particular interest are coastal ocean phenomena that intersect the mission goals of NOAA, other operational agencies and the IOOS® Regional Associations. NOAA seeks proposals for a single cooperative agreement for a non-Federal partner that will continue to advance the operation of the U.S. IOOS COMT under a community modeling environment. **Due February 28.**
Research Development & Grant Writing News

Distance Education Grants Program for Institutions of Higher Education in Insular Areas
The purpose of this program is strengthen the capacity of Institutions of Higher Education in Insular Areas to carry out resident instruction, curriculum, and teaching programs in the food and agricultural sciences through distance education technology. The Distance Education Grants Program for Institutions of Higher Education in Insular Areas (DEG) is a NIFA-administered competitive grants program focused on improving formal, postsecondary agricultural sciences education. **Due March 3.**

Evolving Earth Foundation Student Grant Program
This program provides grants to support college student research in the earth sciences. The emphasis will be on research topics that relate to the mission and priorities of the foundation. Please read a [statement regarding our mission](#) and priorities to determine whether your research is related. A total of ten grants per year are available, for amounts of up to $3000 per grant. Undergraduate students, graduate students, and post-doctoral researchers at accredited U.S. colleges and universities or research institutions are eligible to apply for grants. **Due March 1.**

Global Chemical Security Engagement Activities
The Department of State’s Office to Cooperative Threat Reduction (ISN/CTR) is pleased to announce an open competition for assistance awards through this Request for Proposals (RFP). ISN/CTR invites non-profit/non-governmental organizations and educational institutions to submit proposals for projects that will advance the mission of the Department’s Chemical Security Engagement Program (CSP). ISN/CTR has approximately $8,000,000 available in the current fiscal year to award multiple grants and cooperative agreements in this field. ISN/CTR prefers projects that cost less than $500,000, though awards may involve multiple projects that cumulatively exceed $500,000. **Due March 3.**

NEH Summer Seminars and Institutes
These grants support faculty development programs in the humanities for school teachers and for college and university teachers. NEH Summer Seminars and Institutes may be as short as two weeks or as long as five weeks. NEH Summer Seminars and Institutes extend and deepen knowledge and understanding of the humanities by focusing on significant topics and texts; contribute to the intellectual vitality and professional development of participants; build communities of inquiry and provide models of civility and excellent scholarship and teaching; and effectively link teaching and research in the humanities. An NEH Summer Seminar or Institute may be hosted by a college, university, learned society, center for advanced study, library or other repository, a cultural or professional organization, or a school or school system. The host site must be suitable for the project, providing facilities for scholarship and collegial interaction. These programs are designed for a national audience of teachers. **Due March 5.**

Landmarks of American History and Culture: Workshops for School Teachers
The Landmarks of American History and Culture program supports a series of one-week residence-based workshops for a national audience of K-12 educators. NEH Landmarks of
American History and Culture Workshops use historic sites to address central themes and issues in American history, government, literature, art, music, and related subjects in the humanities. Each workshop is offered twice during the summer. Workshops accommodate forty school teachers (NEH Summer Scholars) at each one-week session. Due March 5.

Institutes for Advanced Topics in the Digital Humanities
These NEH grants support national or regional (multistate) training programs for scholars and advanced graduate students to broaden and extend their knowledge of digital humanities. Through these programs, NEH seeks to increase the number of humanities scholars using digital technology in their research and to broadly disseminate knowledge about advanced technology tools and methodologies relevant to the humanities. The projects may be a single opportunity or offered multiple times to different audiences. Institutes may be as short as a few days and held at multiple locations or as long as six weeks at a single site. For example, training opportunities could be offered before or after regularly occurring scholarly meetings, during the summer months, or during appropriate times of the academic year. The duration of a program should allow for full and thorough treatment of the topic. Due March 7.

Water Resources Research National Competitive Grants Program
Section 104g of the Water Resources Research Act of 1984 requires that this competitive grant program focus on water problems and issues of a regional or interstate nature beyond those of concern only to a single State and which relate to specific program priorities identified jointly by the Secretary of the Interior and the water resources research institutes. Objectives of this program also include the following A. Promote collaboration between the USGS and university scientists in research on significant national and regional water resources issues. Proposals exhibiting substantial collaboration between the USGS and the applicant are encouraged and will receive extra weight in the evaluation and selection process. Collaborative proposals should describe in detail the respective roles of the USGS and the applicant in the proposed work. Due March 7.

Agriculture and Food Research Initiative (AFRI): NIFA Fellowships Grant Program
The FY 2013 AFRI NIFA Fellowship RFA focuses on developing the next generation of research, education, and extension professionals in the food and agricultural sciences who will lead agriculture into the future by solving current and future challenges facing our society. The AFRI NIFA Fellowships Grant Program targets talented, highly-motivated doctoral candidates and postdoctoral trainees that demonstrate remarkable promise and the potential to become gifted education, extension, and research professionals in the United States. The NIFA Fellows are individuals who have the potential for remarkable accomplishments in agricultural science. The Program seeks to develop the technical and academic competence of doctoral candidates and the research independence and teaching competencies of postdoctoral students in the food, forestry and agricultural sciences, which are within NIFA’s challenge areas, through well-developed and highly interactive mentoring and training activities. Project types supported by AFRI within this RFA include single-function Research, Education, and Extension Projects and multi-function Integrated Research, Education, and/or Extension Projects. Due March 7.
**Institute for Historical Editing**
The National Historical Publications and Records Commission seeks proposals to improve the training and education of people training to be or working as historical editors. The Institute for Historical Editing can consist of both basic and advanced institutes. This program does not support requests from individuals for their own training, education, or professional advancement. Such requests will be ineligible. For a comprehensive list of the Commission’s limitations on funding, please see What we do and do not fund (http://www.archives.gov/nhprc/apply/eligibility.html). A grant normally is for one to three years and up to $275,000. The Commission expects to make one grant in this category, for a total of up to $275,000. **Due March 7.**

**Feed the Future Food Security Innovation Lab: Collaborative Research on Sorghum and Millet**
The Leader Award will be for five years, with a maximum USAID funding level of $13,700,000 to be provided incrementally over that five-year period. In addition, the cumulative amount of Associate Awards issued during those five years will not exceed $10,000,000. **Due March 8.**

**FY 2013 Economic Development Assistance Programs**
EDA provides strategic investments that foster job creation and attract private investment to support development in economically distressed areas of the United States. Under this FFO, EDA solicits applications from both rural and urban areas to provide investments that support construction, non-construction, technical assistance, and revolving loan fund projects under EDA’s Public Works and Economic Adjustment Assistance programs. Grants made under these programs are designed to leverage existing regional assets to support the implementation of economic development strategies that advance new ideas and creative approaches to advance economic prosperity in distressed communities. **Funding cycles March 13, June 13 and September 13.**

**EPA/NSF Networks for Sustainable Molecular Design and Synthesis**
This solicitation is jointly sponsored between the U.S. Environmental Protection Agency (EPA) and the National Science Foundation (NSF) Divisions of Chemistry and Chemical, Bioengineering, Environmental, and Transport Systems (CBET) to encourage synergistic research activities and to enhance cooperation among the chemical sciences, materials research, geosciences, engineering, and biomedical and public health communities. The agencies jointly issue the solicitation, but will separately fund awards for Networks for Sustainable Molecular Design and Synthesis (NSMDS). **Due March 18.**

**EPA/NSF Networks for Characterizing Chemical Life Cycle**
This solicitation is jointly sponsored by the U.S. Environmental Protection Agency (EPA) and the U.S. National Science Foundation (NSF) Division of Chemistry (CHE) to encourage synergy and enhance cooperation in examining the life cycles of synthetic chemicals and materials as they relate to their manufacture, use, transport, and disposal or recycle. The Networks for Characterizing Chemical Life Cycle (NCCLCs) will promote development of trans-disciplinary,
systems- and molecular-level understanding of the life cycle of important (relevant) synthetic chemicals and materials (including nanomaterials) as these distribute and are potentially altered through use in society and interaction with the built and natural environments. **Due March 18.**

**University Transportation Centers Open Competition 2013**
The Research and Innovative Technology Administration (RITA) of the U.S. Department of Transportation (US DOT) is seeking applications from non-profit institutions of higher education to operate National, Regional and Tier 1 University Transportation Centers (UTCs or Centers). The purpose of these Centers is to advance U.S. technology and expertise in the many modes and disciplines comprising transportation through the mechanisms of research, education, and technology transfer; to provide a critical transportation knowledge base outside the US DOT; and to address vital workforce needs for the next generation of transportation leaders. **Due March 19.**

**Robert Noyce Teacher Scholarship Program**
The Robert Noyce Teacher Scholarship Program seeks to encourage talented science, technology, engineering, and mathematics majors and professionals to become K-12 mathematics and science teachers. The Noyce Scholarship Track provides funds to institutions of higher education to support scholarships, stipends, and academic programs for undergraduate STEM majors and post-baccalaureate students holding STEM degrees who earn a teaching credential and commit to teaching in high-need K-12 school districts. The NSF Teaching Fellowship/Master Teaching Fellowship Track provides funding to support STEM professionals who enroll as NSF Teaching Fellows in master's degree programs leading to teacher certification by providing academic courses, professional development, and salary supplements while they are fulfilling a four-year teaching commitment in a high-need school district. **Due March 20.**

**Biotechnology Risk Assessment Grants Program**
The purpose of the BRAG program is to support the generation of new information that will assist Federal regulatory agencies in making science-based decisions about the effects of introducing into the environment genetically engineered organisms (GE), including plants, microorganisms (including fungi, bacteria, and viruses), arthropods, fish, birds, mammals and other animals excluding humans. Investigations of effects on both managed and natural environments are relevant. The BRAG program accomplishes its purpose by providing Federal regulatory agencies with scientific information relevant to regulatory issues. See RFA for details. **Due March 31.**

**Next-Generation National Nanotechnology Infrastructure Network (NG NNIN)**
The National Nanotechnology Infrastructure Network (NNIN) will reach its ten year authorized award life at the end of Fiscal Year 2013. The National Science Foundation is announcing in this solicitation an open competition to establish a Next-Generation National Nanotechnology Infrastructure Network (NG NNIN) for Fiscal Years 2014-2018.
NNIN has enabled major discoveries, innovations, and contributions to education and commerce within all disciplines of nanoscale science, engineering, and technology through NSF support of a national network of university-based user facilities. These facilities have provided open access to leading-edge nanotechnology fabrication and characterization tools, instrumentation, and expertise for users across the nation from academia, small and large industry, and government. The core mission of NNIN has included national-level education and outreach programs to enable a diverse science and engineering workforce, the study of societal and ethical implications of nanotechnology including issues of environment, health, and safety, as well as important modeling and simulation capabilities.

The new competition for the NG NNIN will build on the concept of NNIN with a much broadened scope and user base. Support is being provided by all NSF Directorates and the Office of International Science and Engineering as an integral part of the NSF investment in Nanoscale Science and Engineering. **Required LOI April 1; full May 13.**

**Applied Research and Development in Forensic Science for Criminal Justice Purposes**
With this solicitation, NIJ seeks proposals for applied research and development projects that will: (1) increase knowledge or understanding necessary to guide forensic science policy and practice or (2) result in the production of useful materials, devices, systems, or methods that have the potential for forensic application. The intent of the Applied Research and Development in Forensic Science for Criminal Justice Purposes Program is to direct the findings of basic scientific research, research and development in broader scientific fields applicable to forensic science, and ongoing forensic science research toward the development of highly discriminating, accurate, reliable, cost-effective, and rapid methods for the identification, analysis, and interpretation of physical evidence for criminal justice purposes. **Due April 1.**

**Basic Scientific Research to Support Forensic Science for Criminal Justice Purposes**
With this solicitation, NIJ seeks proposals for funding basic scientific research in the physical, life, and cognitive sciences that is designed to increase the knowledge underlying forensic science disciplines intended for use in the criminal justice system. **Due April 1.**

**NASA Undergraduate Student Instrument Project 2013**
The NASA Science Mission Directorate (SMD) is releasing this Undergraduate Student Instrument Project (USIP) Educational Flight Opportunity (EFO) to solicit U.S. university proposals to develop an Earth or space science payload that will fly on a NASA suborbital vehicle, such as a sounding rocket, balloon, aircraft, or commercial suborbital reusable launch vehicle. SMD designed USIP to promote interest and proficiency in science, technology, engineering and mathematics (STEM) education and to develop careers in the STEM related fields through offering NASA’s unique suborbital research platforms for student educational flight opportunities. This EFO is intended to provide multidiscipline undergraduate student teams an exciting hands-on project, while at the same time promoting the technical and project management skills necessary to train the country’s future science and technology leaders. The maximum funding available from SMD for a proposed project, including the design, development, and testing of the science payload, is $50K. **Due April 5.**
**Office of Naval Research STEM Workforce**

The Office of Naval Research (ONR) is interested in receiving proposals for developing innovative solutions that directly support the development and maintenance of a robust STEM workforce. Successful efforts will be targeted towards one or more of the following: K-12, Undergraduate, Graduate STEM education. The goal of any proposed effort should be to provide "game changing" solutions that will establish and maintain a diverse pipeline of U.S. citizens who are interested in participating in Naval STEM education programs and who ultimately will be interested in STEM careers. This BAA also separately requests proposals for the evaluation of current and future Naval STEM programs. This includes implementing methodologies and processes for data collection, analysis, and reporting, as well as methods for effectively evaluating programs and calculating return on investment for chosen programs.

**Special Program Announcement for 2013: Basic Research Challenges in the Science of Autonomy**

The Office of Naval Research (ONR) basic research programs in autonomy address critical multi-disciplinary fundamental challenges that cut across different scientific and engineering disciplines and system domains (air, sea, undersea, and ground systems) with a focus on problems with particular naval relevance. Five new basic research focus areas have been identified and are “Understanding Satisficing in Human, Animal, and Engineered Autonomous Systems for Fast Decision-making with Limited Data,” “Cognitively Compatible Semantic and Visual Representation of Autonomous System Perceptual Data for Effective Human/Machine Collaboration,” “Mental Simulation as a Unifying Framework for Perception, Cognition and Control in Autonomous Systems and Dexterous Robots,” “Structured Machine Learning for Scene Understanding,” and “Integrated Autonomy for Long Duration Operations.” ONR seeks to initiate 6.1 Basic Research efforts in these five thrusts beginning in Government Fiscal Year 2013. **Due April 8.**

**Endangered Language Fund**

The Endangered Language Fund provides grants for language maintenance and linguistic field work. The work most likely to be funded is that which serves both the native community and the field of linguistics. Work which has immediate applicability to one group and more distant application to the other will also be considered. Publishing subventions are a low priority, although they will be considered. Proposals can originate in any country. The language involved must be in danger of disappearing within a generation or two. Endangerment is a continuum, and the location on the continuum is one factor in our funding decisions. **Due April 22.**

**Initiative for Conservation in the Andean Amazon Phase II**

The United States Agency for International Development (USAID) is seeking concept papers and later, applications, from Non-Governmental Organizations (NGOs), education institutions, partnerships and consortia to implement activities to support the Initiative for Conservation in the Andean Amazon (ICAA) with Landscape-based programs. Please note, at this time we are not accepting full applications or proposals. Only concept papers will be reviewed. Instructions on how to prepare a concept paper are provided within this APS. **Open to May 2, 2013.**
ONR Electronic Warfare Technology
The goal of Electronic Warfare (EW) is to control the Electro-Magnetic Spectrum (EMS) by exploiting, deceiving, or denying enemy use of the spectrum while ensuring its use by friendly forces. To that end, the Office of Naval Research (ONR) EW Discovery and Invention (D&I) program invests in Science and Technology (S&T) initiatives that will provide naval forces (including Navy and Marine Corps) with improved threat warning systems; Electronic warfare Support (ES); decoys and countermeasures against weapon tracking and guidance systems; Electronic Attack (EA) against adversary Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR); and Electronic Protection (EP) of our own weapons and C4ISR from intentional and unintentional interference. Due May 7 (See BAA for White Paper Due Dates).

Digitizing Historical Records
The National Historical Publications and Records Commission seeks proposals that use cost-effective methods to digitize nationally significant historical record collections and make the digital versions freely available online. Projects must make use of existing holdings of historical repositories and consist of entire collections or series. The materials should already be available to the public at the archives and described so that projects can re-use existing information to serve as metadata for the digitized collection. Due June 11.

Consolidated Innovative Nuclear Research
The Department of Energy’s (DOE) Office of Nuclear Energy (NE) conducts crosscutting nuclear energy research and development (R&D) and associated infrastructure support activities to develop innovative technologies that offer the promise of dramatically improved performance for advanced reactors and fuel cycle concepts while maximizing the impact of DOE resources. NE funds research activities through both competitive and direct mechanisms, as required to best meet the needs of NE. These efforts are essential to balancing NE’s R&D portfolio and encourage new nuclear power deployment with creative solutions to the universe of nuclear energy challenges. The competitive portion of NE’s R&D portfolio is accomplished in part by promoting integrated and collaborative research conducted by university, industry, international and national laboratory partners under the direction of Office of Nuclear Energy’s programs: Nuclear Energy University Programs (NEUP), elements of the Nuclear Energy Enabling Technologies (NEET) Crosscutting Technology Development Program, the Advanced Test Reactor (ATR) National Scientific User Facility (NSUF), and Small Business Innovative Research (SBIR) / Small Business Technology Transfer (STTR). Specifically, NE designates up to 20 percent of funds appropriated to its R&D programs for R&D and infrastructure support at university and research institutions, through open, competitive solicitations. Additionally, through the NEET Crosscutting Technology Development Program, NE provides direct and competitive awards for university, industry and national laboratory-led research that crosscuts the NE R&D portfolio. The primary objective of consolidating fiscal year (FY) 2013 competitive research sought by NE in the area of innovative nuclear research into a single FOA is to promote efficiency and the effective use of resources. Due June 12.
Agriculture and Food Research Initiative: Foundational Program
The U.S. Department of Agriculture (USDA) established the Agriculture and Food Research Initiative (AFRI) under which the Secretary of Agriculture may make competitive grants for fundamental and applied research, education, and extension to address food and agricultural sciences (as defined under section 1404 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA) (7 U.S.C. 3103)), as amended, in six priority areas. The six priority areas include: 1) plant health and production and plant products; 2) animal health and production and animal products; 3) food safety, nutrition, and health; 4) renewable energy, natural resources, and environment; 5) agriculture systems and technology; and 6) agriculture economics and rural communities. Due May 22.

Long Range Broad Agency Announcement for Navy and Marine Corps Science and Technology
This BAA is intended for proposals related to basic research, applied research, or advanced technology development. Open to September 2013.

APS for Food Security, Nutrition, Biodiversity and Conservation
The U.S. Agency for International Development (USAID) continues its commitment to foster more strategic alliances with the private sector’s “solution holders” who are often well positioned to address specific development challenges. The purpose of this APS is to announce USAID/Uganda’s plans to fund a limited number of Public Private Alliances to enhance food security and address issues of biodiversity and conservation. Competition under this APS will consist of a two-step process where applicants first submit a Concept Paper for an initial competitive review. All Concept Papers received will be evaluated for responsiveness to the application criteria specified in this APS. Open to September 15, 2013.

National Oceanic and Atmospheric Administration (NOAA)
The purpose of this notice is to request applications for special projects and programs associated with NOAA’s strategic plan and mission goals, as well as to provide the general public with information and guidelines on how NOAA will select proposals and administer discretionary Federal assistance under this Broad Agency Announcement (BAA). This BAA is a mechanism to encourage research, education and outreach, innovative projects, or sponsorships that are not addressed through our competitive discretionary programs. It is not a mechanism for awarding congressionally directed funds or existing funded awards. Open until September 30, 2013.

National Geospatial-Intelligence Agency Academic Research Program
The National Geospatial-Intelligence Agency (NGA) is releasing this solicitation for its sponsored academic research program. This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Department of Defense (DoD) Grant and Agreement Regulations (DoDGARs) 22.315(a). Awards will take the form of grants. However, other instruments may be considered as appropriate based on the proposals. Open to September 30, 2013.
FY 2013 Continuation of Solicitation for the Office of Science Financial Assistance Program
The Office of Science of the Department of Energy hereby announces its continuing interest in receiving grant applications for support of work in the following program areas: Advanced Scientific Computing Research, Basic Energy Sciences, Biological and Environmental Research, Fusion Energy Sciences, High Energy Physics, Nuclear Physics, and Workforce Development for Teachers and Scientists. This annual FOA DE-FOA-0000768 succeeds FOA DE-FOA-0000600, which was published September 30, 2011. Open to September 30, 2013.

U.S. Army Medical Research and Materiel Command Broad Agency Announcement for Extramural Medical Research
The U.S. Army Medical Research and Materiel Command's (USAMRMC) mission is to provide solutions to medical problems of importance to the American Warfighter at home and abroad. The scope of this effort and the priorities attached to specific projects are influenced by changes in military and civilian medical science and technology, operational requirements, military threat assessments, and national defense strategies. The extramural research and development program plays a vital role in the fulfillment of the objectives established by the USAMRMC. General information on USAMRMC can be obtained at: (https://mrmc.detrick.army.mil/). This Broad Agency Announcement (BAA) is intended to solicit extramural research and development ideas, and is issued under the provisions of the Competition in Contracting Act of 1984 (Public Law 98-369), as implemented in Federal Acquisition Regulation 6.102(d)(2) and 35.016. This announcement provides a general description of USAMRMC's research programs, including research areas of interest; general information; proposal/application preparation instructions; and the evaluation and selection criteria. This fiscal year’s BAA contains several changes from previous USAMRMC BAAs. Read each section carefully. Open to September 30, 2013.

Long Range BAA for Navy and Marine Corps Science and Technology
ONR is constantly looking for innovative scientific and technological solutions to address current and future Navy and Marine Corps requirements. We want to do business with educational institutions, nonprofit and for-profit organizations with ground-breaking ideas, pioneering scientific research and novel technology developments. The following list includes currently active broad agency announcements (BAAs) -- each announcement provides technical and contracting points of reference. Required: All BAAs incorporate a standardized template for the submission of technical and cost proposals for all contract awards. Guidance and assistance in completing the form and spreadsheet can be obtained from points of contact provided in the BAA. Download the forms (updated for 2012) | Email your feedback Open to September 30, 2013.

FAA Center of Excellence for Environment and Energy
The FAA is forming a Center of Excellence for Environment and Energy during FY-13. The COE will be a consortium of the FAA, university partners, and private industry affiliates selected by the FAA Administrator to work collectively on business and operational issues of mutual interest and concern. Due October 4, 2013.
Nuclear Energy University Programs - Fellowship and Scholarship
This program supports education and training for future nuclear scientists, engineers and policy-makers who are attending U.S. universities and colleges in nuclear-related graduate, undergraduate and two-year study programs. These are zero-dollar awards that will be funded as students apply through the Department of Energy, Office of Nuclear Energy. Open until November 30, 2015.

Research Interests of the Air Force Office of Scientific Research
AFOSR plans, coordinates, and executes the Air Force Research Laboratory’s (AFRL) basic research program in response to technical guidance from AFRL and requirements of the Air Force; fosters, supports, and conducts research within Air Force, university, and industry laboratories; and ensures transition of research results to support USAF needs. The focus of AFOSR is on research areas that offer significant and comprehensive benefits to our national warfighting and peacekeeping capabilities. These areas are organized and managed in three scientific directorates: Aerospace, Chemical and Material Sciences, Physics and Electronics, and Mathematics, Information and Life Sciences. Open until superseded.

Research Interests of the Air Force Office of Scientific Research
AFOSR solicits proposals for basic research through this general Broad Agency Announcement (BAA). This BAA outlines the Air Force Defense Research Sciences Program. AFOSR invites proposals for research in many broad areas. These areas are described in detail in Section I, Funding Opportunity Description. AFOSR is seeking unclassified, white papers and proposals that do not contain proprietary information. We expect our research to be fundamental. Open until superseded.

DARPA Microsystems Technology Office-Wide
The Microsystems Technology Office (MTO) supports DARPA’s mission of maintaining technological superiority and preventing technological surprise by investing in areas such as microelectromechanical systems (MEMS), electronics, system architecture, photonics, and biotechnology. In recent years, the proliferation of commercial components and manufacturing processes has allowed our adversaries to achieve capabilities that were previously not possible. Open to September 1, 2014.

NINDS SBIR Technology Transfer (SBIR-TT [R43/R44])
This Funding Opportunity Announcement (FOA) encourages Small Business Innovation Research (SBIR) grant applications from small business concerns (SBCs) for projects to transfer technology out of the NIH intramural research labs into the private sector. If selected for SBIR funding, the SBC will be granted a royalty-free, non-exclusive internal research-use license for the term of and within the field of use of the SBIR award to technologies held by NIH with the intent that the SBC will develop the invention into a commercial product to benefit the public. Open November 5, 2011, to September 8, 2014.

Army Engineer Research and Development Center BAA
The U.S. Army Engineer Research and Development Center (ERDC) has issued a Broad Agency Announcement (BAA) for various research and development topic areas. The ERDC consists of the Coastal and Hydraulics Lab (CHL), the Geotechnical and Structures Lab (GSL), the Environmental Lab (EL) and the Information Technology Lab (ITL) in Vicksburg, Mississippi; the Cold Regions Research and Engineering Lab (CRREL) in Hanover, New Hampshire; the Construction Engineering Research Lab (CERL) in Champaign, Illinois; and the Topographic Engineering Center (TEC) in Alexandria, Virginia. The ERDC is responsible for conducting research in the broad fields of hydraulics, dredging, coastal engineering, instrumentation, oceanography, remote sensing, geotechnical engineering, earthquake engineering, soil effects, vehicle mobility, self-contained munitions, military engineering, geophysics, pavements, protective structures, aquatic plants, water quality, dredged material, treatment of hazardous waste, wetlands, physical/mechanical/chemical properties of snow and other frozen precipitation, infrastructure and environmental issues for installations, computer science, telecommunications management, energy, facilities maintenance, materials and structures, engineering processes, environmental processes, land and heritage conservation, and ecological processes. This research is conducted by Government personnel and by contract with educational institutions, non-profit organizations and private industries. The BAA is available at http://erdc.usace.army.mil/ and is open until superseded. Proposals may be accepted at any time. For questions regarding proposals to CHL, EL, GSL, TEC & ITL, contact Allison Hudson at 601-634-5233 or via email at Allison.B.Hudson@usace.army.mil. For questions concerning proposals to CERL, contact Jim Dowling at 217-373-4479 or via email at james.p.dowling@usace.army.mil or Andrea Krouse at 217-373-6746 or via email at andrea.j.krouse@usace.army.mil. For questions concerning proposals to CRREL, contact Wendy Adams at 603-646-4323 or via email at Wendy.A.Adams@usace.army.mil. Contact the technical personnel listed at the end of each topic area for questions concerning the topic areas themselves. Open to January 31, 2014.

**Science, Technology, Engineering & Mathematics BAA**
ERDC solicits basic research proposals in the general DoD STEM Education and Outreach Program from colleges, universities, and non-profit organizations. Depending upon the availability of appropriated funds, ERDC may: (1) Make multiple awards under this BAA; and (2) Consider options exercisable for multi-year performance. Area of performance for proposals may be limited to one of the selected locations listed above or may address multiple locations. Funding is limited and proposals are primarily sought in the not-to-exceed $30,000 range; however, larger awards may be considered when appropriate. Geographically targeted. Open to January 31, 2014.

**Small University Grants Open 5-Year Broad Agency Announcement**
Open to August 26, 2015

**FY2011 – 2016 Basic Research for Combating Weapons of Mass Destruction (C-WMD) Broad Agency Announcement (BAA)**
This BAA is focused on soliciting basic research projects that support the DTRA mission to safeguard America and its allies from WMD (e.g., chemical, biological, radiological, nuclear, and high-yield explosives) by providing capabilities to reduce, eliminate, and counter the threat and mitigate its effects.

Open Solicitations from IARPA (Intelligence Advanced Research Projects Activity)

Army Research Laboratory Broad Agency Announcement for Basic and Applied Scientific Research

This Broad Agency Announcement (BAA), which sets forth research areas of interest to the Army Research Laboratory (ARL) Directorates and Army Research Office (ARO), is issued under the paragraph 6.102(d)(2) of the Federal Acquisition Regulation (FAR), which provides for the competitive selection of basic research 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 provision of Public Law 98-369, "The Competition in Contracting Act of 1984" and subsequent amendments. **Open June 1, 2012 to March 31, 2017.**

ARL Core Broad Agency Announcement for Basic and Applied Scientific Research for Fiscal Years 2012 through 2017

Air Force Research Laboratory, Directed Energy Directorate

University Small Grants Broad Agency Announcement

This is a five-year, open-ended Broad Agency Announcement (BAA) to solicit research proposals for the United States Air Force Research Laboratory (AFRL) Directed Energy (RD) Directorate. This BAA is a university grant vehicle that can provide small grants of $100k or less to students/professors in a timely manner for the purpose of engaging U.S./U.S. territories’ colleges and universities in directed energy-related basic, applied, and advanced research projects that are of interest to the Department of Defense. **Open to April 1, 2017.**
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 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 and developing institutional and center-level proposals (e.g., NSF ERC, STC, IGERT, STEP, 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

- **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.

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