

Volume 4, Issue 3: November 15, 2013

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Research Development & Grant Writing News ©

Published monthly for faculty and research professionals by

[Academic Research Funding Strategies, LLC](#)
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Searching the Foundation 990 for Funding

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By [Mike Cronan](#), co-publisher

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Many faculty, particularly those outside the STEM disciplines, as well as research office professionals supporting them in their search for research funding, must cast a broad net in their search for funding. They should venture beyond relevant federal agency solicitations posted to Grants.gov, the go-to portal for most university researchers when conducting an initial exploration for possible funding. The first place many look for support is to foundations, including corporate foundations. This is a good option, but keep in mind that this could involve searching tens of thousands of foundations nationally, from the local, state, and regional levels to the major national foundations. Nearly 90,000 grant makers in all constitute the foundation universe. By comparison, Grants.gov lists funding opportunities from 22 federal agencies. But researchers should not let the sheer number of foundations discourage them.

If your discipline or research topic area is not well supported, or not supported at all, by any federal agency, locating funding for your research can turn into a frustrating Grants.gov search. Most federal agencies fund either basic research or mission-driven research specific to that agency. Given this predetermined funding landscape, and the mission-specific opportunities it offers in terms of funding solicitations, it is not uncommon for some faculty to come to the challenging realization that their research interests and expertise do not map to any open funding solicitations at any of the federal agencies. However, they are still faced with institutional expectations for research along their academic career path, particularly at third-year review and in the tenure and promotion process.

So for many faculty and the research offices supporting them, exploring for funding opportunities at foundations is an excellent next step. However, if you do seek foundation funding to support your research or academic programs, you need to ***put on your sleuthing hat*** and sort out those foundations with a mission, culture, and history of funding research, projects, and programs in your particular domain. This is a relatively easy task when it comes to large foundations that maintain a robust online presence through a website that tells you all you need to know about the foundation's funding mission and grant making process.

For example, a Google search on "Top 100 U.S. Foundations" produces a listing with ULR links of the 100 largest foundations by (1) [asset size](#) and (2) [total giving](#). The Google search also turns up the following: [Top Corporate Grantmakers by Asset Size](#), [Top Corporate Grantmakers by Total Giving](#), [Largest Community Foundations by Asset Size](#), and [Largest Community Foundations by Total Giving](#).

The process of seeking foundation funding resembles that of seeking federal funding in several key respects. Your primary goal is to ***map your research and programmatic interests, capacities, and ideas to the research and programmatic interests and mission of the foundation***. Therefore, be sure to research and ***understand the mission, culture, and investment agenda of the foundation***, and learn the role of the program officer at the foundation during the application and review process.

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Importantly, opportunities for funding at foundations exist at many scales, **including national, regional, state, and local foundations**. Foundations will have domains of interest and a mission agenda driving their investments. Your job is to explore those mission and agenda domains in your search for foundations that fund programmatic areas to which you bring competitive expertise and **offer an idea of interest to the foundation**. Do not overlook small regional or state foundations in your search.

The last point about searching for funding outside the realm of the top 100 foundations logically leads to a discussion of the **critical role played by the [Foundation Form 990](#)**. The 990-PF is the information return U.S. private foundations file with the Internal Revenue Service, as noted by the Foundation Center. This public document provides fiscal data for the foundation, names of trustees and officers, application information, **and a complete grants list**. **The 990-PF may be the only comprehensive grants listing for smaller and mid-sized foundations**. Larger foundations often issue annual reports, which provide descriptions of the grants awarded during the year for which the return is filed; they may also have web sites.

As the Foundation Center notes on its website, understanding the mission and agenda of small foundations can sometimes be more of a challenge, but one good starting point is the **[990 Finder](#)** at the Foundation Center website. IRS **[Form 990-PF Return of Private Foundation](#)** is a goldmine of information that foundations are required to report to the IRS. And it is all public information and easily downloaded as a pdf file using the **[990 Finder](#)** at the Foundation Center (how neat is that!). In addition, doing a simple Google search for other sites will show those that allow you to download the 990-PF (this search produces **[GuideStar](#)**, among others). In fact, many foundation websites offer a downloadable 990 in pdf format.

So why do you want to do this? First, because the **990-PF is the funding sleuth's paradise**, the informational equivalent of free beer and wide roads. Prospect research, as noted by the Foundation Center, **is the absolute key when you're investigating potential sources of foundation funding**. **There is no finer tool for truly observing the workings of a private foundation**, including a clear statement of their mission, than a foundation's federal 990-PF form.

Go to **[990 Finder](#)** and take it for a test drive. If, after a careful and critical reading, you suspect that a foundation's mission funding is a match for your research and programmatic interests, download the 990-PF pdf document and start looking for the key information that will enable you to write a successful proposal to that foundation. The 990 form is the grant writing equivalent to having insider information guiding your stock trades—**but it is legal!** Become familiar with how information is presented in the 990-PF, including information about the foundation's assets; information about officers, directors, trustees, and foundation managers; information on awards and award size; funded project abstracts; and information on the grant application process.

A Research Professional's Grant-Writing Elevator Speech

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By [Mike Cronan](#), co-publisher

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Common grant writing advice for faculty, especially new and junior faculty, is to prepare a “**researcher's elevator speech**” that succinctly answers in a few paragraphs the core questions every funder wants answered, and keep it with you at all times, especially at conferences, seminars, workshops, colloquia, etc. where you might meet potential funders of your research:

- What research do I propose to do?
- Why is my research important /significant?
- Why is my research new and exciting?
- How will my research contribute value-added benefits to the funding agency's mission, advance the field, or impact other fields?
- How does my prior research demonstrate my capacity to perform the proposed research?
- Why will my research plan lead to success?

The following two slides **succinctly** describing two multimillion dollar projects funded by ARPA-E are an example of what a “**researcher's elevator speech**” needs to accomplish by **briefly answering** the above key questions. However, **university research professionals** can also benefit by developing their own “**Research Professional's Grant-Writing Elevator Speech**” to answer common faculty questions, as discussed following the slides.

Optofluidic Solar Concentrators

Currently tracking of solar radiation in concentrated photovoltaic systems is provided by mechanical means with multiple moving parts which raises reliability concerns. **These systems are also bulky. We propose to develop a solar concentrator using a novel optofluidic system.** The implementation of the proposed optofluidic system is based on electrowetting. The electrowetting effect controls the contact angle of a liquid on a hydrophobic surface through the application of an electric field. With two immiscible fluids in a transparent cell, they can actively control the contact angle along the fluid-fluid-solid tri-junction line and hence the orientation of the fluid-fluid interface via electrowetting. **The naturally-formed meniscus between the two liquids can function as an optical prism. Without any mechanical moving parts**, this dynamic liquid prism allows the device to adaptively track both the daily and seasonal changes of the Sun's orbit, i.e., dual-axis tracking. **This innovative technology reduces capital costs** for concentrating photovoltaics (CPV) and increases operational efficiency by eliminating the power consumption of mechanical tracking. **Most importantly, the elimination of bulky tracking hardware and quiet operation** will allow extensive residential deployment of concentrated solar power.

Thermal Energy Storage with Supercritical Fluids

Thermal Energy Storage with Supercritical Fluids Two-tank molten salt is **currently the preferred state-of-the art** thermal energy storage for solar thermal power plants. The team will develop a thermal energy storage system which **will significantly reduce the cost and increase the volumetric and mass based energy density**. This team will **develop and implement** a supercritical fluid based thermal energy storage system designed to operate both at moderate (100 – 200 °C) and high temperatures (300 – 550 °C) with a modular single-tank design. Supercritical storage **enables high volumetric energy density** due to the high density of the supercritical state and the ability to provide high temperature storage. The team will **identify and develop fluids with high specific storage capacity and design tanks to enable cost-effective small footprint storage of solar thermal power**. For high temperature storage the volumetric energy density will potentially increase by over a factor of 2 when compared to two-tank molten salt systems, with a cost less than 70% of the molten salt system.

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The key reason for developing “**A Research Professional’s Grant-Writing Elevator Speech**” is to prepare for what often occurs as a brief, random interaction between research professionals and faculty planning to submit a research grant. Such meetings are often inadvertent and **time limited**. In these interactions, the faculty member is often looking for **quick advice** for achieving success in the realm of external funding. In this happenstance situation, the research professional may be tempted to observe, “*I don’t recall seeing you at the well publicized grant-writing workshop our office recently offered.*” But the professional’s task is to describe, in the time it takes to eat a few cookies at a nameless university function, the core essentials a faculty member needs to know to become a more successful applicant for research funds.

What key points should “**A Research Professional’s Grant-Writing Elevator Speech**” address? A good starting point in answering this question is to be prepared to address the five topics below and to elaborate on one or more of them on a moment’s notice, including in the time it takes to travel between floors in an elevator. These topics address many of the questions new and junior faculty ask when starting a research career, and also offer a reminder to more senior faculty of the basic considerations that, in aggregate, contribute to a successful proposal.

- Finding Research Funding
- Analyzing the Funding Solicitation and Its Role in Proposal Development
- Analyzing the Agency Culture, Mission, and Research Priorities
- Understanding the Review Process and How to Write for Reviewers
- Writing a Compelling Project Summary

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The research professional's elevator speech on these topics might be structured to include the below information, but refined to meet your own institutional context.

Elevator Speech: Finding Research Funding

Learn to pack your own chute when finding research funding. Passively waiting to receive funding notices from an undifferentiated subscription listserv or internal email distribution list or from a daisy chain of forwarded emails with funding notices sent as an afterthought by a colleague is not an efficient system. Likely most, if not all, of the information you receive in this way will be of little or only occasional value to you. It amounts to a tsunami of undifferentiated information lacking focus, relevance, and timeliness to your specific research interests.

Instead, visit the websites of agencies or foundations that fund research in your area and focus on learning the funding cycles of grant programs of interest to you. Most agencies and many foundations offer RSS feeds that continuously monitor for updated information and download it to your browser. In addition, you can subscribe to an agency's email alerts that will keep you current on upcoming and planned funding opportunities. Remember, all federal grant opportunities are also posted to Grants.gov. Grants.gov also offers RSS feeds and email alerts that will update your funding information daily. This makes packing your own funding chute really simple, since, as the RSS acronym implies, it offers "*Really Simple Syndication*." To find agency RSS feeds, simply Google "*RSS feeds at 'AGENCY NAME'*," or visit the agency web site.

Keep in mind, however, that published funding opportunities on recurring cycles are only one part of the funding opportunities universe. ***Most agencies and foundations have a process in place for submitting unsolicited or investigator-initiated proposals.*** When you find an agency that funds research of interest to you, make sure you understand the unsolicited grants process. After all, in any given year, typically 50% of awarded grants from NSF and 80% from NIH are unsolicited or investigator initiated. In most cases, the unsolicited proposal process is explained at the agency website or in a currently open agency BAA (Broad Agency Announcement). Moreover, in many cases, the unsolicited proposal process is an abbreviated one, often starting with a short white paper that will be reviewed by the agency to determine whether or not it will then ask you to develop and submit a full proposal. Moreover, writing brief white papers is an excellent way to hone your grant-writing skills and narrative strategies.

Elevator Speech: Analyze the Funding Solicitation and Its Role in Proposal Development

Analyze the funding solicitation. Don't read it just once; read it several times carefully. Explicate the solicitation word by word, sentence by sentence. Most of the flaws in unfunded proposals originate from a (mis)reading of the funding solicitation that is cursory and inattentive to detail and nuance and therefore leads to a poorly understood solicitation. A poorly understood solicitation will result in a proposal that is poorly understood by reviewers. That is time and energy wasted!

Analyze the solicitation to determine whether or not your research is a good fit for the agency and the specific solicitation. Remember, a great research idea is a necessary but not sufficient condition for funding. Your great idea must map to the mission-critical objectives of

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the funding agency and bring value-added benefits to the agency and the research field(s). ***If your research is not a fit, don't submit!***

Use the solicitation to develop a first draft of your proposal. Copy and paste all the agency's questions, goals, objectives, review criteria, information on referenced documents, etc. into a document that will serve as the first rough draft of the narrative. In so doing, you will ensure that your final proposal narrative fully responds to the solicitation and provides reviewers with the requested information in the narrative in the order and with the detail required from the solicitation.

Moreover, after reading the solicitation, you should be able to answer many of the following questions which are relevant to how you write the research narrative, particularly in addressing how your proposed research fits the mission priorities of the agency and what ***value-added benefits worth funding*** you bring to the agency and the research field.

- Why is the agency funding this program?
- What are the origins and history of the program?
- How has the program evolved over time and why?
- What influences have transformed the program and how?
- What is the agency vision for the program going forward?
- How does the program fit in the national research context?
- What reports, workshops, etc., formed a basis for the program?
- How does the program fit the agency's strategic plan?
- ***How does my research fit in this context; why is my research significant to this context; and how will my research impact this context?***

Finally, never hesitate to contact a program officer for clarifications. There are only two certainties in grant writing:

- ***Timidity is NEVER rewarded in the competitive proposal process!***
- ***Ambiguities are ALWAYS punished!***

Elevator Speech: Analyze the Agency Culture, Mission, and Research Priorities

You would no more bring a bowling ball to participate in a curling match than you would submit a nuclear physics project to the National Endowment for the Humanities, or a project on a neglected infectious disease to the Department of Energy's Biological and Environmental Research Office, or submit an applied research project to a basic research agency.

While the two former examples may be unlikely, the latter is too common and represents one of the reasons proposals are declined by program officers and review panels alike. You need to be sufficiently informed about a funding agency and a specific program to know whether your research maps tightly to the solicitation. After all, funding opportunities are designed to advance the agency mission and any funding you receive will be based on how well your research advances the agency's research objectives.

Most agencies make it easy to find the information that will allow you to better understand their culture, mission, and research priorities. Their web sites feature their strategic plans, research roadmaps, agency research reports, and workshops. These, in turn, will help you better understand how best to "pitch" your proposed research to the agency.

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Moreover, going through the process of analyzing the funding agency helps applicants write a more competitive proposal better aligned with the agency mission objectives and answering such important questions as:

- What characterizes a competitive proposal narrative at the agency?
- Who is the audience?
- How do you best address that audience?
- What is a fundable idea within the context of the agency's research priorities?
- How are claims of research uniqueness and innovation best supported in the proposal narrative?
- What arguments are likely to be the most compelling in communicating the significance of your research and its value-added benefits to the agency as well as communicating your capacity to perform the proposed research to reviewers and program officers?

Elevator Speech: Understand the Review Process and How to Write for Reviewers

Understand how your proposal will be reviewed and the criteria the agency will use to judge your proposal before you start writing the proposal. In most cases, the agency will use overarching review criteria, e.g., intellectual merit and broader impacts at NSF, as well as more detailed, in-depth, program-specific review criteria. It is impossible to plan, develop, and write a successful research proposal without first knowing how you will be judged by reviewers and program officers.

Understand the role of the program manager in the review process. At some agencies, the program officers merely ensure that the review process is followed appropriately, while at other agencies, e.g., defense and some mission agencies, program officers play a strong role in determining which proposals are or are not funded. In fact, at some mission agencies, reviewers' recommendations are only one of several factors that will be used in the final award decision. It is of great importance that you know how the agency to which you submit a research proposal will make the funding decision. This knowledge will play a significant role in how you write the research narrative and the arguments you make to convince reviewers and program officers to fund your research.

Also, remember to write for reviewers. Make it easy for reviewers to understand your proposal. You should write it in "user friendly" language that's accessible to the intelligent or scientifically literate reviewer but not necessarily to the expert in your field. Write clearly and simply. Complement your research narrative with visuals that help the reviewers better understand the proposed research. Don't compress the research narrative into a dense "black hole" of compacted information by using the smallest allowable font and eliminating all white space in the document.

Remember, proposals are not journal articles—proposals must be user friendly and offer a narrative that tells a story reviewers will find memorable.

Elevator Speech: Write a Compelling Project Summary

A well crafted project summary is critical to a successful proposal. It is here that you introduce your research ideas to the reviewers. If you write a lackluster project summary, you will have likely lost any possibility that reviewers will continue on to read your research

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narrative with any enthusiasm whatsoever. Moreover, keep in mind Mark Twain's comment in his correspondence with a friend: *"If I had had more time I would have written you a shorter letter."* A clear, simple, one-page description of your research is a document that needs to be ***crafted and drafted repeatedly*** until you converge on perfection. It is in the project summary that you must make clear:

- What research you propose to do?
- Why your research is important /significant?
- Why your research is new and exciting?
- How your research contributes value-added benefits to the funding agency's mission, advances the field, or impacts other fields?
- How your prior research results demonstrate your capacity to perform the proposed research?
- Why the rationale for your research plan will lead to success?

While the above can be modified and adapted to fit various institutional contexts, it is a good plan for research development professionals to be able to quickly distill the essential knowledge of the craft of successful grant writing and convey it to faculty in many settings.

AGEP Planning Strategies—Got Data?

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By [Mike Cronan](#), co-publisher

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If you want to test your institutional capacity and readiness for planning, developing, and writing a large team grant (LTG), consider applying for the NSF [Alliances for Graduate Education and the Professoriate \(AGEP\)](#) program due February 5 (up to 5 AGEP-Transformation awards, approximately 2 AGEP-KAT awards, and 4 AGEP-BPR awards are anticipated in FY 2014). This long-standing, institutional partnership grant will test to the limit your team's or alliance's capacity to compete nationally for one of NSF's more prestigious institutional partnership grants. Moreover, if you can successfully compete for an AGEP, you will have put in place a team dynamic and structure that will serve you well in many other areas at NSF, as well as other research agencies. A funded AGEP, for example, offers a powerful leveraging advantage to those submitting other grants to NSF that include goals complementary to the AGEP, particularly such major NSF programs as the Engineering Research Centers (current open competition) and Science and Technology Centers.

Moreover, the institutional infrastructure put in place under a funded AGEP will represent a highly competitive foundational advantage when it comes to applying for complementary grants at NSF and other federal funding agencies and foundations. If you have a team that can compete for an AGEP, you have a team that can compete in many similar programmatic domains. In the current solicitation, NSF lists URLs of 12 complementary NSF programs, 5 ED programs, along with programs from other federal agencies (e.g., DOE, NIH), as well as foundation funding (e.g., Ford and Sloan Foundation).

Keep in mind, a competitive AGEP is a significant accomplishment, whereas a funded AGEP is really an extraordinary accomplishment. However, winning an AGEP on the first submission is somewhat like getting a hole in one on a tournament-level golf course. In keeping with the golf analogy, a funded AGEP is most likely a par 2 to 5 event for most applicants. This is not unlike the funding environment for all LTGs. In this arena, a competitive AGEP means that your submittal was declined for funding, but was sufficiently well reviewed that a resubmittal has significantly increased your chances of funding success. A funded AGEP (or any LTG) represents a process of persistent iteration, each iteration more competitive than the prior, as you converge on funding success.

However, if you don't have the heart, determination, and persistence for the iterative process required for converging on success, then the LTG domain may not be the best environment for you. It requires a certain strategic patience and long-term vision, as well as dogged determination, to achieve perfection on everything ranging from your vision, goals, objectives, rationale, and outcomes to the often excruciating specificity and detail required both in the proposal and supplemental documents.

In the case of the AGEP, for example, the participant and institutional data requirements needed to successfully make your case for funding will bring the faint of heart near despair and panic. The difficulty, of course, is compounded by the fact that every institutional member of the proposed alliance must contribute to this data gathering on each campus before it is viewed

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in aggregate as an alliance. Getting visionary ideas from across alliance members is the easy part—everyone has a vague vision for an AGEF, ***but ideas for operational specificity and detail and the required supporting data are often a rare commodity***, at times leading to painfully long silent pauses in alliance meetings. Gathering institutional data and other required information from ***multiple campuses in a common format that is fully responsive to NSF requirements and contributed on time to meet a defined proposal production schedule is one key test of whether a competitive alliance is actually in place.***

In many ways, it seems that the AGEF institutional data requirements have become more rigorous over time and now, in aggregate across the AGEF program, represent a research data resource for those researching areas that are central to the AGEF's core objectives. These aggregate data will also be used to plan future evolutions of the AGEF and NSF similar programs, particularly in identifying successful diversity models. Or, as NSF states in the current solicitation, "This solicitation represents an expansion of the program to include strategic investments in the ***development and study of new models*** for STEM graduate education, postdoctoral training, and academic STEM career preparation that eliminate or mitigate negative factors and promote positive practices for underrepresented racial and ethnic minorities."

Moreover, institutional data requirements should reflect what is required for program evaluation of these new models. Familiarity with [*Measuring Diversity, An Evaluation Guide for STEM Graduate Program Leaders*](#), a 100-page report funded by NSF and the AGEF program, will help applicants make key determinations about institutional data and how those data can best be used in AGEF model development and program evaluation.

In this regard, *Measuring Diversity* Chapter 7, *Reporting [data] Formats*, and Chapter 8, *National Sources of Data*, will help in planning and developing an AGEF, or any other similar grant at NSF, since baseline data are critical to describing a "***unit of change***" over the grant period. These units of change define for AGEF program officers and reviewers the impact a funded AGEF will have across an alliance. It is always helpful when writing institutional transformation proposals to NSF, such as AGEF or the recently due ADVANCE, to declare to program officers and reviewers your institutional transformation, or "***unit of change***." Institutional data will be key to making your case in this regard. In this instance, the "***unit of change***" is the institutional transformation taking place across the alliance that permits it to meet and sustain AGEF goals.

While Chapter 7 of the report addresses data techniques and formats to ensure that program evaluation reports to NSF are clear, convincing, and compelling, the suggestions given in this chapter also bear on how to present data in the proposal narrative and appendices. As noted in this chapter, "*regardless of the audience for whom a presentation product is prepared, careful attention to organizing information can make it easier for readers [reviewers] to capture the most important details.*" This is good advice for writing the AGEF proposal itself. After all, if you don't first present your program data in a way that convinces the program officers and reviewers to fund your proposal, you will not be submitting the annual evaluation data described in Chapter 7.

Chapter 8 of the report complements Chapter 7. As noted in this chapter, "*National data sources [example below] can be important ways to benchmark the performance of a*

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program. This section will provide an overview of the various sources, how they can be accessed, and some of the strengths and weaknesses associated with each source. The majority of sources are public: the Federal government invests heavily in data collections and in systems to permit users access to these data. Professional societies are another source of data.” The key point here is that applicants should contextualize the relevance of institutional data by its juxtaposition and comparison to national data. In turn, if done well, this will illuminate your proposed program’s potential to meet the goals and objectives defined in the solicitation. Importantly, NSF’s [National Center for Science and Engineering Statistics](#) provides extensive data reports that can be used to great competitive advantage in writing successful institutional transformation proposals to NSF such as the AGEP. Moreover, the site offers an RSS feed, a critical tool to ensure the timeliness of the information and to encourage you to keep a chronology of key data likely needed for future proposals.

Data Source and Web Location	Responsible Agency	Individual or Institutional – Population	Key Variables	Frequency
Integrated Postsecondary Education Data System (IPEDS)	National Center for Education Statistics (NCES)	Institutional: all Title IV institutions.	Degree levels, disciplines, race/ethnicity, sex, citizenship, institution.	Annually
Survey of Earned Doctorates (SED)	National Opinion Research Center (NORC) conducted for NSF and five other federal agencies: USDA, NIH, NASA, DOE, and NEH	Individual: recipients of doctoral degrees from U.S. colleges and universities in their graduation year.	Discipline, sex, race/ethnicity, citizenship, funding mechanism, post-graduation plans (among others).	Annually
Graduate Student Survey	NSF	Institutions: all U.S. institutions with at least one post-baccalaureate program.	Enrollment by level (masters or PhD), type (full or part time), race/ethnicity, sex, citizenship.	Annually
Data-Based Assessment of Research-Doctorate Programs	National Research Council	Institutional	Most comprehensive collection of information about graduate programs to date.	Infrequently, episodic

The requirement for institutional and national data information leads to another key question. Who will serve as the background researcher on your AGEP, not only for gathering, organizing, and presenting institutional data and the context-setting national data but also for other AGEP resources that will help develop a more competitive proposal? For example, the current AGEP solicitation lists the URLs of 32 **NSF References of Interest** for the AGEP program. It is prudent to assume these references are listed because ***NSF feels they are important to developing an AGEP proposal that reflects the agency’s vision and goals for the program***, i.e., why they fund AGEP. Applicants without knowledge of this background information are at a competitive disadvantage when it comes to writing the project narrative, as well as attachments such as data profiles, references, and the like.

Additionally, a review of the extensive AGEP data presentation formats, historical AGEP data, key AGEP “unit of change” parameters, etc. can be found in the appendices to this report. If you are presenting data for a planned AGEP submission or similar grant to NSF, a review of the appendices to this report will provide an additional competitive advantage, particularly in terms of adopting NSF’s preferred methods of presenting data to support your proposed program model.

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Moreover, a review of the report's 40 pages of appended graphics, tables, and discussion of the historical AGEF data (1998 to current) will allow you to better "benchmark" your AGEF goals to the historical data in a way that meets NSF expectations. In sum, the historical AGEF data in these appendices help set the stage for your AGEF proposal and how you describe it. As one NSF program officer famously observed about the importance of "data mining" the historical evaluation, outputs, and outcomes of earlier models and their evolution on long-standing NSF programs: *"It helps ensure you won't reinvent the flat tire."* That is excellent advice if you are considering an AGEF submission, both for the team and the team member(s) who take on the task of the proposal background researcher.

Backgrounding the National Robotics Initiative

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By [Mike Cronan](#), co-publisher

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The recently released and updated solicitation from NSF (four participating directorates) in partnership with NASA, NIH (seven participating institutes), USDA, and USDA/NIFA on the *National Robotics Initiative* ([NRI/NSF 14-500](#)) concurrent with the 2013 update of the 137-page report “[A Roadmap for US Robotics- From Internet to Robotics](#),” nicely demonstrates the rapidly evolving nature of **large team grant (LTG)** opportunities. These LTG opportunities lie not only in robotics but across numerous academic disciplines, e.g., the newly released solicitation for *Collaborative Research in Computational Neuroscience* ([CRCNS](#)), a partnership of six NSF directorates and nine institutes of NIH. Many traditionally siloed rather than partnered research disciplines, and the agencies that fund those disciplines, are rapidly trending towards what might be the counterpart to “**team science**”—perhaps best characterized by the emerging term “**team funding**” used to describe collaborating agencies contributing funding to team science projects, such as those related to robotics and neuroscience.

As hockey great Wayne Gretzky once observed on his success, “*I skate to where the puck is going to be, not where it has been.*” Similarly, the future of research development is going to lie at the **intersection of team science and team funding**. This presents a special challenge: not only the PI **but the entire team must** skate successfully to the intersection of team science and team funding **to ensure that the required research synergy will occur**.

On LTGs, achieving synergy is the “gold standard” of funding success. Moreover, the scale and scope of LTGs, such as the National Robotics Initiative, can be characterized in several ways that differentiate them from smaller grants with only a few principal investigators (PI) working in a more narrow disciplinary domain or range. **LTGs represent premier agency investments**: more dollars over more years; more disciplines, components, and moving parts (i.e., **complexity**); more team members and team dynamics; more partnered institutions; more time needed to plan, develop, and write; more interdisciplinarity and synergy required to demonstrate the value-added benefits of team research; and **more development challenges for the PIs and the research offices that support them**.

Of course when it comes to LTGs on the order of the *National Robotics Initiative*, potential applicants must answer a fundamental question: is your team “*cable ready*,” so to speak, to compete for funding. One key question to answer when pursuing center-level funding relates to determining whether you have a sufficient number of successful building block grants in place to convince program officers and reviewers your research team is ready for center-level prime time.

After all, programs of the magnitude of the NRI **presuppose successful existing (not promised) research capacities that can be reconfigured, advanced, and synergized under the umbrella of a center** or other LTG mechanism. In the particular instance of the NRI, the solicitation notes, “*the purpose of this program is the development of the next generation of robotics, to advance the capability and usability of such systems and artifacts, and to encourage existing and new communities to focus on innovative application areas.*” The research

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destination term “*next generation*,” as used in this solicitation, resembles that of many other LTG solicitations, which may use other language, e.g., “*cutting edge*” or “*transformational not incremental*.” Your center readiness is the key issue, however, in that you must explain why your background research and management experience justifies the large-scale focus of resources and funding that can only be provided by a center mode of support for your proposed research.

Always keep in mind that the universe of declined center-level proposals, a universe many orders of magnitude greater than the universe of funded center-level proposals, is littered with proposals submitted by those who possess only a thin veneer of foundational research funded in the past. In some cases, those lacking experience mistakenly decide to “*double down*” and adopt the “*go big or go home*” philosophy wherein they believe that one big center-level funded grant will “make up” for all the smaller grants not funded. It just ain’t going to happen!

To answer the “*center ready*” question in the case of the NRI, a program of significant complexity, it will prove helpful, if not mandatory, that at least one member of the development team play the role of “*team investigator*” to search for leads, clues, and “*competitive grant forensics*” in the key documents referenced in the solicitation. These will better inform your “*go/no go*” decision on the subject of your team’s readiness to compete for this multi-agency funding opportunity. Moreover, this information also will enable a more competitive research narrative to be written, particularly related to describing the intersection of your proposed NRI research with the NRI research context described in the referenced reports.

In this case, over 140 robotics experts from industry, laboratories, and universities from across the country joined forces to produce a definitive report entitled [A Roadmap for US Robotics- From Internet to Robotics](#) updated in 2013 ([here](#)). Other key reports include the [Office of the Secretary of Defense Unmanned Systems Roadmap \(2009-2034\)](#) and the [WTEC Panel Report on International Assessment of Research and Development In Robotics](#). Your center-level journey must begin with these reports.

As described in these reports and the NRI solicitation, robotics encompasses a broad array of integrated actuation, electronic, sensor, software, man-machine interface, and other enabling technologies to produce next generation, intelligent devices, platforms, vehicles, and other products that operate with ever-increasing levels of intelligence, safety, and autonomy. To varying degrees, such solutions automatically perceive, monitor, and map their surroundings; locate, detect, and identify objects of interest; make decisions based on an understanding of their environment and various user inputs; and take the appropriate, necessary actions. The reports suggest ways in which robots in the future can serve as our *coworkers*, our *coprotectors*, and our *coinhabitants*.

The purpose of the NRI program, as described in the solicitation synopsis, is to develop the next generation of robotics, to advance the capability and usability of such systems and artifacts, and ***to encourage existing and new communities to focus on innovative application areas***. It will address the ***entire life cycle from fundamental research and development to manufacturing and deployment***.

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Methods to establish and infuse **robotics in educational curricula and research to gain a better understanding of the long-term social, behavioral, and economic implications of corobots across all areas of human activity are important parts of this initiative**. Collaboration between academic, industry, nonprofit and other organizations is strongly encouraged **to establish better linkages between fundamental science and technology development, deployment, and use**.

Reflecting on the above two paragraphs reveals that the NRI is “**classic NSF**” in its expectations: form new research communities focused on innovation, infuse robotics into education (research/education integration), convey the societal impacts of robotics, and forge links between fundamental science and technology development, deployment, and use (echoes of the NSF ERC ubiquitous [Three-Plane Diagram](#)). This point emerges clearly in the below criteria for the project summary:

*“Project Summary (4600-character limit): At the top of the Overview text box, enter the title of the NRI project, the name of the PI and the lead institution. Provide an overview description of the NRI project, **including its transformative research and education goals**, and the community (communities) that will be impacted by its results. In separate statements, provide a succinct overview of the project in the first box, a summary of the intellectual merit in the “intellectual merit” box, and broader impacts of the proposed project in the “broader impacts” box. Those proposals that are targeting a specific agency sponsorship should indicate so in the last line of the last box, e.g., “Requested funding agency:” followed by that agency’s abbreviated name, “**NSF**”, “**NASA**”, “**NIH**”, or “**USDA**”, but only if they have previously communicated with a program officer from that agency and received permission or instruction to do so. Those not so designated will be considered for funding by all of the joint sponsoring agencies.”*

A key takeaway from all of this? When NSF partners in team funding, **NSF culture infuse the multi-agency solicitation in terms of review criteria and other programmatic expectations**. For example, as indicated in the NRI solicitation, “*full proposals that do not address the intellectual merit and broader impacts of the proposed project in separate statements may not be accepted or may be returned without review.*” Moreover, if your funding experience is entirely or mostly with NASA, NIH, and USDA/NIFA, it will be important to transition to the NSF culture, perhaps by including an NSF-experienced researcher on the proposed project.

Briefly, the **sponsoring agency NRI mission-specific research criteria include: (1) NSF’s** strong encouragement of potentially *transformative research in core robotic technologies and education*; (2) **NASA’s** encouragement of robotics research and technology development to enhance its aeronautics and space missions; (3) **NIH’s** encouragement of robotics research and technology development that enhance health, lengthen life, and reduce illness and disability ([example](#)); and (4) **USDA’s** encouragement of *robotics research, applications, and education* that enhance food production, processing, and distribution to benefit consumers and rural communities. It is important to note that on large-team grants submitted in response to multi-agency solicitations, the applicant team must understand the mission, culture, and review criteria of the partnered agencies .

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It is worth noting for those new to NSF that the NRI features a 15-page limit,, many fewer pages than those allotted by the partner agencies. Moreover, the NSF [Grant Proposal Guide](#) **is the governing document for this submittal**. If you are new to NSF, it is important to become familiar with this document, as well as the changes to the NSF merit review process implemented in January, 2013. Another critical part of an NRI submission will be the **2-page Coordination Plan** that “may” be included in the supplemental documents, specifically as described in the solicitation:

*“Coordination Plan. Highly collaborative and multi-disciplinary proposals involving more than three PIs **may** include a Coordination Plan [not including one would be a very unwise strategic decision]. The Coordination Plan must be submitted as a Supplementary Document and **cannot exceed two pages**. The Coordination Plan must be labeled “Coordination Plan” and must include: 1) the specific roles of the collaborating PIs, Co-PIs, other Senior Personnel and paid consultants at all organizations involved; 2) how the project will be managed across institutions and disciplines; 3) identification of the specific coordination mechanisms that will enable cross-institution and/or cross-discipline scientific integration (e.g., workshops, graduate student exchange, project meetings at conferences, use of videoconferencing and other communication tools, software repositories, etc.), and 4) specific references to the budget line items that support these coordination mechanisms.”*

Answering these four questions in two pages will require both careful thought and crafting of your response to make the coordination plan as convincing and clear as possible. Given the significant funding investment in an NRI award, the coordination plan will have to be **a very succinct two pages that makes a clear case to program officers and reviewers that your research team is well managed, has the capacity to perform, and that the proposed coordination offers a pathway to research synergy and success**. Do not miss the opportunity to make your case by assuming that the use of the term “may include” offers you an easier path to submitting an NRI proposal. Failing to include a well-crafted coordination plan in your NRI proposal offers proof of bad planning!

NSF's Research Coordination Networks

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By Lucy Deckard, co-publisher

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RCNs don't directly support research, but they can provide a unique opportunity to develop new collaborations and position your team to compete for large team grants.

NSF is increasingly interested in catalyzing new, cross-disciplinary collaborations that have the potential to take research in fundamentally new directions, but they recognize that there are significant challenges to making connections across widely different disciplines. [Research Coordination Networks \(RCN\)](#) grants are one way that NSF hopes to provide the resources and impetus to develop new networks of researchers who can bring different perspectives and tools to a research topic or problem. However, many PIs don't really understand the RCN funding mechanism because it is so different from the usual NSF grant programs that fund research.

RCN Motivation and Goals

The key distinction between RCNs and most NSF grants is that the goal of RCNs is to develop new interdisciplinary collaborations (including international collaborations) and promote communication and interchange of ideas among researchers. In this sense, NSF is providing the resources and framework for what researchers usually have to do on their own in preparation for a large team or center-level proposal: recruit collaborators, build teams, brainstorm approaches, and establish synergies across disciplines focused on a particular research topic. Understandably, PIs tend to reach out to their frequent collaborators and struggle when they need to recruit experts from widely divergent disciplines who are not already in their discipline-based professional network. This challenge often arises in programs where, for example, engineers or natural scientists need to recruit social scientists, economists, or education researchers. Furthermore, when teams are in the planning stage for a large-team proposal, opportunities for team members to meet and develop new ideas are often limited due to lack of time and resources, particularly when team members are from geographically dispersed institutions. The RCN is a way to improve this process, ultimately resulting in more innovative, better thought-out and more interdisciplinary proposals to NSF that can potentially take a discipline in a new direction or pioneer a new discipline. Therefore, the outcome of a successful RCN will not be research results, but rather, new research teams and collaborations that will go on to submit innovative and exciting research proposals.

A common misconception about RCNs is that a multi-disciplinary team must first be developed, and together that team submits an RCN proposal to support communication, information exchange and planning among team members. It's important to understand that one of the key objectives of your RCN, should you be funded, is to **develop** a widely interdisciplinary network of researchers who can contribute to a particular research topic. For that reason, the team submitting the RCN proposal should include **only the members of the steering committee** of the proposed RCN. These members should represent the various research communities you wish to bring together, and they should have the stature and connections to identify and recruit key researchers in their fields into the network.

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Another challenge of developing a successful RCN proposal is that, since RCN activities focus on team-building and communication, NSF will be looking for innovations and expertise related to exactly that: team-building and communication. Anyone who has sat through a series of “dog and pony show” presentations from a long series of researchers as part of an unsuccessful attempt to facilitate new collaborations will understand the importance of effectively structuring events meant to engage and connect researchers from different disciplines. Consistent with NSF culture, they will expect your RCN proposal to reflect knowledge of the scholarship in communication, team-building and team science, and they will be looking for fresh new ideas on how to make this work well for your proposed new network. This is usually outside the expertise of the PI and topic area researchers, so others with that experience will likely need to be brought in.

In addition to these process considerations, you will also need to effectively argue why bringing together the types of researchers you have in mind will lead to new synergies that can significantly advance your field/topic or provide new perspectives that will take your field in a different direction. This means that your proposal will need to include a rigorous discussion of the current barriers and how perspectives from different disciplines can help overcome those barriers or take advantage of new opportunities.

RCN Details and Logistics

RCN is supported by all of the NSF Directorates. In past [RCN solicitations](#), various tracks have been identified (which have varied from competition to competition), and general (non-targeted) RCN proposals have also been supported. The most recent tracks have been the *RCN Science, Engineering and Education for Sustainability (SEES) Track* (this track has been funded in multiple competitions), the *RCN Undergraduate Biology Education (UBE)*, and the *Undergraduate Biology Education Incubator Track*. A recent [Dear Colleague Letter](#) announced the intention of the NSF Secure and Trustworthy Cyberspace (SaTC) program to fund at last one RCN addressing experimental and evaluation methods and techniques for cybersecurity.

For non-targeted General RCN proposals (i.e., RCN proposals on topics that don't fit any of the current tracks identified in the solicitation), you will need to determine which NSF core program best fits the research topic and talk to that program officer. This process brings up the recurring conundrum with which NSF struggles: the point of RCNs is to catalyze interdisciplinary research, yet the NSF programs are generally organized by discipline, and your proposal needs a home in a specific program. To deal with this challenge, you'll want to think about who would be most excited by the advances your proposed RCN has the potential to initiate through research that could come out of your proposed network.

The following program information is based on the [most recent RCN Solicitation](#).

Funding Amount and Duration: General RCN and RCN-UBE grants fund up to \$500K over 5 years; RCN-SEES grants fund up to \$750K over 4 -5 years. RCN-UBE Incubator grants are up to \$50K for 1 year.

Due Dates: The due dates for the tracked RCN proposals have passed (March 3, 2013 for SEES; June 14, 2013 for UBE and UBE Incubator). If you're interested in these grants, you'll want to

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keep an eye out for a new solicitation (however, tracks may change). The General RCN proposals can be submitted at any time.

The RCN solicitation includes seven guidance items, which we briefly summarize and comment on below. (If you are considering pursuing this grant, you will, of course, want to read the entire solicitation carefully.)

1. Be sure to identify a clear theme as a focus of your RCN's activities, along with theoretical and/or methodological foundations.
2. RCNs are expected to involve investigators from multiple sites, but one organization should serve as lead.
3. Your designated Senior Personnel should include only the members of your proposed RCN's steering committee.
4. The proposed network can be regional, national or international and should include members from diverse organizations (you might want to think about stakeholders here). Inclusion of new researchers, post-docs, graduate students and undergraduates is encouraged. Efforts to increase participation of underrepresented groups are required.
5. A clearly defined management plan is crucial, along with mechanisms for assessing progress and effectiveness of the networking activities.
6. A plan for information and material sharing (including a clear understanding of the network members' rights) is required.
7. International collaboration is encouraged. NSF will fund: 1) travel expenses for US scientists and students participating in exchange visits; 2) **RCN-related expenses for international partners to participate in networking activities while in the US** (bolded here because on other NSF grants this can sometimes be problematic), and 3) RCN-related expenses for US participants to conduct networking activities in the international partner's home laboratory. (Remember that NSF funds can't be used for expenses of the international scientists and students at their home organization.)

In addition to Intellectual Merit and Broader Impacts, the solicitation states **RCN-specific review criteria** as follows:

- RCN proposals will be evaluated for their creativity, innovation, and potential to advance, transform, or establish new areas of science.
- RCN proposals must establish the infrastructure to create new networks of scientists who have not previously worked together. RCNs cannot use resources to fund primary research or to sustain existing networks.
- For all proposals involving international collaborations, reviewers will consider: mutual benefits, true intellectual collaboration with the foreign partner(s), benefits to be realized from the expertise and specialized skills, facilities, sites and/or resources of the international counterpart, and active engagement of U.S. students and early-career researchers in the RCN activities.
- For RCN-SEES proposals, reviewers will consider how the proposed address the social, economic, and environmental components of sustainability and advance development

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of workforce skilled in the interdisciplinary scholarship needed to understand and address the complex issues of sustainability.

To see examples of funded RCNs, go [here](#) (this can take a few seconds to load).

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The Bridge by NAE

The Bridge publishes opinion and analysis on engineering research, education, and practice; science and technology policy; and the roles of engineering and technology in society. The intent is to stimulate debate and dialogue within the NAE membership and the broader outside community of policymakers, educators, business leaders and other interested citizens. The Bridge relies on its editor, a network of ad hoc advisors and NAE staff to identify potential paper topics and authors and to review and select articles ultimately published in the magazine. The Bridge has a quarterly distribution of approximately 6,500, including NAE members, members of Congress, libraries, universities, and interested individuals.

NSF AISL FY14 Solicitation Webinar Series, Nov. 1 to Dec. 3

The AISL FY14 Solicitation ([NSF 13-608](#)) was released on September 30, 2013. AISL Program Officers are holding two types of webinars focused on this solicitation:

1. AISL Webinar - **101 Introduction to the Solicitation** focuses on the key elements of the solicitation, including changes and new components. This webinar is repeated three times. (The content is the same; there is no need to attend more than one webinar of this type.)

2. AISL Webinar - **102 Digging Deeper into the Solicitation** provides background and more depth related to key elements. It also addresses commonly asked questions compiled from 101 webinars. This webinar is repeated twice. (The content is the same; there is no need to attend more than one webinar of this type.)

The Advancing Informal STEM Learning (AISL) program seeks to advance new approaches to and evidence-based understanding of the design and development of STEM learning in informal environments; provide multiple pathways for broadening access to and engagement in STEM learning experiences; advance innovative research on and assessment of STEM learning in informal environments; and develop understandings of deeper learning by participants. The AISL program supports five types of projects: (1) Pathways, (2) Research in Service to Practice, (3) Innovations in Development, (4) Broad Implementation, and (5) Conferences, Symposia, and Workshops.

NSF Reminders on the Merit Review Process

Proposals received by NSF are assigned to the appropriate NSF program for acknowledgement and, if they meet NSF requirements, for review. All proposals are carefully reviewed by a scientist, engineer, or educator serving as an NSF Program Officer, and usually by three to ten other persons outside NSF either as *ad hoc* reviewers, panelists, or both, who are experts in the particular fields represented by the proposal. These reviewers are selected by Program Officers charged with oversight of the review process. Senior NSF staff further review recommendations for awards. A flowchart that depicts the entire NSF proposal and award process (**and associated timeline**) is included in the GPG as [Exhibit III-1](#) (**below**). A comprehensive description of the Foundation's merit review process is available on the [NSF](#)

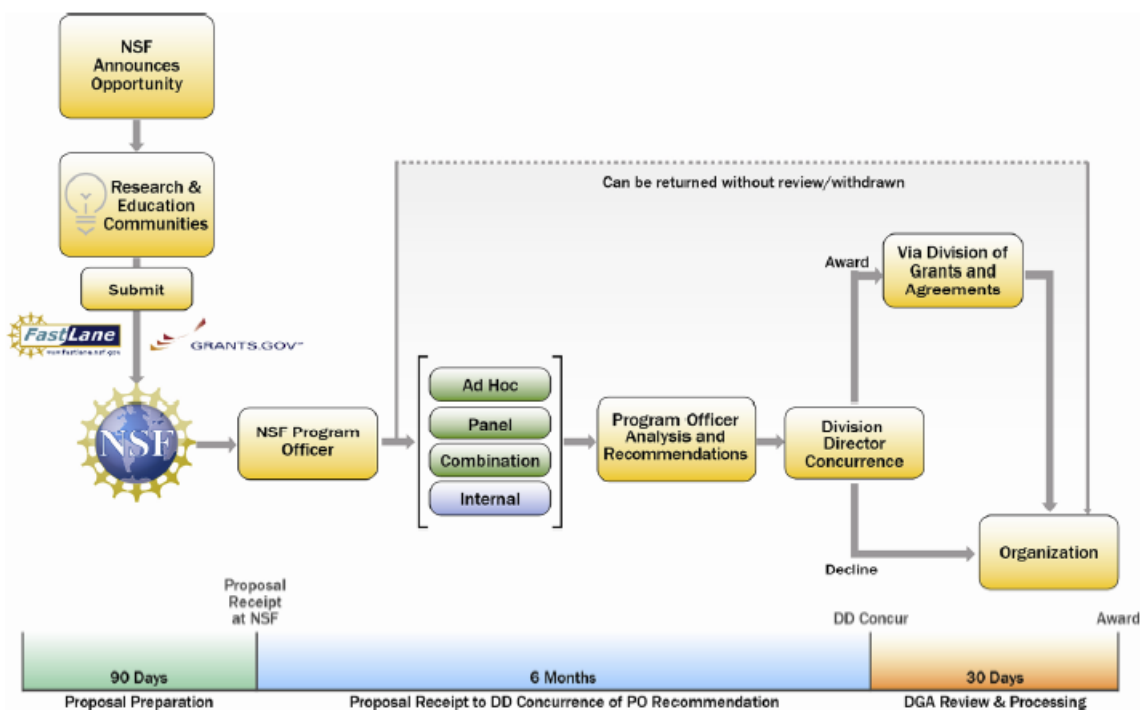
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[website](#). Proposers should also be aware of core strategies that are essential to the fulfillment of NSF's mission, as articulated in [Empowering the Nation Through Discovery and Innovation: NSF Strategic Plan for Fiscal Years \(FY\) 2011-2016](#). These strategies are integrated in the program planning and implementation process, of which proposal review is one part. NSF's mission is particularly well-implemented through the integration of research and education and broadening participation in NSF programs, projects, and activities.

One of the core strategies in support of NSF's mission is to foster integration of research and education through the programs, projects and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students, and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the variety of learning perspectives.

Another core strategy in support of NSF's mission is broadening opportunities and expanding participation of groups, institutions, and geographic regions that are underrepresented in STEM disciplines, which is essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers

Exhibit III-1: NSF Proposal & Award Process & Timeline



Educational Grant Writing Web Resources

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The Nation's Report Card, A First Look: 2013 Mathematics and Reading

The study examined the impact of Teach for America (TFA) and The New Teacher Project's Teaching Fellows (TF) programs on the mathematics achievement of students in grades 6–12. TFA and TF provide alternative routes to teacher certification and aim to provide high-quality teachers to schools in low-income areas. Students were randomly assigned to either an intervention (TFA or TF) or a comparison teacher who taught the same mathematics subject. The study reported that students in the TFA group had statistically significant higher scores on end-of-year mathematics achievement tests than those in the comparison group. However, no differences in mathematics achievement were detected between students in the TF and comparison groups.

New Practice Guide: Teaching Math to Young Children

This practice guide provides five recommendations for teaching math to children in preschool, prekindergarten, and kindergarten. Each recommendation includes implementation steps and solutions for common roadblocks. The recommendations also summarize and rate supporting evidence. This guide is geared toward teachers, administrators, and other educators who want to build a strong foundation for later math learning.

Researching College and Career-Ready Standards to Improve Student Outcomes

In August, IES worked with the National Science Foundation and the Eunice Kennedy Shriver National Institute of Child Health and Human Development to convene a technical working group to discuss research objectives related to college- and career-ready standards in English language arts and mathematics. Forty people were invited to attend (including researchers, practitioners, and federal and foundation staff) the one-and-a-half-day meeting. Participants were asked to focus specifically on issues at the classroom level and to think about short-, medium-, and long-term research objectives. Sessions focused on math and English language arts content, implications for students with disabilities and English language learners, measuring classroom practice, and district and school-level support for implementation. This meeting summary covers all sessions of the technical working group and outlines both presentations and discussions among participants.

Exploring the Science Framework: Engaging Learners in Scientific Practices Related to Obtaining, Evaluating, and Communicating Information

The National Research Council's recent publication *A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas* (NRC 2011), which is the foundation for the Next Generation Science Standards now being developed, places unprecedented focus on the practices involved in doing scientific and engineering work. In an effort to lend specificity to the broad notion of 'inquiry,' the intent behind the practices outlined in the Framework is for

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students to engage in sensible versions of the actual cognitive, social, and material work that scientists do. This article focuses on one of those practices.

On the Road to Reform: K-12 Science Education in the United States

The question is whether the American educational system is preparing US students in the science, technology, engineering, and mathematics (STEM) fields well enough to preserve the US advantage over other countries that are trying to catch up.

A Framework for K-12 Science Education: Looking Toward the Future of Science Education

A Framework for K-12 Science Education (NRC 2012) provides a blueprint for new state standards in science education. Based on this framework a consortium of educators and scientists from 26 states is developing Next Generation Science Standards, which will be available in April 2013 for states to use in guiding what students learn in science for the next decade or more.

Nutrition Education in the K-12 Curriculum

The childhood obesity epidemic and related health consequences are urgent public health problems. Approximately one-third of America's young people are overweight or obese. Health problems once seen overwhelmingly in adults, such as type 2 diabetes, cardiovascular disease, and hypertension, are increasingly appearing in youth. Though the health of Americans has improved in many broad areas for decades, increases in obesity could erode these and future improvements. The IOM report *Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation* recognized the importance of the school environment in addressing the epidemic and recommended making schools a focal point for obesity prevention. The development and implementation of K-12 nutrition benchmarks, guides, or standards (for a discussion of these terms, see the next section of this chapter) would constitute a critical step in achieving this recommendation.

The Widening Income Achievement Gap

"Has the academic achievement gap between high-income and low-income students changed over the last few decades? If so, why? And what can schools do about it?"

Researcher Sean F. Reardon conducted a comprehensive analysis of research to answer these questions and came up with some striking findings. In this article, he shows that income-related achievement gaps have grown significantly over the last three decades, even as black-white achievement gaps have closed. These gaps are already large when children enter kindergarten; in fact, they do not grow substantially during the school years. Gaps between low-income and higher-income students in other measures of education success (such as college completion rates and civic engagement) have also been growing.

Reardon describes a constellation of socioeconomic trends that have led to the widening gap, and discusses the role that schools can play in helping to close the gap. He recommends three strategies: devoting more resources to the early grades; providing extended time in school (provided that it's used effectively); and doing more to reduce socioeconomic

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segregation in school assignment and thus provide more equal access to high-quality teachers, stimulating curriculum and instruction, and adequate school resources."

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Agency Research News

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Dear Colleague Letter: NSF Graduate Research Fellowship Program (GRFP) - Graduate Research Opportunities Worldwide (GROW)

The purpose of this Dear Colleague Letter is to announce the continuation of GRFP's Graduate Research Opportunities Worldwide (GROW). Through GROW, NSF Graduate Fellows are provided an international travel allowance to engage in research collaborations with investigators in partner countries located outside the United States.

With GROW, NSF Graduate Fellows can benefit from partnerships developed by NSF with funding organizations in other countries. Building on the experience of the former Nordic Research Opportunity, GROW offers research opportunities of 3-12 months in duration in the following partner countries: Australia, Brazil, Chile, Denmark, Finland, France, India, Ireland, Japan, Korea, the Netherlands, Norway, Singapore, Sweden and Switzerland.

This year, GROW is offering an additional track to provide opportunities to NSF Graduate Fellows to conduct research in developing countries. This track, developed through a partnership between NSF and the US Agency for International Development (USAID), includes the following developing countries: Brazil, Colombia, India, Indonesia, Philippines, Senegal and South Africa. NSF Graduate Fellows will have the opportunity to conduct research to help solve important development issues in these countries. Specific information regarding this track will be posted on the website (see below).

Details for each partner organization differ and are available through links to their websites and accessed at: <http://www.nsf.gov/grow>. As additional organizations develop GROW partnerships with NSF, information for those partner organizations will be added to the website to facilitate future planning.

Dear Colleague Letter: Research in Disabilities Education (RDE) and Research on Gender in Science and Engineering (GSE) in the new Research on Education and Learning (REAL) Solicitation (NSF 13-604)

The purpose of this Dear Colleague Letter is to alert the community to the continued opportunities to submit proposals to conduct research previously solicited by NSF's Research in Disabilities Education (RDE) and Research on Gender in Science and Engineering (GSE) programs. The solicitation containing information on these opportunities is the Research on Education and Learning (REAL) Solicitation ([NSF 13-604](#)) with a deadline for new proposals on January 10, 2014.

Three informational Webinars will be held in November and December specifically for individuals interested in submitting proposals on RDE and GSE topics. These will be held on the following dates (at the specified times):

Tuesday, November 12, 2013 at 2:00pm (EST)

Friday, November 22, 2013 at 2:00pm (EST)

Monday, December 2, 2013 at 2:00pm (EST)

To register for the Webinars, please send an e-mail to Nikki Godwin (ngodwin@nsf.gov) and additional information will be emailed to you. Webinar materials will be posted on the NSF web site after the conclusion of each webinar. Any questions may be directed to DRLREAL@nsf.gov.

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The REAL solicitation ([NSF 13-604](#)) encourages the submission of proposals on RDE and GSE topics with special tracks under the Broadening Participation Research Area. These tracks support both fundamental and implementation research about issues underlying the differential participation of people with disabilities and women and girls in science, technology, engineering and mathematics (STEM) education and the workforce.

Dear Colleague Letter: Political Science Program

The Political Science Program at NSF will be holding its regular and dissertation competitions this spring. As usual, the deadline for both competitions is January 15th with results being announced between the middle of May and early June.

When developing proposals for these two competitions, please keep in mind that the Consolidated and Further Continuing Appropriations Act of 2013 (P.L. 113-6, enacted on March 26, 2013) stipulates that projects funded through the Political Science Program must either promote national security or the economic interests of the United States. The relationship of the proposed research to these goals should be addressed both in the broader impacts section of the project summary and within the project description.

The Political Science Program in the Directorate for Social, Behavioral and Economic Sciences will continue to engage panels to review grant proposals, using the two National Science Board approved merit review criteria (Intellectual Merit and Broader Impacts). Panels will be asked to provide input on the degree to which the proposed research projects promote national security or the economic interests of the United States. Informed by the advice of the review panels, NSF Program Officers will make funding recommendations.

Questions about this Dear Colleague Letter may be addressed to the following SBE program contacts: Brian Humes (bhumes@nsf.gov) and Erik Herron (eherron@nsf.gov).

Frequently Asked Questions for NSF SEES Fellows Solicitation

Notice of Intent to Issue Funding Opportunity Announcement "Sunshot Incubator Program"

The Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy (EERE) intends to issue, on behalf of the Solar Energy Technology Office, a Funding Opportunity Announcement (FOA) entitled "SunShot Incubator Program." This notice is issued so that interested parties are aware of DOE's intention to issue this Funding Opportunity Announcement in the near term. Any of the information contained in this notice is subject to change. DOE will not entertain any questions or telephone calls at this time involving this notice. Once the Funding Opportunity Announcement has been released, DOE will provide an avenue for potential applicants to submit questions. This is a Notice of Intent (NOI) only. DOE is not accepting applications for funding as a result of this notice. DOE may issue a FOA as described herein, may issue a FOA that is significantly different than the FOA described herein, or DOE may not issue a FOA at all.

Publication of the Revised NIH Grants Policy Statement

The National Institutes of Health announces the publication of the revised NIH Grants Policy Statement (NIHGPS, rev. 10/1/2013). This revision is applicable to all NIH grants and

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cooperative agreements with budget periods beginning **on or after October 1, 2013**. This revision supersedes, in its entirety, the NIH Grants Policy Statement (10/2012) as a standard term and condition of award. However, the October 2012 NIHGPS continues to be the standard term and condition for all NIH grants and cooperative agreements with budget periods that began between October 1, 2012 and September 30, 2013. The NIHGPS provides both up-to-date policy guidance that serves as NIH standard terms and conditions of awards for grants and cooperative agreements, and extensive guidance to those who are interested in pursuing NIH grants.

While this revision does not introduce any new material for the first time, ***it incorporates new and modified requirements***, clarifies certain policies, and implements changes in statutes, regulations, and policies that have been implemented through appropriate legal and/or policy processes since the previous version of the NIHGPS dated 10/1/2012. The document is available in the following electronic formats: [HTML and PDF](#). The link to the 10/1/11 and 10/1/12 NIHGPS and all previous versions will remain the same. NIH will continue to publish interim grants policy changes through the issuance of [NIH Guide Notices](#). Each change will be described, including its applicability and effective date; and the necessary language to implement it as a term or condition of award provided. A document is available that summarizes the significant changes that are implemented with the October 1, 2013 NIHGPS can be found [HERE](#).

NIH Operates Under a Continuing Resolution

The Department of Health and Human Services (HHS), including NIH, operates under the Continuing Appropriations Act, 2014 ([H. R. 2775/Public Law 113-46](#)) signed by President Obama on October 16, 2013. This Act (CR) continues government operations through January 15, 2014 at the FY 2013 post-sequestration level. The NIH will issue non-competing research grant awards at a level below that indicated on the most recent Notice of Award (generally up to 90% of the previously committed level). This is consistent with our practice during the CRs of [FY 2006 – 2013](#). Upward adjustments to awarded levels will be considered after FY 2014 appropriations are enacted, but NIH expects institutions to monitor their expenditures carefully during this period. All legislative mandates that were in effect in FY 2013 (see [NOT-OD-12-034](#) and [NOT-OD-13-064](#)) remain in effect under the CR including the salary limitation set at Executive Level II of the Federal Pay Scale (\$179,700).

Dear Colleague Letter: Technology Enhancement for Commercial Partnerships (TECP): Supplemental Funding to Current SBIR/STTR Phase II Awards

Technology Enhancement for Commercial Partnerships (TECP) supplements to Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) program grantees are intended to pave the way for partnerships with strategic corporate partners and investors as a means to increase the potential for SBIR/STTR grantees to successfully commercialize their technology. Partnerships are recognized as a critical success factor for commercializing technology developed by small business. Potential partners, however, frequently demand technical specifications and require proof-of-concept data as a prerequisite for partnership that is beyond the scope of the Phase II project objectives. This supplemental funding will enable

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small businesses to conduct additional research to meet the requirements of a corporate partner that could lead to commercial products and services and a successful partnership. This supplemental funding program is intended to challenge small businesses to begin to develop an outward focus and to more rigorously evaluate their strategic business and commercialization options. It is anticipated that this research will not only benefit the small business enterprise but also provide a mechanism for large and mid-sized corporations and investors to have input into the commercial development of new technology, products and services.

RFI - Building Technologies Office Prioritization Tool

The U.S. Department of Energy's Building Technologies Office (BTO) developed the Prioritization Tool to improve its programmatic decision-making by evaluating the long-term impact to energy consumption by technologies and activities. The tool provides an objective framework for most energy-saving measures and scenarios as well as methodology comparing long-term benefits and end-user costs applied to various markets, end-uses, and lifetimes. BTO seeks comments and information related to the Prioritization Tool that improves the tool's accuracy, applicability, and influence technology planning within BTO. Specifically, this notice solicits comments and information on data, assumptions, and outputs of various energy efficiency technologies and activities analyzed by the Prioritization Tool. The purpose of this Request for Information (RFI) is to gather feedback from stakeholders prior to DOE potentially issuing a Funding Opportunity Announcement (FOA). This RFI is not a FOA; therefore, DOE is not accepting applications at this time. All responses to this RFI must be provided as an attachment (in Microsoft Word format) to an e-mail message addressed to BTO_P_Tool_RFI@go.doe.gov. Responses must be received no later than 05:00PM EDT on 12/24/2013.

Notice of Intent: Certification and Rating of Attachments for Fenestration Technologies

The Office of Energy Efficiency and Renewable Energy (EERE) intends to issue, on behalf of the Building Technologies Office (BTO), a Funding Opportunity Announcement (FOA) entitled "Certification and Rating of Attachments for Fenestration Technologies (CRAFT)." The purpose of this Notice is to provide potential applicants advance notice of the proposed upcoming FOA. NO APPLICATIONS WILL BE ACCEPTED THROUGH THIS NOTICE. Prospective applicants to the FOA should begin developing partnerships, formulating ideas, and gathering data in anticipation of the issuance of this FOA. It is anticipated that this FOA will be posted to EERE Exchange in FY14. Please do not respond or submit questions in response to this Notice of Intent.

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Agency Reports, Workshops & Research Roadmaps

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Resources on Disaster Resilience

One year after Superstorm Sandy hit the eastern United States, local, state, and federal leaders as well as community groups and businesses are working to strengthen the nation's resilience to future disasters. Learn more about the reports and activities from the National Academies that can help advance the conversation.

Disaster Resilience in America: Launching a National Discussion

The 2012 report [Disaster Resilience: A National Imperative](#) was released just months before Sandy hit and launched a series of discussions around the country about community resilience. The yearlong activities were bookended by workshops at the National Academy of Sciences. Full webcasts and video interviews with the participants are available online.

The Resilience of the Electric Power Delivery System in Response to Terrorism and Natural Disasters

Following the 2012 Research Council report [Terrorism and the Electric Power Delivery System](#), this workshop summary expands the discussion of vulnerabilities to the electric grid to include natural disasters.

The National Research Council's [Disaster Roundtable](#) facilitates the exchange of ideas on a variety of topics related to disasters and resilience.

More Resources

The Resilience of the Electric Power Delivery System in Response to Terrorism and Natural Disasters: Summary of a Workshop

The Resilience of the Electric Power Delivery System in Response to Terrorism and Natural Disasters is the summary of a workshop convened in February 2013 as a follow-up to the release of the National Research Council report [Terrorism and the Electric Power Delivery System](#). That report had been written in 2007 for the Department of Homeland Security, but publication was delayed because of security concerns. While most of the committee's findings were still relevant, many developments affecting vulnerability had occurred in the interval. The 2013 workshop was a discussion of the committee's results, what had changed in recent years, and how lessons learned about the grid's resilience to terrorism could be applied to other threats to the grid resulting from natural disasters. The purpose was not to translate the entire report into the present, but to focus on key issues relevant to making the grid sufficiently robust that it could handle inevitable failures without disastrous impact. The workshop focused on five key areas: physical vulnerabilities of the grid; cybersecurity; mitigation and response to outages; community resilience and the provision of critical services; and future technologies and policies that could enhance the resilience of the electric power delivery system.

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The electric power transmission and distribution system (the grid) is an extraordinarily complex network of wires, transformers, and associated equipment and control software designed to transmit electricity from where it is generated, usually in centralized power plants, to commercial, residential, and industrial users. Because the U.S. infrastructure has become increasingly dependent on electricity, vulnerabilities in the grid have the potential to cascade well beyond whether the lights turn on, impacting among other basic services such as the fueling infrastructure, the economic system, and emergency services. The Resilience of the Electric Power Delivery System in Response to Terrorism and Natural Disasters discusses physical vulnerabilities and the cybersecurity of the grid, ways in which communities respond to widespread outages and how to minimize these impacts, the grid of tomorrow, and how resilience can be encouraged and built into the grid in the future.

Workforce Needs in Veterinary Medicine

The U.S. veterinary medical profession contributes to society in diverse ways, from developing drugs and protecting the food supply to treating companion animals and investigating animal diseases in the wild. In a study of the issues related to the veterinary medical workforce, including demographics, workforce supply, trends affecting job availability, and capacity of the educational system to fill future demands, a National Research Council committee found that the profession faces important challenges in maintaining the economic sustainability of veterinary practice and education, building its scholarly foundations, and evolving veterinary service to meet changing societal needs.

Many concerns about the profession came into focus following the outbreak of West Nile fever in 1999, and the subsequent outbreaks of SARS, monkeypox, bovine spongiform encephalopathy, highly pathogenic avian influenza, H1N1 influenza, and a variety of food safety and environmental issues heightened public concerns. They also raised further questions about the directions of veterinary medicine and the capacity of public health service the profession provides both in the United States and abroad.

To address some of the problems facing the veterinary profession, greater public and private support for education and research in veterinary medicine is needed. The public, policymakers, and even medical professionals are frequently unaware of how veterinary medicine fundamentally supports both animal and human health and well-being. This report seeks to broaden the public's understanding and attempts to anticipate some of the needs and measures that are essential for the profession to fulfill given its changing roles in the 21st century.

21st Century Manufacturing: The Role of the Manufacturing Extension Partnership Program

The Manufacturing Extension Partnership (MEP) - a program of the U.S. Department of Commerce's National Institute of Standards and Technology - has sought for more than two decades to strengthen American manufacturing. It is a national network of affiliated manufacturing extension centers and field offices located throughout all fifty states and Puerto Rico. Funding for MEP Centers comes from a combination of federal, state, local and private resources. Centers work directly with manufacturing firms in their state or sub-state region. MEP Centers provide expertise, services and assistance directed toward improving growth,

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supply chain positioning, leveraging emerging technologies, improving manufacturing processes, work force training, and the application and implementation of information in client companies through direct assistance provided by Center staff and from partner organizations and third party consultants.

21st Century Manufacturing seeks to generate a better understanding of the operation, achievements, and challenges of the MEP program in its mission to support, strengthen, and grow U.S. manufacturing. This report identifies and reviews similar national programs from abroad in order to draw on foreign practices, funding levels, and accomplishments as a point of reference and discusses current needs and initiatives in light of the global focus on advanced manufacturing.

Best Available and Safest Technologies for Offshore Oil and Gas Operations

Best Available and Safest Technologies for Offshore Oil and Gas Operations: Options for Implementation explores a range of options for improving the implementation of the U.S. Department of the Interior's congressional mandate to require the use of best available and safety technologies in offshore oil and gas operations. In the Outer Continental Shelf Lands Act, Congress directs the Secretary of the Interior to regulate oil and gas operations in federal waters. The act mandates that the Secretary shall require, on all new drilling and production operations and, wherever practicable, on existing operations, the use of the best available and safest technologies which the Secretary determines to be economically feasible, wherever failure of equipment would have a significant effect on safety, health, or the environment, except where the Secretary determines that the incremental benefits are clearly insufficient to justify the incremental costs of utilizing such technologies. This report, which was requested by Department of the Interior's Bureau of Safety and Environmental Enforcement (BSEE), also reviews options and issues that BSEE is already considering to improve implementation of the best available and safest technologies requirement.

Urban Forestry: Toward an Ecosystem Services Research Agenda: A Workshop Summary

Much of the ecological research in the past decades has focused on rural or wilderness areas. Today, however, ecological research has been taking place in our cities, where our everyday decisions can have profound effects on our environment. This research, or urban ecology, includes an important element, trees. Trees have had a variety of environmental benefits for our environment including the sequestering carbon, reducing urban heat island effects, providing vital habitat for wildlife, and making nature accessible. These benefits have important impacts on the physical, socio-economic, and mental health of humans as well. Being exposed to trees has been shown to enhance social cohesion, improve health and recreational opportunities, and increase real estate values.

In order to gain more knowledge into this urban forestry, the National Academy of Sciences (NAS) held a workshop February 25-26, 2013. The workshop brought together more than 100 people with various interests in urban forestry research to share information and perspectives, foster communication across specific areas of ecosystem service research, and consider integrated approaches that cut across these realms. The workshop specifically examined current capabilities to characterize and quantify the benefits, key gaps in our

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understanding, the challenges of planning urban forests in a way that optimizes multiple ecosystem services and more.

Urban Forestry: Toward an Ecosystem Services Research Agenda: A Workshop Summary presents an overview of the issues discussed by the workshop's breakout groups; summarizes presentations from the four panels which included Biophysical Services of the Urban Forest; and context for the study with introductory material from the workshop.

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New Funding Opportunities

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New Funding Posted Since October 15 Newsletter

Links to New & Open Funding Solicitations

Solicitations Remaining Open from Prior Issues of the Newsletter

New Funding Solicitations Posted Since October 15 Newsletter

[Research and Development for Hydrogen Storage Golden Field Office — DE-FOA-0000827](#)

DOE is accepting new applications aimed at research and development (R&D) for the continued development of advanced hydrogen storage systems and novel hydrogen storage materials supported through the Hydrogen Storage program. The goal is to enable the widespread commercialization of hydrogen and fuel cell technologies and specifically to provide adequate hydrogen storage for onboard vehicle applications that meet the DOE hydrogen storage targets, as well as enabling early market applications such as materials handling equipment and portable power applications. Full commercialization of fuel cell systems using hydrogen will require advances in hydrogen storage technologies. Developing systems to enable lightweight, compact, and inexpensive hydrogen storage will help make hydrogen fuel cell systems competitive in a wide range of portable and stationary applications, and enable longer driving ranges for a wider variety of transportation applications. The FOA includes the following topics:

- Topic Area 1: Reducing the cost of compressed hydrogen storage systems
- Topic Area 2: Improved materials for fiber composites and balance of plant components
- Topic Area 3: New hydrogen storage materials discovery.

Mandatory concept paper Nov. 18; full January 17.

[Hydrogen Production Research and Development](#)

This FOA supports research and development efforts to address critical challenges and barriers for hydrogen production technology development. The long-term goal of production and delivery research and development (R&D) is a high-volume hydrogen cost goal of \$2-\$4 per gallon gasoline equivalent (gge) (delivered and dispensed, but untaxed) to allow fuel cell electric vehicles (FCEVs) to be competitive on a dollar per mile basis with gasoline in hybrid electric vehicles. More specifically, the portion of the cost goal apportioned to production is <\$2/gge hydrogen. Innovative materials, processes, and systems are needed to establish the technical and cost feasibility for renewable and low carbon hydrogen production. With this FOA, the DOE through the Fuel Cell Technologies Office will seek to fund hydrogen production research and development projects in order to move technologies towards reaching the hydrogen production cost goal of less than \$2/gge. The FOA includes the following topics:

- Integrated or hybrid systems for central, semi-central or distributed production of low-cost, low carbon hydrogen from natural gas
- Thermochemical conversion of bio-derived liquids for distributed or semi-central production of low-cost hydrogen

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- Hydrogen production through direct solar water-splitting technologies: Advanced materials-based systems for direct solar water splitting for central or semi-central production of low-cost renewable hydrogen.

Concept Paper Due November 26; full applications January 31.

AFRI NIFA Fellowships Grant Program--Agriculture USDA-NIFA-AFRI-004368

The FY 2014 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 post-doctoral 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 AFRI 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. **LOI December 12; full February 20.**

NEH Sustaining Cultural Heritage Collections

Sustaining Cultural Heritage Collections (SCHC) helps cultural institutions meet the complex challenge of preserving large and diverse holdings of humanities materials for future generations by supporting preventive conservation measures that mitigate deterioration and prolong the useful life of collections. Libraries, archives, museums, and historical organizations across the country are responsible for collections of books and manuscripts, photographs, sound recordings and moving images, archaeological and ethnographic artifacts, art, and historical objects that facilitate research, strengthen teaching, and provide opportunities for life-long learning in the humanities. To preserve and ensure continued access to such collections, institutions must implement preventive conservation measures, which encompass managing relative humidity, temperature, light, and pollutants in collection spaces; providing protective storage enclosures and systems for collections; and safeguarding collections from theft and from natural and man-made disasters. **Due December 12.**

NOAA-NOS-NMS-2014-2003873, FY14 Nancy Foster Scholarship Program, Dept. of Commerce

The Dr. Nancy Foster Scholarship Program provides support for independent graduate-level studies in oceanography, marine biology, or maritime archaeology (including all science, engineering, social science and resource management of ocean and coastal areas), and particularly encourages women and minorities to apply. Individuals who are U.S. citizens and are applying to or have been accepted to a graduate program at a U.S. accredited institution may apply. Prospective scholars do not need to be enrolled in a graduate program at the time of application, but must be admitted to a graduate level program in order to be awarded this

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scholarship. Scholarship selections are based on academic excellence, letters of recommendations, research and career goals, and financial need. **Due December 12.**

Fiscal Year (FY) 2014 Department of Defense Multidisciplinary Research Program of the University Research Initiative (MURI) - Air Force Submissions

The MURI program supports basic research in science and engineering at U.S. institutions of higher education that is of potential interest to DoD. The program is focused on multidisciplinary research efforts where more than one traditional discipline interacts to provide rapid advances in scientific areas of interest to the DoD. As defined by the DoD, “basic research is systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind. It includes all scientific study and experimentation directed toward increasing fundamental knowledge and understanding in those fields of the physical, engineering, environmental, and life sciences related to long-term national security needs. It is farsighted high payoff research that provides the basis for technological progress.” (DoD 7000.14.R, vol. 2B, chap.5). DoD’s basic research program invests broadly in many specific fields to ensure that it has early cognizance of new scientific knowledge. **Due December 16.**

Systems-Based Neurotechnology for Emerging Therapies (SUBNETS), DARPA - DSO

DARPA seeks to develop a new understanding of complex, systems-based disorders of the brain. A major goal of this effort is to deliver a platform technology for precise therapy in humans living with neuropsychiatric and neurologic disease, including veterans and active duty soldiers suffering from mental health issues. Methods developed through this program will use neural recording and stimulation to close the loop on therapeutic treatment in individuals who receive minimal benefits from currently available treatments. This program could lead to improved knowledge of multiple neural subnetworks of the brain that are involved in disease and illness. This program combines novel device development, complex modeling of behaving human neural systems, clinical neurology, and animal research in order to advance the understanding and translation of safe, effective neurotechnological therapies. **Due December 17.**

NEH Collaborative Research Grants

Collaborative Research Grants support interpretive humanities research undertaken by a team of two or more scholars, for full-time or part-time activities for periods of one to three years. Support is available for various combinations of scholars, consultants, and research assistants; project-related travel; field work; applications of information technology; and technical support and services. All grantees are expected to communicate the results of their work to the appropriate scholarly and public audiences. **Due January 7.**

Robert Wood Johnson Foundation New Careers in Nursing

The Robert Wood Johnson Foundation New Careers in Nursing is a scholarship program to help alleviate the nursing shortage and increase the diversity of nursing professionals. Through grants to schools of nursing, the program provides scholarships to college graduates without

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nursing degrees who are enrolled in accelerated baccalaureate and master's nursing programs. **Due January 9.**

Restoring Active Memory (RAM), Department of Defense DARPA-BAA-14-08

DARPA seeks new methods for analysis and decoding of neural signals in order to understand how neural stimulation could be applied to facilitate recovery of memory encoding following brain injury. Ultimately, it is desired to develop a prototype implantable neural device that enables recovery of memory in a human clinical population. Additionally, the program encompasses the development of quantitative models of complex, hierarchical memories and exploration of neurobiological and behavioral distinctions between memory function using the implantable device versus natural learning and training. **Due January 9.**

NEH National Digital Newspaper Program

NEH is soliciting proposals from institutions to participate in the National Digital Newspaper Program (NDNP). NDNP is creating a national digital resource of historically significant newspapers published between 1836 and 1922, from all the states and U.S. territories. This searchable database will be permanently maintained at the Library of Congress (LC) and will be freely accessible via the Internet. (See the website, [Chronicling America: Historic American Newspapers](#).) An accompanying national newspaper directory of bibliographic and holdings information on the website directs users to newspaper titles available in all types of formats. During the course of its partnership with NEH, LC will also digitize and contribute to the NDNP database a significant number of newspaper pages drawn from its own collections. **Due January 15.**

Coastal SEES

Coastal SEES is focused on the sustainability of coastal systems. For this solicitation we define coastal systems as the swath of land closely connected to the sea, including barrier islands, wetlands, mudflats, beaches, estuaries, cities, towns, recreational areas, and maritime facilities; the continental seas and shelves; and the overlying atmosphere. Humans benefit from their use of coastal environments for enjoyment, dwelling, food, industry, and commerce, and benefit from the myriad of ecosystem services that coastal environments provide. However, human activities often result in physical, chemical, and ecological alterations that influence and interact with natural state and variability, over a range of spatial and temporal scales. A major challenge is to understand the dynamics of this coupled human-natural system in order to inform societal decisions about the uses of coastal systems, including for economic, aesthetic, recreational, research, and conservation purposes. Scientific understanding is foundational and must include an understanding of reciprocal feedbacks between humans and the natural environment; how people and organizations interpret, assess, and act upon scientific and other evidence; and how they weigh these interpretations against other interests to influence governance and decision-making. Thus, coastal sustainability relies on broad and intimately interconnected areas of scholarship about natural and human processes. Coastal SEES projects will be expected to lead to generalizable theoretical advances in natural sciences and engineering while, at the same time, integrating key aspects of human processes required to address issues of coastal sustainability. **Due January 15.**

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National Robotics Initiative (NRI)

The goal of the National Robotics Initiative is to accelerate the development and use of robots in the United States that work beside, or cooperatively with, people. Innovative robotics research and applications emphasizing the realization of such co-robots acting in direct support of and in a symbiotic relationship with human partners is supported by multiple agencies of the federal government including the National Science Foundation (NSF), the National Aeronautics and Space Administration (NASA), the National Institutes of Health (NIH), and the U.S. Department of Agriculture (USDA). The purpose of this program is the development of this next generation of robotics, to advance the capability and usability of such systems and artifacts, and to encourage existing and new communities to focus on innovative application areas. It will address the entire life cycle from fundamental research and development to manufacturing and deployment. Methods for the establishment and infusion of robotics in educational curricula and research to gain a better understanding of the long term social, behavioral and economic implications of co-robots across all areas of human activity are important parts of this initiative. Collaboration between academic, industry, non-profit and other organizations is strongly encouraged to establish better linkages between fundamental science and technology development, deployment and use. **Due January 21.**

Long Term Research in Environmental Biology (LTREB)

The Long Term Research in Environmental Biology Program supports the generation of extended time series of data to address important questions in evolutionary biology, ecology, and ecosystem science. Research areas include, but are not limited to, the effects of natural selection or other evolutionary processes on populations, communities, or ecosystems; the effects of interspecific interactions that vary over time and space; population or community dynamics for organisms that have extended life spans and long turnover times; feedbacks between ecological and evolutionary processes; pools of materials such as nutrients in soils that turn over at intermediate to longer time scales; and external forcing functions such as climatic cycles that operate over long return intervals. The Program intends to support decadal projects. Funding for an initial, 5-year period requires submission of a preliminary proposal and, if invited, submission of a full proposal that includes a 15-page project description. Proposals for the second five years of support (renewal proposals) are limited to an eight-page project description and do not require a preliminary proposal. This revision makes the following changes:

- places the Preliminary Proposal due date annually on January 30.
- introduces a process by which highly rated but declined Full Proposals may bypass the Preliminary Proposal stage in the next review cycle.
- makes clear that individual Preliminary Proposal submission limits are reduced for each Full Proposal concurrently in deferred submission status.
- provides updated instructions for formatting biosketches.
- provides separate updated instructions for submitting the combined lists of project personnel and potential conflicts of interest.

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- incorporates a reminder of the GPG requirement that the Project Summary must contain 3 distinct sections: Overview, Intellectual Merit, Broader Impacts.
- incorporates the GPG requirement for description of both Intellectual Merit and Broader Impacts in both the Project Summary and the Project Description.

Preliminary due January 30; full August 1.

Improving Undergraduate STEM Education

NSF accepts unsolicited proposals to support projects that address immediate challenges and opportunities facing undergraduate STEM education, as well as those that anticipate new structures and functions of the undergraduate learning and teaching enterprise. In addition, ***NSF accepts unsolicited proposals for developing Ideas Labs in biology, engineering, and geosciences*** that will bring together relevant disciplinary and education research expertise to produce research agendas that address discipline-specific workforce development needs. **Due February 4.**

Alliances for Graduate Education and the Professoriate (AGEP)

AGEP is committed to the national goal of increasing the numbers of underrepresented minorities (URMs), including those with disabilities, entering and completing science, technology, engineering, and mathematics (STEM) graduate education and postdoctoral training to levels representative of the available pool. URMs include African Americans, Hispanic Americans, American Indians, Alaska Natives, Native Hawaiians and other Pacific Islanders. Increased URM participation in advanced STEM education and training is critical for supporting the development of a diverse professional STEM workforce especially a diverse STEM faculty who serve as the intellectual, professional, personal, and organizational role models that shape the expectations of future scientists and engineers. To achieve this long term goal, the AGEP program will support the development, implementation, study, and dissemination of innovative models and standards of graduate education and postdoctoral training that are designed to improve URM participation, preparation, and success. **Due February 5.**

DoD FY13 CRMRP VRP Hypothesis Development Award

The FY13 VRP Hypothesis Development Award (HDA) mechanism supports conceptually innovative, high-risk/high-reward research that could ultimately lead to critical discoveries or major advancements that will drive the field of vision research forward. Research projects should include a testable hypothesis based on a strong scientific rationale. This award is not intended to support the continuation of existing studies or the next logical extension and/or incremental step. The HDA is designed to support innovative ideas with the potential to yield impactful data and new avenues of investigation. Important aspects of the HDA are as follows: Impact: The proposed research is expected to make an important and original contribution to advancing the understanding of visual dysfunction and lead ultimately to improved outcomes for patients. Innovation: Research deemed innovative may represent a new paradigm, challenge existing paradigms, look at existing problems from new perspectives, or exhibit other uniquely creative qualities. Research may be innovative in study concept, research methods or technology, or adaptations of existing methods or technologies. Research that represents an

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incremental advance on previously published work is not considered innovative. The presentation of preliminary or published data relevant to one or more of the VRP HDA Focus Areas is encouraged, but NOT REQUIRED. It is the responsibility of the Principal Investigator (PI) to clearly and explicitly articulate how the proposed research project is innovative. To meet the intent of the FY13 VRP HDA mechanism, all applications must specifically address one or more of the FY13 VRP HDA Focus Areas listed below. Applications proposing research outside of the Focus Areas listed below should not be submitted in response to this Program Announcement/Funding Opportunity. Mitigation and treatment of traumatic injuries, war-related injuries, and diseases to ocular structures and the visual system. Mitigation and treatment of visual dysfunction associated with traumatic brain injury (TBI) Vision restoration following traumatic injury. Modeling and simulation of traumatic ocular injury. **Due Feb. 6.**

Global Nuclear Security Engagement Activities, Department of State ISN-ISNCTR-14-003

The Department of State's Office of 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 Partnership for Nuclear Security (PNS). ISN/CTR has approximately \$7,000,000 available in the current fiscal year to award multiple cooperative agreements in this field. ISN/CTR prefers projects that cost less than \$250,000, though awards may involve multiple projects that cumulatively exceed \$250,000. **Due February 14.**

Global Biosecurity Engagement Activities, Department of State ISN-ISNCTR-14-001

The Department of State's Office of 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 Biosecurity Engagement Program (BEP). ISN/CTR has approximately \$20,000,000 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 February 14.**

FY2014 Consolidated Innovative Nuclear Research Idaho Field Office — Department of Energy DE-FOA-0000998

DOE is seeking applications from U.S. universities, national laboratories and industry to conduct Program Supporting, Mission Supporting and Program Directed nuclear energy-related research in support of the major NE-funded research programs. Additionally, DOE has interest in leveraging multiple needs to the extent possible. Appendix D provides a description of key data needs for validating advanced modeling and simulation tools being developed by NE. Researchers should evaluate their applications in light of these data needs and highlight any potential for capturing key data. The definitions that apply to these different areas are as follows: 1. Program Supporting R&D – Program supporting (PS) R&D is focused more directly on programmatic needs and is defined by the statement of objectives developed by the responsible programs. This R&D is up to three years in duration and should be focused and responsive to the representative statement of objectives, which are not specific to a discipline but can be limiting as defined by the project objective. U.S. University Principal Investigators

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(PIs) may apply in support of FC R&D, RC RD&D, NEAMS, and NEET CTD. National Laboratory, U.S. University, and U.S. Industry PI's may apply in support of NEET CTD. 2. Mission Supporting (MS) R&D – Mission Supporting (MS) R&D is generally more creative, innovative, and transformative, but must also support the NE mission. Mission supporting activities up to three years in duration that could produce breakthroughs in nuclear technology are also invited in response to this FOA, including research in the fields or disciplines of nuclear science and engineering that are relevant to NE's mission but may not fully align with the specific initiatives and programs identified in this FOA. U.S. University PI'S may apply in support of FC R&D, RC RD&D and Nuclear Energy. 3. Program Directed R&D: Integrated Research Projects (IRPs) – IRPs comprise a significant element of DOE's innovative nuclear research objectives and represent the Program Directed (PD) component of the NE strategy to provide R&D solutions that are most directly relevant to the near‐term, significant needs of the NE R&D programs. **Due April 3.**

Links to New & Open Funding Solicitations

Links verified: Monday, July 08, 2013

- [American Cancer Society Index of Grants](#)
- [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](#)
- [CDMRP FY 2013 Funding Announcements](#)
- [Office of Minority Health](#)
- [Department of Justice Open Solicitations](#)
- [DOE/EERE Funding Opportunity Exchange](#)

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- [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](#)
- [NETL Open Solicitations](#)
- [DoED List of Currently Open Grant Competitions](#)
- [Foundation Center RFP Weekly Funding Bulletin](#)

Solicitations Remaining Open from Prior Issues of the Newsletter

[Rural Health Network Development \(RHND\) Grant Program](#)

This announcement solicits applications for the Rural Health Network Development (RHND) Program. The purpose of this program is to support rural integrated health care networks that have combined the functions of the entities participating in the network. The RHND Program supports established health oriented networks with a history of collaboration to develop and maintain collaborative relationships to integrate systems of care administratively, clinically and financially. Networks must consist of at least three health care providers that are separately owned entities. Each member of the network must sign a memorandum of agreement or similar formal collaborative agreement. For purposes of this grant program, a rural health network is defined as a formal organizational arrangement among at least three separately owned health providers that come together to develop strategies for improving health services delivery systems in a rural community. A network in this context is not a large health system whereby multiple health care providers or organizations are owned and/or created by the same overarching entity to collaborate and achieve a particular goal. **Due November 22.**

[East Asia and Pacific Summer Institutes for U.S. Graduate Students \(EAPSI\)](#)

NSF and selected foreign counterpart science and technology agencies sponsor international research institutes for U.S. graduate students in seven East Asia and Pacific locations at times set by the counterpart agencies between June and August each year. The Summer Institutes (EAPSI) operate similarly and the research visits to a particular location take place at the same time. Although applicants apply individually to participate in a Summer Institute, awardees become part of the cohort for each location. Applicants must propose a location, host scientist,

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and research project that is appropriate for the host site and duration of the international visit.
Due November 25.

[NSF Science, Engineering and Education for Sustainability Fellows \(SEES Fellows\)](#)

Through the SEES Fellows Program, NSF seeks to advance science, engineering, and education to inform the societal actions needed for environmental and economic sustainability and human well-being while creating the necessary workforce to address these challenges. The Program's emphasis is to facilitate investigations that cross traditional disciplinary boundaries and address issues of sustainability through a systems approach, building bridges between academic inquiry, economic growth, and societal needs. The Fellow's proposed investigation must be interdisciplinary and allow him/her to obtain research experiences beyond his/her current core disciplinary expertise. Fellows are required to develop a research partnership(s) that will advance and broaden the impact/scope of the proposed research, and present a plan for their own professional development in the area of sustainability science and engineering. Proposals with a primary focus on topics covered by the Directorate for Engineering ([ENG](#)) are considered "out of scope" for this revised solicitation; however, proposals may include such topics as a secondary (or tertiary) focus. **Due November 26.**

[NSF/DOE Partnership in Basic Plasma Science and Engineering](#)

The Directorates for Engineering (Division of Chemical, Bioengineering, Environmental & Transport Systems), Geosciences (Division of Atmospheric and Geospace Sciences) and Mathematical and Physical Sciences (Divisions of Astronomical Sciences and Physics) of the National Science Foundation (NSF) and the Office of Science/Office of Fusion Energy Sciences (SC/FES) of the Department of Energy (DOE) are continuing in FY2014 the joint Partnership in Basic Plasma Science and Engineering begun in FY1997 and continued in FY2000, FY2003, FY2006 and FY2009. As stated in the original solicitations (NSF 97-39, NSF 99-159, NSF 02-84, NSF 05-619, NSF 09-596), which are superseded by the present solicitation, the goal of the initiative is to enhance plasma research and education in this broad, multidisciplinary field by coordinating efforts and combining resources of the two agencies. The current solicitation also encourages submission of proposals to perform basic plasma experiments on the Large Aperture Plasma Device (LAPD) at the University of California, Los Angeles (UCLA), a unique user facility designed to serve the needs of the broader plasma community. **Due November 26.**

[NSF Science, Engineering and Education for Sustainability Fellows](#)

Through the SEES Fellows Program, NSF seeks to advance science, engineering, and education to inform the societal actions needed for environmental and economic sustainability and human well-being while creating the necessary workforce to address these challenges. The Program's emphasis is to facilitate investigations that cross traditional disciplinary boundaries and address issues of sustainability through a systems approach, building bridges between academic inquiry, economic growth, and societal needs. The Fellow's proposed investigation must be interdisciplinary and allow him/her to obtain research experiences beyond his/her current core disciplinary expertise. Fellows are required to develop a research partnership(s) that will advance and broaden the impact/scope of the proposed research, and present a plan

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for their own professional development in the area of sustainability science and engineering. Proposals with a primary focus on topics covered by the Directorate for Engineering (ENG) are considered out of scope; for this revised solicitation; however, proposals may include such topics as a secondary (or tertiary) focus. **Due November 26.**

FY2014 Demonstration of a U.S. Marine Biodiversity Observation Network (Marine BON)

This funding opportunity (NOAA-NOS-IOOS-2014-2003803) invites proposals for projects that demonstrate how an operational Marine Biodiversity Observation Network (Marine BON) could be developed for the nation by establishing one or more prototype networks in U.S. coastal waters, the Great Lakes, and the EEZ. Biological diversity, or biodiversity, is defined as the variety of life, encompassing variation at all levels of complexity – genetic, species, ecosystems, and biomes – and including functional diversity and diversity across ecosystems. A growing body of research demonstrates that 1) the maintenance of marine biodiversity (including coastal biodiversity) is critical to sustained ecosystem and human health and resilience in a globally changing environment, and 2) the condition of marine biodiversity offers a proxy for the status of ocean and coastal ecosystem health and ability to provide ecosystem services. Thus, managing our marine resources in a way that conserves existing marine biodiversity would help address other ocean management objectives (Palumbi et al. 2009). For example, it would provide information to enhance biosecurity against threats such as invasive species and infectious agents, enable predictive modeling, better inform decision making, and allow for adaptive monitoring and Ecosystem-Based Management. As stated in the final recommendations of the Interagency Ocean Policy Task Force, it is the policy of the United States to protect, maintain, and restore the health and biological diversity of ocean, coastal, and Great Lakes ecosystems and resources (http://www.whitehouse.gov/files/documents/OPTF_FinalRecs.pdf). The Census of Marine Life, which concluded in 2010, greatly enhanced our understanding of the status of marine biodiversity. It also made clear the importance of clear-cut, systematic and sustainable approaches to observing and monitoring biodiversity across different levels and at a national scale. In May 2010, the Biodiversity Ad Hoc Group under the Interagency Working Group on Ocean Partnerships convened a workshop of experts to develop a plan and recommendations for attaining an operational marine biodiversity observation network (Marine BON) for the nation. The full workshop report can be found online: http://www.nopp.org/wp-content/uploads/2010/03/BON_SynthesisReport.pdf. In May 2013, workshop steering committee members published a paper in BioScience on the feasibility of establishing a Marine BON (<http://www.jstor.org/stable/pdfplus/10.1525/bio.2013.63.5.8.pdf>). **Due December 2.**

NEH Sustaining Cultural Heritage Collections

Sustaining Cultural Heritage Collections (SCHC) helps cultural institutions meet the complex challenge of preserving large and diverse holdings of humanities materials for future generations by supporting preventive conservation measures that mitigate deterioration and prolong the useful life of collections. Libraries, archives, museums, and historical organizations across the country are responsible for collections of books and manuscripts, photographs, sound recordings and moving images, archaeological and ethnographic artifacts, art, and

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historical objects that facilitate research, strengthen teaching, and provide opportunities for life-long learning in the humanities. To preserve and ensure continued access to such collections, institutions must implement preventive conservation measures, which encompass managing relative humidity, temperature, light, and pollutants in collection spaces; providing protective storage enclosures and systems for collections; and safeguarding collections from theft and from natural and man-made disasters. As museums, libraries, archives, and other collecting institutions strive to be effective stewards of humanities collections, they must find ways to implement preventive conservation measures that are scientifically sound and sustainable. This program therefore helps cultural repositories plan and implement preservation strategies that pragmatically balance effectiveness, cost, and environmental impact. Such a balance can contribute to an institution's financial health, reduce its use of fossil fuels, and benefit its green initiatives, while ensuring that significant collections are well cared for and available for use in humanities programming, education, and research. **Due December 3.**

Science, Technology, Engineering, and Mathematics Talent Expansion Program (STEP)

The Science, Technology, Engineering, and Mathematics Talent Expansion Program (STEP) seeks to increase the number of students (U.S. citizens or permanent residents) receiving associate or baccalaureate degrees in established or emerging fields within science, technology, engineering, and mathematics (STEM). Type 1 proposals are solicited that provide for full implementation efforts at academic institutions. Type 2 proposals are solicited that support educational research projects on associate or baccalaureate degree attainment in STEM. **Due December 3.**

NEH Collaborative Research Grants

Collaborative Research Grants support interpretive humanities research undertaken by a team of two or more scholars, for full-time or part-time activities for periods of a minimum of one year up to a maximum of three years. Support is available for various combinations of scholars, consultants, and research assistants; project-related travel; field work; applications of information technology; and technical support and services. All grantees are expected to communicate the results of their work to the appropriate scholarly and public audiences. **Due December 5.**

NEH Scholarly Editions and Translations Grants

Scholarly Editions and Translations grants support the preparation of editions and translations of pre-existing texts and documents of value to the humanities that are currently inaccessible or available in inadequate editions. These grants support full-time or part-time activities for periods of a minimum of one year up to a maximum of three years. Projects must be undertaken by a team of at least one editor or translator and one other staff member. Grants typically support editions and translations of significant literary, philosophical, and historical materials, but other types of work, such as musical notation, are also eligible. **Due December 5.**

NEH Collaborative Research Grants

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Collaborative Research Grants support interpretive humanities research undertaken by a team of two or more scholars, for full-time or part-time activities for periods of a minimum of one year up to a maximum of three years. Support is available for various combinations of scholars, consultants, and research assistants; project-related travel; field work; applications of information technology; and technical support and services. All grantees are expected to communicate the results of their work to the appropriate scholarly and public audiences. **Due December 5.**

Discovery Research K-12 (DRK-12)

The Discovery Research K-12 program (DRK-12) seeks to significantly enhance the learning and teaching of science, technology, engineering and mathematics (STEM) by preK-12 students and teachers, through research and development of innovative resources, models and tools (RMTs). Projects in the DRK-12 program build on fundamental research in STEM education and prior research and development efforts that provide theoretical and empirical justification for proposed projects. Teachers and students who participate in DRK-12 studies are expected to enhance their understanding and use of STEM content, practices and skills. DRK-12 invites proposals that address immediate challenges that are facing preK-12 STEM education as well as those that anticipate radically different structures and functions of pre-K 12 teaching and learning. The DRK-12 program has four major research and development strands: (1) Assessment; (2) Learning; (3) Teaching; and (4) Implementation Research. The program recognizes that there is some overlap among the strands. Proposals may address more than one strand. For example, projects in the Learning Strand may also include assessments of student learning, and/or support for teachers and plans for larger dissemination and use. Likewise, the Teaching Strand has a specific focus on RMTs for teacher education and professional development, but these are often based on a particular curriculum or set of instructional materials or tools. The Implementation Research strand that replaces the Scale-up strand in the previous solicitation might potentially address any or a combination of the other three strands. The program supports three types of projects: (1) Exploratory, (2) Full Design and Development, and (3) Conferences, Workshops, and Syntheses. All three types of projects apply to each of the four DRK-12 strands. **Due December 6.**

ONRBAA13-021: Basic Research in Spatial Sensing Scene Characterization Technology

The Office of Naval Research (ONR) is interested in receiving proposals for efforts that will advance and demonstrate science and technology for the next generation electronics and devices under the following focus area: Electronics technology enablers for wideband Simultaneous Transmit and Receive (STAR) capabilities Background The need for concurrent military antenna operations across wide spectral ranges in heavily congested electromagnetic environments continues to expand. Steady advances in RF and mixed-signal electronics technology continue to fuel increased system performance capabilities through the use of higher operating frequencies and broader bandwidths. Higher resolution for active sensors/imagers, higher data rate terrestrial and satellite communications links, and more effective electronic warfare (EW) and Information Operations (IO) are a few of the advances that high-speed electronics continues to enable. Many solid state device technologies from

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Silicon to Gallium Nitride, Niobium to Photonics, are contributing to these military system advances. Significant electronic challenges arise when these EW/IO, communications and radar systems are required to operate concurrently, with both transmit and receive functionality utilizing either a single aperture or multiple apertures. **Due December 11.**

National Robotics Initiative (NRI)

The goal of the National Robotics Initiative is to accelerate the development and use of robots in the United States that work beside, or cooperatively with, people. Innovative robotics research and applications emphasizing the realization of such co-robots acting in direct support of and in a symbiotic relationship with human partners is supported by multiple agencies of the federal government including the National Science Foundation (NSF), the National Aeronautics and Space Administration (NASA), the National Institutes of Health (NIH), and the U.S. Department of Agriculture (USDA). The purpose of this program is the development of this next generation of robotics, to advance the capability and usability of such systems and artifacts, and to encourage existing and new communities to focus on innovative application areas. It will address the entire life cycle from fundamental research and development to manufacturing and deployment. Methods for the establishment and infusion of robotics in educational curricula and research to gain a better understanding of the long term social, behavioral and economic implications of co-robots across all areas of human activity are important parts of this initiative. Collaboration between academic, industry, non-profit and other organizations is strongly encouraged to establish better linkages between fundamental science and technology development, deployment and use. **Due December 11.**

Partnerships for Innovation: Accelerating Innovation Research- Research Alliance

The NSF Partnerships for Innovation (PFI) program within the Division of Industrial Innovation and Partnerships (IIP) is an umbrella for two complementary subprograms, Accelerating Innovation Research (AIR) and Building Innovation Capacity (BIC). Both programs are concerned with the movement of academic research discoveries into the marketplace, although each focuses on different stages along the innovation spectrum. The PFI:AIR program has two additional subprograms: the PFI:AIR-Technology Translation (See NSF 13-575) and PFI:AIR-Research Alliance (this solicitation). This PFI: AIR-Research Alliance (RA) solicitation is intended to accelerate the translation and transfer of existing research discoveries into competitive technologies and commercial realities by leveraging the investments NSF has made in research alliances (e.g., consortia such as Engineering Research Centers, Industry University Cooperative Research Centers, Science and Technology Centers, Nanoscale Science and Engineering Centers, Materials Research Science and Engineering Centers, Centers for Chemical Innovation, Emerging Frontiers in Research and Innovation grantees and others) and catalyzing academic-based innovation ecosystems. The goal is that these synergistic partnerships and collaborations between government, academia, and other public and private entities will result in new wealth and the building of strong local and regional economies. **WEBINAR:** A webinar will be held within 6 weeks of the release date of this solicitation to answer any questions about this solicitation. Details will be posted on the IIP website (<http://www.nsf.gov/eng/iip/pfi/index.jsp>) as they become available. **Required LOI due December 13; full due February 12.**

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Stanton Nuclear Security Fellowship

Nuclear security is one of the greatest challenges facing the world today. The spread of nuclear weapons to unstable and hostile states, the risk of conflict between nuclear armed nations, and the potential for terrorist groups to acquire nuclear arms all demand new thinking and creative policy solutions. The Stanton Nuclear Security Fellowship (SNSF) Program, made possible by a generous grant from the Stanton Foundation, offers younger scholars studying nuclear security issues the opportunity to spend a period of twelve months at the Council on Foreign Relations' (CFR) offices in New York or Washington, DC, conducting policy-relevant research. CFR awards up to three fellowships annually. The fellowships will be awarded on the basis of academic and professional accomplishments and promise, and on the merits of the specific research projects proposed. The fellows could work on a wide range of issues, including nuclear terrorism, nuclear proliferation, nuclear weapons, nuclear force posture, and, as it relates to nuclear security, nuclear energy. While in residence full-time at CFR, fellows will be expected to lead a project of their own design, conduct original research, and write at least one policy relevant document. Fellows are expected to participate fully in CFR's intellectual life. The scholars selected as SNSFs will be mentored by the fellows of CFR's David Rockefeller Studies Program.

Due December 16.

Ocean Exploration 2014 Funding Opportunity

OER is seeking pre-proposals and, ultimately, full proposals to support its mission, consistent with NOAA's Next Generation Strategic Plan (<http://www.ppi.noaa.gov/wp-content/uploads/noaa>), to search, investigate, and document poorly-known and unknown ocean areas through interdisciplinary exploration, and to advance and disseminate knowledge of the ocean environment and its physical, chemical, archaeological, and biological resources. The office priorities for this opportunity support NOAA's mission goals of: Healthy Oceans, Climate Adaptation and Mitigation, and Resilient Coastal Communities and Economies, as well as many of the elements of the President's National Ocean Policy. Competitive ocean exploration proposals will be bold, innovative and interdisciplinary in their approach. NOAA OER anticipates a total of approximately \$3,000,000 including costs for ship and submersible assets will be available through this announcement. Only exploration proposals will be considered for funding, any other type of proposed project will not be reviewed. See Section I.B. for thematic priorities. To familiarize themselves with past and present OER-funded activities, applicants are encouraged to visit the Ocean Explorer Website <http://oceanexplorer.noaa.gov>. Background on how to apply and the required proposal coversheets are accessible through the OER Office Website at <http://explore.noaa.gov>. Pre-proposal submissions by non-Federal or Federal applicants are to be e-mailed to oer.ffo2014@noaa.gov. Please put your last name in the subject heading along with the words OER Pre-proposal, e.g., "Jones OER Pre-proposal." Adobe PDF format is preferred. If an eligible applicant can prove he/she does not have internet access, contact the Agency Contact listed in section VII for submission instructions. Full proposal submissions from non-Federal applicants must be submitted through Grants.gov. If an eligible applicant can prove he/she does not have internet access, contact the Agency Contact listed in section VII for submission instructions. No

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e-mail or facsimile full proposal submissions will be accepted from non-Federal applicants. Full proposal submissions from Federal applicants are to be submitted by e-mail to oeer.ffe2014@noaa.gov. No facsimile full proposal submissions will be accepted from Federal applicants. For questions send messages to oeer.ffe2014@noaa.gov. Questions and responses will be posted at <http://explore.noaa.gov>. **Due December 22.**

Programming Grants to Accompany NEH on the Road Exhibitions

These grants support ancillary public humanities programs to accompany NEH on the Road traveling exhibitions. Typical formats involve lectures, reading and discussion programs, film discussion programs, Chautauqua presentations by scholars, family programs, exhibition tours, and other appropriate formats for reaching the general public. **Due December 31.**

Ocean Sciences Research Initiation Grants (OCE-RIG), Broadening Participation

The Division of Ocean Sciences (OCE) offers Research Initiation Grants in an effort to increase the participation of under-represented groups in the ocean sciences. Research Initiation Grants provide start up funding for researchers who have been recently appointed to tenure track (or equivalent) positions, with the twin goals of enhancing the development of their research careers and broadening the participation of under-represented groups in ocean sciences. In this solicitation, the term under-represented groups will refer to and include the following: veterans, persons with disabilities, African Americans, Hispanics, Native Americans, Alaska Natives, and Pacific Islanders. **Due January 13.**

NEA Our Town Application, FY 2014

The Arts Endowment's support of a project may start on or after September 1, 2014."Grant Program Description Art works to improve the lives of America's citizens in many ways. Communities across our nation are leveraging the arts and engaging design to make their communities more livable with enhanced quality of life, increased creative activity, a distinct sense of place, and vibrant local economies that together capitalize on their existing assets. The NEA defines these efforts as the process of Creative Placemaking:"In creative placemaking, partners from public, private, nonprofit, and community sectors strategically shape the physical and social character of a neighborhood, town, tribe, city, or region around arts and cultural activities. Creative placemaking animates public and private spaces, rejuvenates structures and streetscapes, improves local business viability and public safety, and brings diverse people together to celebrate, inspire, and be inspired. **Due January 13.**

National Digital Newspaper Program

NEH is soliciting proposals from institutions to participate in the National Digital Newspaper Program (NDNP). NDNP is creating a national digital resource of historically significant newspapers published between 1836 and 1922, from all the states and U.S. territories. This searchable database will be permanently maintained at the Library of Congress (LC) and be freely accessible via the Internet. (See the website, *Chronicling America: Historic American Newspapers*.) An accompanying national newspaper directory of bibliographic and holdings information on the website directs users to newspaper titles available in all types of formats.

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During the course of its partnership with NEH, LC will also digitize and contribute to the NDNP database a significant number of newspaper pages drawn from its own collections. **Due January 15.**

International Affairs Fellowship in Nuclear Security

The International Affairs Fellowship in Nuclear Security (IAF-NS), sponsored by the Stanton Foundation, offers university-based scholars valuable hands-on experience in the nuclear security policymaking field and places selected fellows in U.S. government positions or international organizations for a period of twelve months to work with practitioners. The IAF-NS closes the gap between research and practice and enriches the teaching and scholarship of academics, while also benefiting policymakers by exposing them to cutting-edge scholarly research. The Council on Foreign Relations (CFR) awards approximately two fellowships annually. The fellowships will be awarded on the basis of academic and professional accomplishments, and on the contribution the fellowship will make to the applicant's academic career development. Potential topics appropriate for the fellowship include nuclear terrorism, nuclear proliferation, nuclear weapons, nuclear force posture, security implications of nuclear energy, international security cooperation, deterrence, and war and conflict. During their fellowship tenures, fellows will be invited to attend CFR meetings and participate in select events, such as the annual International Affairs Fellows Conference in New York City. **Due January 17.**

Catalyzing New International Collaborations (CNIC)

The CNIC program will support US researchers' participation in activities intended to catalyze **new** international collaborations designed to open up new scientific directions for the proposer. These include, but are not limited to: research planning visits, initial data gathering activities, proof-of-concept, single or multiple visits within a maximum 12-month time period to plan a new international research collaboration, or exploratory workshops designed to bring together US and non-US-based researchers representing several institutions and focused on a topic specified in the Project Description. Generally, CNIC-supported workshops will include between 10-25 individuals, of whom roughly half will be from the US, and are usually expected to take place abroad. However, in special circumstances, they may take place within the US if they include substantial international participation and are held for the purpose of establishing new international collaborations. **Due January 22.**

Organotypic Culture Models for Predictive Toxicology Center

[Grants.gov](#) Key Word Search: **"NOAA-OAR-OER-2014-2003874"** to download full

announcement. The U.S. Environmental Protection Agency (EPA), as part of its Science to Achieve Results (STAR) program, is seeking applications for research centers to investigate toxic effects of chemical substances in three-dimensional (3D) in vitro models, hereafter referred to as 'organotypic culture models' (OCMs). OCMs are tissue culture models that mimic in vivo tissue architecture through interactions of heterotypic cell types (e.g., epithelium-stroma) and extracellular matrices (ECM). They can be established from isolated cells or from tissue fragments harvested in vivo, and will bridge the gap between conventional monolayer cell

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cultures and whole-animal systems. EPA is interested in the potential application of OCMs that mimic complex cell arrangements and physiologies, scalable from mid to higher throughput screening (HTS), and high-content screening (HCS) approaches. This solicitation seeks the formation of research centers that will guide the development and evaluation of OCMs that will accelerate translational research in predictive toxicology. Three dimensional tissue models may, for example, utilize animal cells combined with mechanical scaffolds or microfluidics devices. Under this solicitation, the successful applicant will lead a Center to craft OCMs that can recapitulate critical features of in vivo cellular organization and communication, cell-matrix interplay, morphogenetic processes and differentiation, physiology and chemical metabolism. Measures of success or progress should be described toward the application of OCMs for computational toxicology and reconstructing in vivo responses to environmental chemicals and nanomaterials to improve environmental health protection. As such, the OCMs should be scalable in support of medium to high throughput strategies or high-dimensional quantitative data collection, such as high content imaging, that respond to questions relevant to chemical risk assessment and management. For applications using human cells, it is preferred that the cells are already available or derive from available cell lines. **Due January 23.**

Minerva Research Initiative Office of Naval Research

The Office of Naval Research (ONR) is interested in receiving proposals for the Minerva Research Initiative (<http://minerva.dtic.mil>), a DoD-sponsored, university-based social science research program initiated by the Secretary of Defense. This program is a multi-service effort. Ultimately, however, funding decisions will be made by OSD personnel, with technical inputs from the Services. The program focuses on areas of strategic importance to U.S. national security policy. It seeks to increase the Department's intellectual capital in the social sciences and improve its ability to address future challenges and build bridges between the Department and the social science community. Minerva brings together universities, research institutions, and individual scholars and supports multidisciplinary and cross-institutional projects addressing specific topic areas determined by the Department of Defense. The Minerva Research Initiative aims to promote research in specific areas of social science and to promote a candid and constructive relationship between DoD and the social science academic community. **Due February 14.**

NEH 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 4.**

NEH Summer Seminars and Institutes

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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. **Due March 4.**

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 Innovative Systems for Military Missions

The Tactical Technology Office of the Defense Advanced Research Projects Agency is soliciting executive summaries, white papers and proposals for advanced research and development of Innovative Systems for Military Missions. This solicitation seeks system and subsystem level technologies that enable revolutionary improvements to the efficiency and effectiveness of the military. Novel concepts are sought in the following focus areas: Ground Systems, Maritime Systems, Air Systems, and Space Systems. Proposals may be submitted at any time while this solicitation is open. TTO may publish groups of special topics as modifications to this BAA throughout the year. **Open to April 9, 2014.**

DARPA Defense Sciences Research and Technology

DARPA is soliciting innovative research proposals of interest to the Defense Sciences Office. Proposed research should investigate innovative approaches that enable revolutionary advances in science and technology. Specifically excluded is research that results primarily in evolutionary improvements to the existing state of the art. **Open to May 22, 2014.**

Climate Change Adaptation Program (GPAP)

One important effect of global climate change is the reduction in naturally stored water resources which, for Peru, means melting glaciers and a decrease in the size of highland wetlands (paramos). The loss of these areas decreases water availability for upland and lowland communities and increases the potential for Glacial Lake Outburst Floods (GLOFs). This APS seeks to stimulate adaptation projects that assist indigenous mountain communities, rural and

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urban areas, and local and regional governments potentially affected by GLOFs or changes in water availability. General project outcomes will be long-term, sustainable approaches that help reduce the impact of climate change on glaciated and highland wetland ecosystems and on those that depend on these ecosystems' services. **Open to June 6, 2014.**

DARPA Strategic Technology Office (STO) Broad Agency Announcement (BAA)

DARPA is seeking innovative ideas and disruptive technologies that offer the potential for significant capability improvement across the Strategic Technology Office (STO) focus areas. This includes system and technology development related to Battle Management (BM), Command and Control (C2), Communications, Intelligence, Surveillance, and Reconnaissance (ISR), Electronic Warfare (EW), and Positioning, Navigation and Timing (PNT). Technologies of particular interest would address challenges of operating in contested, denied, and/or austere environments. **Open until June 18, 2014.**

DARPA-BAA-13-32: Information Innovation Office (I2O) Office-Wide BAA

The Defense Advanced Research Projects Agency (DARPA) is soliciting innovative research proposals of interest to the Information Innovation Office (I2O). Proposed research should investigate innovative approaches that enable revolutionary advances in science, devices, or systems. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of the art. I2O seeks unconventional approaches that are outside the mainstream, undertaking directions that challenge assumptions and have the potential to radically change established practice. See Full Announcement, DARPA-BAA-13-32 (I2O Office Wide) pdf for further details. **Open until June 25, 2014.**

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.**

Long Range Broad Agency Announcement (BAA) for Navy and Marine Corps Science and Technology 14-001 ONRBAA14-001

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This [BAA](#) is intended for proposals related to basic research, applied research, or advanced technology development. For NAVY and Marine Corps Science, Technology, Engineering & Mathematics (STEM) programs, refer to ONRBAA13-007, which may be found at the ONR Broad Agency Announcement (BAA) webpage-

<http://www.onr.navy.mil/Contracts-Grants/Funding-Opportunities/Broad-Agency-Announcements.aspx> . A brief description of the ONR Program Codes and the science and technology thrusts that ONR is pursuing is provided below. Additional information can be found at the ONR website at <http://www.onr.navy.mil/Science-Technology/Departments.aspx> . **Open to September 30, 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.

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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

[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.**

[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.**

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[AFRL Research Collaboration Program](#)

The objective of the AFRL Research Collaboration program is to enable collaborative research partnerships between AFRL and Academia and Industry in areas including but not limited to Materials and Manufacturing and Aerospace Sensors that engage a diverse pool of domestic businesses that employ scientists and engineers in technical areas required to develop critical war-fighting technologies for the nation's air, space and cyberspace forces through specific AFRL Core Technical Competencies (CTCs). **Open until December 20, 2017.**

[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) Solider/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

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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.**

Air Force BAA - Innovative Techniques and Tools for the Automated Processing and Exploitation (APEX) Center

The AFRL/RIEA branch performs Research and Development (R&D) across a broad area of Air Force Command, Control, Communications, Computers/Cyber, and Intelligence (C4I). All applicable "INTs" are investigated with emphasis on Ground Moving Target Indication (GMTI), Electronic Intelligence (ELINT), Signals Intelligence (SIGINT), Image Intelligence (IMINT), Non Traditional Intelligence, Surveillance and Reconnaissance (NTISR), and Measurement and Signature Intelligence (MASINT). The APEX Center is used to perform analysis for seedling efforts, provide baseline tool development for major programs, and to provide realistic operational systems/networks/databases for integration efforts. The APEX Center resources will be used by the Government to perform the necessary research, development, experimentation, demonstration, and conduct objective evaluations in support of emerging capabilities within the Processing and Exploitation (PEX) area. Software tools, data sets, metrics (Measures of Performance/Measures of Effectiveness), and analysis are needed for the Government to perform the vetting, maturing, and analysis of efforts related to PEX, e.g. Automatic Tracking, Activity Based Intelligence, Entity, Event & Relationship (EER) Extraction, Association & Resolution (A&R), Analysis & Visualization (A&V), Social Network Analysis, Network Analytics, Pattern Discovery, Scalable Algorithms, and Novelty Detection. The AFRL APEX Center is the AFRL/RI gateway into the cross-directorate PCPAD-X (Planning & Direction, Collection, Processing & Exploitation, Analysis & Production, and Dissemination eXperimentation) initiative. **Open to FY 2018.**

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Academic Research Funding Strategies, LLC ([Page 1](#))

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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

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

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