

Research Development & Grant Writing News

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Published monthly by
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Mike Cronan, PE (Texas 063512, inactive) has 23 years of experience developing and writing successful proposals at Texas A&M University. He was named a **Texas A&M University System Regents Fellow** (2001-2010) for developing and writing A&M System-wide grants funded at over \$100 million by NSF and other funding agencies. He developed and directed two research development and grant writing offices, one for Texas A&M's VPR and the other for the Texas Engineering Experiment Station (15 research divisions state-wide).

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

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Vision, Goals, Objectives, Rationale, and Outcomes

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

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To craft a competitive proposal narrative requires that a research project description address the vision, goals, objectives, rationale, and specific outcomes of your proposed research. Depending on the specific solicitation, this requirement may be explicit or implicit, but either way, the care with which you address these factors will determine whether or not you persuade reviewers to recommend funding for your proposal. While the definition of these terms may differ somewhat by disciplinary domain, or by funding agency, it is helpful in research grant writing to define these terms in ways that best reflect what might be considered the generic narrative structure of most research proposals. Some funding agencies are very prescriptive in defining a narrative structure, such as the U.S. Department of Education, whereas other agencies, such as the National Science Foundation, allow the author greater flexibility in choosing a narrative structure.

Of course, when a specific agency or solicitation prescribes a required format for a research narrative, then that format must be followed exactly as the sponsor presents it. ***However, in cases where the agency or the solicitation leaves the research narrative structure open or even undefined, then it is helpful to have in mind your own conceptual framework for best presenting your ideas to program officers and reviewers.*** Moreover, it is common in the case of unsolicited or investigator initiated proposals for only a very general narrative framework to be defined by the agency, or by program officers. Finally, the five generic elements of a competitive proposal discussed herein are scalable, from large center proposals to small research grants as well as to white papers and concept papers that may initiate an invitation to submit an unsolicited proposal.

Regardless of where any particular agency or solicitation falls on this spectrum, ***the generic underpinnings of a successful research grant include a sequence of five key persuasive elements: the research vision, goals, objectives, rationale, and specific outcomes.*** Depending on the solicitation, these elements may or may not appear in the order described here, but they typically provide the critical mass of the persuasive argument in successful proposals. They also provide clarity through a logically tiered framework that allows reviewers to differentiate your research at multiple levels of specificity and detail, from the macro-vision to micro-performance details.

Unless defined otherwise in the solicitation, these ***terms may be self-defined for the purposes of a specific grant***, since your goal is to define them in ways that assist the reviewers to more clearly and convincingly understand the value of the proposed research in a logical, stepwise fashion. This understanding should include an overarching vision illuminated by increasingly detailed or finely grained narrative text that validates in detail your capacity to achieve the research vision. Of course, the goal here, as in all strategies to write a more competitive and hence fundable grant, is to make the research narrative more clear, accessible,

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and memorable to reviewers **in a positive way**. Unfortunately, as experienced reviewers will tell you, there are also many ways to make your proposal **memorable to reviewers in a negative way** (see companion article in this issue entitled “*Why Halloween is Bad for Proposals*”).

These five elements provide a series of sequential waypoints or critical touchstones that, in the aggregate, validate the merit of your research, much like the original touchstone was used as an assaying tool in ancient Greece to determine precious metals and compare unknown samples to those of known purity. Addressing these five key elements in your project description will enable reviewers to “assay” the value of your proposed research compared to that of your competitors. In essence, they form the critical building blocks of a compelling research narrative by **giving reviewers the structure, order, detail, scale, and perspective needed to easily judge the value of your research**.

In all cases, come to your own working definition of these terms in a way that clearly will help the reviewers understand your research. Think of these terms as **differentiating tools** bringing clarity to your research narrative. Don’t worry so much about how others define these terms but instead adopt and adapt them to suit your own purposes. We address below some possible ways to think about these terms with the overall intent of using the key distinctions they provide to improve the quality and hence competitiveness of your project description.

A vision statement typically provides the global, unifying, thematic overview of the research to be accomplished over the proposed funding period and its significance and value-added benefits to the funding agency mission, or to the research field itself. For example, the vision statement might address some **significant transformation that will occur over the grant period at a particular scale most relevant to your research focus**. This might range from large scale transformations made possible by center-level research funding, or a transformation on a small scale related to a very narrowly focused research question. Regardless, being able to describe your research in an integrative way **within the defined research boundaries** described in the specific agency solicitation is an important first step in the sequence of steps you must take to construct a clear and compelling project narrative.

A research vision will typically be better understood by **defining one or more research goals to be achieved over the term of the award**. The research goals are more specific than the research vision and serve as the major organizing framework for achieving that vision. Goals are defined both in terms of representing one or more research milestones or major accomplishments and in demonstrating how the goals intersect over the performance period. For example, a research center proposal will present an overarching research vision to be achieved by specific research goals that, when integrated over the performance period of the grant, allow research synergy to be achieved in some way. Institutional transformation proposals, e.g., NSF ADVANCE, IGERT, CREST, among others, all define a vision and then list programmatic goals that, when achieved, make the vision possible. Smaller grants may have only one or two goals. It is also important, given the emphasis on performance metrics and evaluation at federal agencies, that you define your goals in ways that render them easily evaluated, both by reviewers and, on larger proposals, by a sponsor’s annual performance review. Don’t confuse goals with nebulous wishes. Goals need sufficient clarity and specificity

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to permit reviewers to evaluate them for their potential impact on the agency's mission, or for advancing the research field in some way, or for accomplishing the broader goals and objectives defined specific to the solicitation.

Once the research goals have been defined, clearly state the **key research objectives**. Unfortunately, the definition of goals versus objectives can cause organizational confusion in the writing of a project narrative, most often when these terms are used interchangeably. This discussion of the distinction of goals versus objectives can sometimes turn into the equivalent of the arguments posed by medieval theologians asking how many angels can dance on the head of a pin. It is always best not to go down these rabbit holes and simply self-define the terms consistently and in ways that best suit your narrative needs. For research grant writing, if the terms are not defined in the solicitation, the key is to produce a clear, compelling and easily understood project narrative for reviewers. In this instance, **defining goals** as the overarching, longer term outcomes, milestones, or accomplishments of the research and **defining research objectives** as the critical operational subsets **used to achieve each goal** works well as an organizational framework for the narrative and allows the reviewers to quickly grasp the significance of the research at various scales. For example, research objectives in aggregate define a key research goal; research goals in aggregate define a research vision. The intent here is to provide reviewers clarity. **The foundation of clarity is defining an organizational framework for the research narrative that allows distinctions to be easily made and in a logical sequence.** The increasingly finely grained sequence of vision, goals, and research objectives offers one such narrative pattern that can be used to make a proposal more easily **accessible and memorable to reviewers**.

Moreover, reviewers must **understand the rationale motivating your research**, for example, why your research idea is a good one, why your research is important and significant, why your research approach will be productive, why your research expertise makes you uniquely qualified to advance the proposed research, why your institutional research infrastructure (equipment, instrumentation, support, resources) will enable your research, and why your research plan is appropriate, effective, and efficient.

Finally, while your research goals address overarching milestones, accomplishments, or outcomes, reviewers will also appreciate a more finely grained understanding of the **specific outcomes** of your research in a way that encourages them to clearly understand the value of funding your research. In this regard, it is important to define specific research outcomes in a way that invites a rigorous evaluation of your research performance over the term of the grant or for annual performance reviews on larger grants. Given the emphasis on research metrics at federal agencies, defining and integrating key performance metrics into the research could positively influence your proposal's competitiveness. In some cases, particularly at the research center level or for institutional and educational transformation grants, among others, an external evaluator may be required. So it is important for the narrative discussion of specific outcomes that they be stated in ways that makes them clear to reviewers.

The foregoing steps are not meant to be cast in stone, but to offer a starting point for a framework for organizing the research narrative that will enhance your chances of success.

Why Halloween Is Bad for Proposals, Part 1 of 2

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

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There are many scary Halloween costumes you might *inadvertently* use to mask the identity of the research idea put forward in your proposal, and unfortunately any one of them will result in more tricks than treats when it comes to the success of your grant. Of course, the premise here assumes that a fundable idea lies cloaked beneath a number of correctable grant writing mistakes identified sufficiently before the due date to allow for their correction. Unlike Halloween, when scary costumes earn treats, a proposal review will not reward ideas cloaked in ghoulish disguises. Unfortunately, a number of all too common scary costumes can so successfully ***disguise a potentially fundable idea that the idea becomes unrecognizable to the reviewers***. To avoid spooking reviewers, don't submit your proposal cloaked or masked, or wearing one of the more common scary costumes guaranteed to horrify, as addressed in the below ***examples of possible proposal disguises***.

The Oblivious Mask: Tentative Grasp of the Program Guidelines

The legal principle of "ignorance of the law is no defense" (*Ignorantia juris non excusat*), dating back to Roman law, has its modern counterpart in grant writing that might be paraphrased as "ignorance of the program guidelines is no defense." A proposal that appears to be oblivious to program guidelines will be returned without review or will be reviewed negatively for noncompliance with a "do not fund" recommendation. Surprisingly, the failure of both new and more experienced investigators to carefully read and follow the program solicitation guidelines is one of the more common causes of a negatively reviewed proposal. In some cases it comes from the mistaken belief that an RFP need not be read carefully because research agencies always fund good ideas. This belief unfortunately abbreviates the more accurate statement that research agencies fund good ideas that advance the mission or research priorities of the agency in the specific ways defined in the solicitation guidelines. ***Good ideas untethered to the research realities of the funding agency mission have little chance of success.***

The Oblivious Mask: Tenuous Grasp of the Review Criteria

Failure to read and understand the agency criteria used to judge a proposal and clearly incorporate responses to those criteria in the proposal narrative is somewhat like attempting to play a competitive game without understanding what does or does not constitute points or a winning score.

The Oblivious Mask: Feeble Grasp of the Agency Mission

A persuasive research narrative convinces agency program officers and reviewers that your research advances the agency mission in a significant way, either at the project or program

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level, or, in some cases, at the level of strategic research priorities. Regardless, it is difficult to make a compelling case for the relevance and value-added benefits of your research to the agency mission or research priorities if you understand little or nothing about the mission, culture, and funding priorities of the agency itself, or about the role the agency plays in advancing national research priorities.

The Wishful Thinking Mask: Blurred Distinction between Basic and Applied Research

Too often in the search for research funding the applicant makes an unrealistic assessment of whether the research proposed is truly fundamental research, e.g., to NSF, NIH, and DARPA, or amounts to applied research inappropriate for a basic research agency, or to basic research programs in mission agencies. This critical distinction requires a very candid self assessment prior to developing and writing a proposal to avoid the mistake of submitting an applied research proposal to a basic research agency. You must ask and answer the specific question: **“At this agency, will my research be characterized as basic or applied?”** Moreover, it can be a more challenging distinction to make on research solicitations that do not clearly spell out specific research objectives that assist the potential applicant in addressing key research questions or testable hypotheses. For example, the NSF CAREER award, and similar young investigator awards at other agencies, are designed to support and advance basic research of junior faculty, but because the solicitation is open across qualifying disciplinary domains, there is little guidance on the research other than the understanding that it be of a fundamental nature. Beyond that, applicants must decide whether or not the agency will view their research will be seen as basic. If you don't know whether or not your research is appropriately basic for a specific agency, discuss it with a program officer or seek help from a senior colleague well funded at the agency, or experienced as a reviewer at the agency.

The Comedy of Errors in Grammar, Usage, and Syntax

While mistaken identity, puns, and word play are charming in Shakespeare's play *The Comedy of Errors*, reviewers will not find them amusing in a research narrative. Inadvertent or careless errors in grammar, usage, and syntax might momentarily bemuse reviewers, or worse, provide them with comic relief. They will also suggest to them that you are likely to tolerate errors in your research. Moreover, it is not the job of reviewers to reconstruct your true meaning out of a linguistic jumble of poorly structured sentences, jarring and disorderly syntax, and related grammatical errors. If it is possible for a proposal phoenix to rise out of the linguistic ashes of a poorly written research narrative, it will be as a consequence of the author's recognition and correction of such problems. Authors can learn to recognize such writing errors themselves or they can seek the services of a colleague, research development professional, or editor who can help them **make the proposal professionally presentable, i.e., free of errors**. While reviewers are not likely grammarians, they are likely successful authors of funded proposals, hence good writers, and the gold standard for successful proposals is nothing short of perfection, or as close to it as possible.

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The Poor Writing Disguise

Poorly written proposals appear shrouded in a fog that introduces great uncertainty into the reviewers' understanding and evaluation of the project research description. Poor writing robs the research narrative of clarity, precision, and the persuasiveness needed to convince reviewers to recommend funding. A narrative fog leaves the reviewers unable to see where the narrative argument is going or where it has been. Poor writing offers readers a meandering journey through a blurred landscape without clear waypoints or clear substance, significance, or focus. As H.L. Menken once observed, badly written sentences appear "like an army of words marching across the page in search of an idea."

The Cloak of Ambiguity

Cloaking devices worked well when first introduced on the Klingon Bird of Prey, but they are definitely not for use in a research narrative. ***The cloak of ambiguity will unfortunately obscure the purpose and methods of an otherwise potentially powerful proposal.*** Ambiguity in the research narrative looms like a dense fog to the mariner attempting to navigate past Cloudy Bay and through the Cook Strait between the North and South Islands of New Zealand. Reviewers and program officers alike will balk at having to navigate a research narrative befogged by poor or careless writing or both, or by an author's inability or unwillingness to make the key narrative distinctions that would clarify the research vision, goals, objectives, rationale, and outcomes. Ambiguity in the narrative imposes upon reviewers and program officers in many ways, particularly in asking them to decide what the author actually meant. Most reviewers will not have the time, inclination, or patience for this task, and rightfully so, given that it would be difficult to recommend for funding an idea shrouded in ambiguity.

The Boiler Plate Costume

Truly frightening proposals emerge when authors view them as nothing more than generic boilerplate text easily transplanted from an old proposal to a new one with a few minor adjustments. Attempts to find "spare parts for proposals" salvaged from prior efforts that now populate the "grant writing cloud" and other so-called "proposal databases" are ill advised (See *Do Not Build Your Proposal Out of Spare Parts*, October 2011).

A successful proposal grows from the seed of a compelling and exciting research idea. Every required proposal component that evolves from that idea must do so in an internally integrated manner that adds a logical synthesis, and hence strength, to the core research idea. Attempts to transplant a modified research narrative from an existing proposal into a new proposal will significantly weaken the overall proposal. Writing a successful project narrative requires many thoughtful iterations of each proposal section that reveal to the reader the relational symmetry of one section to another. ***The well-written and convincing research narrative must clearly evolve to reflect and serve the needs of your specific research vision and the performance metrics required for your success.*** Using so-called boiler plate text in a research narrative will likely elicit the same response as attempting to pass counterfeit \$100 bills to a Secret Service agent.

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So it is important to beware the notion that a new proposal can be a largely borrowed or heavily modeled statement based upon other proposals, or a tattered template shared “in the grant writing cloud.” ***There are not enough immunosuppressant grant-writing techniques available to disguise such “borrowing” from the astute reviewer***, particularly given that the good program officer and reviewer will function as the immune system of a proposal under consideration. If they detect a transplanted research narrative, they should, and most likely will, reject it.

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The Materials Genome Initiative and Related New Funding

By [Lucy Deckard](#), co-publisher
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The President's Materials Genome Initiative, announced last year, is inspiring a host of new materials-related funding at the federal agencies.

Last June, President Obama announced the [Materials Genome Initiative](#) (MGI) as part of the new [Advanced Manufacturing Partnership](#). The initiative, described in a [white paper](#) produced by the Cabinet-level National Science and Technology Council, recognizes the key role new materials play in technological innovation and seeks to shorten the period of 20 or more years currently required to transition a new material from discovery to commercialization. As its name suggests, the Materials Genome Initiative takes inspiration from the Human Genome Project, with the hope that advances in materials science will be accelerated in the same way the Human Genome Project has sped advances in the biological sciences. *The MGI seeks to double the speed at which new materials transition from discovery to commercial products.* To accomplish this goal, special funding will be provided to four federal agencies that have traditionally funded materials research: the National Science Foundation (NSF), the Department of Energy (DOE), the Department of Defense (DoD), and the National Institute of Standards and Technology (NIST). The FY12 budget targets \$100 million in funding to launch the MGI. Below, we'll discuss the strategic thinking behind the MGI and areas of focus, and then we'll discuss new and expected funding programs inspired by MGI.

The MGI Strategic Approach

In its white paper, the National Science and Technology Council identifies key challenges that result in long time frames for incorporating new classes of materials into applications: (1) time-consuming and repetitive experiments and materials characterization currently required; and (2) a lack of infrastructure allowing different engineering teams to share data and models. To address these challenges, they recommend:

- Developing ***new computational tools*** that could guide the experimental discovery of new materials by screening large sets of compounds and virtual testing via computer-aided analysis, enabling real-world materials development that optimizes or minimizes traditional experimental testing and predicts materials performance under diverse product conditions.
- Implementing an ***open innovation approach*** that will allow researchers to share algorithms and collaborate in creating new computational tools. This should be done by implementing an open-platform framework to ensure easy use and maintenance of code involved in materials innovation and deployment, and by creating modular, user-friendly software to encourage use by a broad user base across academia and industry.
- Developing ***advanced experimental tools*** that allow faster and more efficient materials testing and that can be used in concert with the computational tools. Examples are high-throughput combinatorial testing of materials properties and *in situ* characterization of

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materials properties during processing which, paired with computational tools, enable rapid screening of materials and processes.

- Developing and implementing a **digital data-sharing system** that would enable researchers and engineers to incorporate their own and each other's data into models and facilitate multi-disciplinary collaboration between scientists and engineers working on different stages of materials development. The establishment of a data-storage and transfer system for materials researchers and engineers might be accomplished through approaches such as the use of a standard metadata system and cloud computing.
- Equipping the **next-generation workforce** with the skills and knowledge required to use these new tools, collaborating as part of a larger materials community, and helping to meet our national goals. Advanced computation, simulation, and experimental tools can be used to provide new research and education opportunities. This effort will also develop and support attempts to establish new infrastructure and protocols designed to facilitate collaboration among researchers, engineers, and stakeholders (academic, governmental, and industrial).

Initiatives at the Agencies

The following initiatives within the agencies will support MGI.

DOE and NSF

DOE and NSF will collaborate to support the development, maintenance, and deployment of reliable, interoperable, and reusable **software for the next-generation design of matter** through the following two programs:

- DOE Computational Materials and Chemistry by Design
- NSF Cyberinfrastructure Framework for 21st Century Science and Engineering

DOE and NSF will also coordinate activity in the development of next-generation characterization tools that provide the fundamental basis for developing and validating the algorithms and software tools.

NIST

Advanced Materials by Design program led by NIST will target the development of **standards infrastructure, reference databases, and centers of excellence** that will enable reliable **computer modeling and simulation for materials discovery and optimization**. This activity will be coordinated closely with the DOE and NSF efforts on software and experimental tool design.

DOD

- DOD will invest in **basic and applied computational materials research** directed toward enhancing performance and accelerating the transition of advanced materials to meet a broad array of national security needs and to maintain a technological advantage in defense systems along the full materials continuum from discovery through deployment, including maintenance and recovery of assets. These efforts will be

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integrated across the science and technology programs of the military services (i.e. Army Research Labs, Office of Naval Research, and Air Force Research Labs).

DOE EERE

DOE's Energy Efficiency and Renewable Energy Next-Generation Materials program will leverage computational tools to accelerate the manufacture and characterization of new materials for energy technologies. It will invest in such areas as: new materials used in manufacturing processes, new hybrid composite material systems with improved materials properties and lower manufacturing cost, modeling and simulation tools for predicting the spatial and temporal variability of new materials, and tools for rapidly verifying the fitness of new materials for intended use.

NSF and DOD

NSF and DOD will play a lead role in addressing the **next-generation workforce goals** by: facilitating new partnerships between the relevant science and engineering communities in academia, government, and industry to promote a culture supporting and embracing the use of the capabilities developed within this initiative; and engaging with students and colleagues to develop the culture and relevant training of the next-generation workforce.

Recent and Current Funding Announcements Related to the MGI

Some solicitations to support MGI have already been released and are listed below. It's expected that many solicitations are yet to be released, so PIs with materials-related research would be wise keep a close eye on new solicitations over the coming year.

[BAA for Air Force Research Laboratory's University Center of Excellence for Integrated Computational Material Science and Engineering of Structural Materials](#) – this BAA was issued in January with proposals due April 2, 2012, but even though the due date has passed, the BAA gives helpful insight into the Air Force's research interests related to MGI.

[NSF Dear Colleague Letter: Designing Materials to Revolutionize and Engineer our Future \(DMREF\)](#) – This DCL outlines how PIs can seek funding for projects that fit DMREF criteria through DMR, CMMI, or CBET (by applying to core programs with a special "DMREF" designation for the Jan and Feb 2012 proposal windows – this option does not appear to be available for fall 2012 proposal windows). [GOALI](#) will also support DMREF projects that include strong collaborations with industry. In addition, future DMREF funding will be available through the Software Infrastructure for Sustained Innovation solicitation.

Cyber-Enabled Materials, Manufacturing, and Smart Systems (CEMMSS) – As part of [NSF's FY2013 budget request](#), \$257 million was requested to support CEMMSS, with [\\$50 million of that coming from the Math and Physical Sciences directorate](#). This initiative will be a partnership among the Math and Physical Sciences (MPS), Engineering (ENG), and Computer and Information Science and Engineering (CISE) directorates. The goal of CEMMSS will be to

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transform static systems, processes, and edifices into adaptive, pervasive “smart” systems. CEMMSS is separate from, but related to, MGI.

Other Resources

[Report of the DOE Workshop on Computational Materials Science and Chemistry : Accelerating Discovery and Innovation through Simulation-Based Engineering and Science](#) (July 2010)

[Office of Science and Technology Blog Post: Support Grows for President Obama’s Materials Genome Initiative](#)

Materials Innovation@ TMS:

- [Materials Genome Initiative page](#)
- Presentations from the Materials Information Luncheon: [Accelerating Materials Manufacturing Innovation for Global Competitiveness](#)
- Presentations from the Materials Information Luncheon: [Equipping the Next Generation Workforce for Materials Innovation](#)

[NSF DMR Presentation on DMREF](#) (Tom Rieker)

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Submitting Proposals to DOE's Basic Energy Sciences

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

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The mission of Basic Energy Sciences (BES) is to [support](#) fundamental research. **Most of BES's research portfolio lies in three categories of basic research:** grand challenge, discovery, and use-inspired. By contrast, applied research and technology development at DOE must have practical, achievable targets with **specific milestones and deliverables**. **The university portfolio in the BES core research areas is dominated by single-investigator grants.** However, effective, synergistic team science also is required for the large, core research projects at universities **rather than collections of projects by individual investigators**. The below graphic from the Basic Energy Sciences [2011 Summary Report](#) illustrates how DOE differentiates among basic research, applied research, technology development, and deployment. Understanding these key distinctions is important for submitting a competitive proposal. DOE's five R&D modalities include: (1) core BES research, (2) Energy Frontier Research Centers, (3) Energy Innovation Hubs, (4) DOE Advanced Research Projects Agency-Energy, and (5) DOE technology offices, e.g., Energy Efficiency and Renewable Energy. BES is organized into three divisions: Materials Sciences and Engineering (MSE); Chemical Sciences, Geosciences, and Biosciences (CSGB); and Scientific User Facilities (SUF). Core BES research grants to universities (single investigators and small and large research groups) are typically in the range of \$150K to \$2 million over three years and renewable.

Basic Research	Applied Research and Technology Development and Deployment	
Grand Challenge Discovery Use-Inspired		
<ul style="list-style-type: none"> • Goal: New Knowledge and Understanding • Focus: Phenomena • Metric: Knowledge Generation 	<ul style="list-style-type: none"> • Goal: Practical Targets • Focus: Performance • Metric: Milestone Achievement 	
Basic Energy Sciences	ARPA-E	Applied Programs
<ul style="list-style-type: none"> • Addresses fundamental limitations of current theories and descriptions of matter in the energy range important to most energy technologies. • Seeks fundamental new understanding of materials or processes that may revolutionize or transform future energy technologies. • Pursues fundamental new understanding, usually focused on scientific showstoppers, to advance energy technologies. 	<ul style="list-style-type: none"> • Establishes proof of new, higher-risk concepts. • Prototypes new technology concepts. • Explores the feasibility of scaling up demonstrated technology concepts in a "quick hit" fashion. 	<ul style="list-style-type: none"> • Conducts research to meet technical milestones, emphasizing the development, performance, cost reduction, and durability of materials and components or the efficiency of processes. • Scales up research. • Demonstrates small-scale and at-scale technology. • Reduces costs. • Involves manufacturing R&D. • Includes deployment and support activities leading to market adoption. • Shares cost with industry partners.

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New Grant Applications from Universities and Other Research Institutions

Initial contact: Prior to submission of an application for a research grant to Basic Energy Sciences (BES), you are encouraged to **contact the BES program manager** whose areas of expertise and responsibilities most closely match the topic of your proposed research activities to learn about current funding opportunities and the nature of the work funded by BES. Contact information is provided in the [BES organization chart](#), the [BES staff directories](#), and the appropriate [Core Research Activities](#) descriptions.

Preapplication: Based on your interaction with a BES program manager, you may be encouraged to submit a [preapplication](#), which will be reviewed by BES to establish whether the proposed research fits within the purview of one of the BES Core Research Activities. The preapplication should be brief (2–3 pages), provide a summary of the proposed research, and contain the curriculum vita of the principal investigator. No budget information is required. Based on our review of the proposed research within the preapplication, the principal investigator will be either encouraged or discouraged to submit a full application. Submission of a preapplication should be done by email directly to the appropriate BES staff member. BES will respond to the email by phone or by e-mail.

Timing of full-application submission and award: There are no submission deadlines under the [Continuation of Solicitation for the Office of Science Financial Assistance Program](#), for all Office of Science programs, and applications may be submitted at any time. However, BES recommends that a full application be sent between June 1st and November 30th in order that a funding decision can be made by June of the following year, which is necessary to obtain funding under that particular fiscal year. All grants that are funded by BES undergo external [peer review](#) based on procedures set down in 10 CFR Part 605.

Typical term of support: The usual term for a new award is three or four years, divided into one-year budget periods.

Electronic submission: Full applications must be submitted electronically via [Grants.gov](#). Information on electronic submission is available at the Office of Science [Grants and Contracts](#) web site (RE: [Grant Application Guide](#)). If you need to revise your submission, please contact the Office of Science Grants and Contracts Division at 301/903-5212 or 301/903-3604. You will receive an acknowledgement letter within four weeks of your electronic submission confirming the receipt of your full application. If not, contact the appropriate BES Division office to inquire as to the status of your application: Materials Sciences and Engineering (301/903-3427); Chemical Sciences, Geosciences, and Biosciences (301/903-5804); or Scientific User Facilities (301/903-0064).

Open BES Funding Opportunity Announcement: [SciDAC Partnerships in Computational Materials and Chemical Sciences](#).

Grant Application Guide

The Preapplication Guidelines

A preapplication is an optional vehicle that constitutes a potential applicant's intent to submit a formal grant application. **A preapplication allows the potential applicant to receive a**

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response from the cognizant program office regarding the suitability of his/her proposed research project to SC's interests.

Office of Science policy encourages a potential applicant to first discuss his/her proposed research project with Office of Science program staff to clarify areas of research interests prior to submitting applications. Such communications are particularly useful. Any written information submitted in connection with such informal discussions will not be considered to be a preapplication unless so specified in writing by the potential applicant. The preapplication process is most likely used when the Office of Science publishes a Funding Opportunity Announcement/Notice of Availability that specifies a deadline date, and particularly when the Announcement/Notice is expected to generate a large number of applications. An individual Funding Opportunity Announcement/Notice of Availability may contain more specific instructions regarding the grant preapplications requested by the solicitation.

Discussions with program staff and/or the preapplication process do not obviate the normal merit review process for formal applications, and shall not preclude the submission of a formal grant application. Only formal applications will receive merit review in accordance with the Office of Science Merit Review System (March 11, 1991, Federal Register, Vol. 56, No. 47), whereby a subsequent funding decision will be made by the program office.

Contents of Preapplications

Unless otherwise stated in a Funding Opportunity Announcement/Notice of Availability, a preapplication should include cover-page information and a brief (**3 to 5 page**) project description and be submitted to the cognizant program office specified in the Funding Opportunity Announcement/Notice of Availability or in the Office of Science Annual Solicitation (a broad, general solicitation issued near the beginning of each government fiscal year, October 1). Preapplications may be submitted using electronic mail, the U.S. Postal Service, other carrier or fax.

Cover-page information:

- A statement that the document is a preapplication
- Principal investigator (P.I.) name, telephone and fax number, and e-mail address
- Name and address of P.I.'s organization
- Title of the project
- Funding Opportunity Announcement number (e.g. DE-PS02-07ER07-03), if applicable

Project description may include the following, as appropriate:

A description of the proposed research, including

- A statement of its importance
- An explanation of methodology and equipment needs
- Anticipated results
- A project schedule with estimated completion date
- Cost-share and total project cost information

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Confidential or proprietary information is discouraged, but any such information must be clearly marked. **Attachments or enclosures submitted with the preapplication will not be reviewed.**

Where To Submit. If your preapplication is being submitted as a result of a discussion with an Office of Science program staff member (not in response to a published Funding Opportunity Announcement), then you may forward the preapplication directly to the program staff member. During your discussion, ask for the address. If your preapplication is being submitted as a result of a published Funding Opportunity Announcement, follow the submission instructions contained in the Announcement.

Review of Preapplications

1. All preapplications shall be reviewed by the cognizant Federal program official who is knowledgeable in the subject research area and the goals of the program. Preapplications submitted in response to a Funding Opportunity Announcement/Notice of Availability that specifies a deadline date also may be screened by a panel of technical experts who are knowledgeable in the subject research area(s) and who understand mission needs.
2. Review Factors
 - The suitability of the proposed research project and its relationship to the mission described or referenced in the Office of Science Annual Solicitation under 10 CFR Part 605 or a specific Funding Opportunity Announcement/Notice of Availability.
 - Eligibility of the applicant organization. (DOE Management and Operating Contractors, including National Laboratories, other Federal agencies and other Federally Funded Research and Development Centers are not eligible to directly respond to a competitive "grant" solicitation or notice.)

The outcome of the preapplication review will determine the suitability of the proposed research with regard to the research area as defined by the solicitation and the eligibility of the proposing organization. Formal applications will be subjected to merit review under the Office of Science Merit Review System.

Response by the Program Office

- A potential applicant shall receive a response from the Office of Science program office generally within 30 days of the receipt of the preapplication or the deadline specified in a Funding Opportunity Announcement/Notice of Availability (or other such time as stated in a Announcement) that will indicate the appropriateness of the proposed research to the targeted research area, and the eligibility of the proposing organization.
- The response also shall state that, regardless of the outcome of the preapplication process, all eligible applicants are entitled to submit complete, formal grant applications in accordance with the instructions in the specific Funding Opportunity Announcement/Notice of Availability or the Office of Science Annual Solicitation.

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Air Force Office of Scientific Research Funding, 2012-2013

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

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A few weeks ago the Air Force Office of Scientific Research ([AFOSR](#)) posted its current BAA-AFOSR-2012-0001 “[Research Interests of the Air Force Office of Scientific Research](#)” to [Grants.gov](#). This BAA will remain open until superseded. Through this BAA process, AFOSR **seeks unclassified white papers and proposals that do not contain proprietary information**. Proposed research **must be fundamental**. The AFOSR manages the **basic research** investment for the U.S. Air Force, funding research within the Air Force Research Laboratory, **universities**, and industry laboratories.

Understanding how this process works, both at AFOSR and at other defense agencies (e.g. Army Research Office, Office of Naval Research, DARPA), is important for university investigators. Of the \$142 billion proposed for supporting research and development at federal agencies in the 2013 budget, \$72 billion is allocated for DOD research and development. **Over \$2 billion of that is dedicated to DOD basic research funding**, with roughly \$520 million going to AFOSR. Clearly any research strategic plan, whether by individual principal investigators or research offices at the department, college, and university level will find it important to map their research expertise to this BAA to optimize the potential for AFOSR funding.

In his presentation to the American Society for Engineering Education ([ASEE](#)) on March 5, 2012, [Dr. Van Blackwood](#), Assistant to the Air Force Office of Scientific Research (AFOSR) Chief Scientist, indicated the significant impact AFOSR has on the university research enterprise, noting that AFOSR:

- Fosters revolutionary **basic research** for Air Force needs through 1,327 extramural research grants at 228 U.S. universities,
- 590 fellowships; 2,224 grad students, 344 post-docs on grants,
- 268 intramural research projects at AFRL, USAFA, AFIT, and
- 96 summer faculty; 50 postdocs/senior scientists at AFRL.

AFOSR supports university individual investigators with the goal to provide revolutionary scientific breakthroughs to maintain military air, space, and information superiority and **build collaborations between AFRL and universities**. This is accomplished through the **General Submission Process** whereby:

- researchers submit white papers to AFOSR program managers,
- promising white papers lead to a request for full proposals,
- proposals are merit reviewed for **excellence and relevance [to AFOSR mission objectives]**, and
- individual grants are awarded for up to 5-years in duration.

One strategic way to map your research expertise to the basic research objectives of the AFOSR across key priority funding domains is to review the recordings of research

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presentations on the AFOSR [Vimeo channel](#) or download PDFs of the presentations by going to the [Agenda](#) or [Presentations](#) tab. At the Spring Review 2012 ([March 5-9, Agenda & URLs](#)) Program Managers from AFOSR Scientific Directorates **presented briefings that highlighted basic research programs beneficial to the Air Force and of interest to university researchers.** Trends in **AFOSR basic research emphasis areas** include ([more](#)):

- Advanced Mathematics
- Hypersonics (Turbulence Control)
- Complex, Multi-Functional Materials
- High-Temperature Superconductivity Info Assurance and Network Sciences
- Micro Air Vehicles (Autonomy, Adaptive Aero)
- Interfacial Sciences (Thermal, Tribology)
- Counter-Directed Energy Weapons
- Robust Decision-Making, Info Fusion
- Socio-Cultural Modeling, Minerva
- Quantum Information Sciences
- Space Situational Awareness
- fs-Laser Material Interactions
- Artificial Intelligence

Other Innovative Research Concepts

AFOSR is always looking for new research ideas and is open to considering unique and revolutionary concepts. If you have an exciting idea that doesn't seem to fit within one of the more specific topic descriptions of the currently open [BAA](#) detailing AFOSR's current technical programs, you **may submit it under section e. (page 66) of the BAA.** AFOSR's goal is to create revolutionary scientific breakthroughs. The current BAA seeks to invest in high payoff science and to identify challenging **fundamental** scientific problems relevant to the USAF in the 21st century. It is expected that proposals will describe **cutting-edge efforts on basic scientific problems.** Proposed research should investigate truly new and unique approaches and techniques that may enable revolutionary concepts with potentially high payoff **relevant to the Air Force mission.**

Submission of a brief white paper (1-3 pages) describing the potential research effort is strongly encouraged prior to proposal submission. White papers should briefly summarize your ideas, their scientific impact, and how they differ from what others are doing. Proposals not based on sound scientific or engineering principles will be quickly rejected. White papers will be reviewed by AFRL researchers familiar with the AF research interests in this area as well as suitable experts from academia. Copies of publications or student theses will not be considered as white papers. Include contact information including your mailing address, email address, telephone number, and fax number. This allows AFOSR to give prompt feedback to the proposer on the likelihood of a proposal being selected. **Send your white paper to:** Dr. Van Blackwood, Deputy for Technology Transition (AFOSR/ST), Air Force Office of Scientific Research

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875 N Randolph St, Ste 325, Room 3112, Arlington, VA 22203-1768, Dr. Van Blackwood, AFOSR/RSL, (703) 696-7319 DSN 426-7319, FAX: (703) 696-9556, van.blackwood@afosr.af.mil

Education and Outreach Programs

The Scientific and Technology Divisions of the Air Force Office of Scientific Research (AFOSR), Policy and Integration Directorate (RSP), the International Office (IO), and three overseas detachments, AOARD and EOARD and SOARD, are responsible for the management of several programs that improve science and engineering education in the U.S., and stimulate interactions between Air Force researchers and the broader international, as well as domestic, research community. Applications for these programs do not always require proposals but generally have specific deadlines, formats, and qualifications. Researchers applying for these programs should communicate with the point-of-contact (POC) listed in each program description of the current [BAA](#).

[Air Force National Research Council Resident Research Associateship \(NRC/RRA\) Program](#)

The NRC/RRA Program offers postdoctoral and senior scientists and engineers opportunities to perform research at sponsoring Air Force laboratory sites. The objectives of this program are: (1) to provide researchers of unusual promise and ability opportunities to solve problems, largely of their own choice, that are compatible with the interests of the hosting laboratories; and (2) to contribute to the overall efforts of the Air Force laboratories.

[Air Force-Summer Faculty Fellowship Program \(SFFP\)](#)

The SFFP offers fellowships to university faculty to conduct research at one of the Air Force research facilities in the summer. The objectives of the Summer Faculty Fellowship Program are to: (1) stimulate professional relationships among SFFP fellows and the scientists and engineers in AFRL Technical Directorates and other Air Force research facilities; (2) elevate the awareness in the U.S. academic community of Air Force research needs and foster continued research at SFFP fellows' institutions; and (3) provide the faculty opportunities to perform high-quality research at AFRL Technical Directorates and other Air Force research facilities.

[National Defense Science and Engineering Graduate \(NDSEG\) Fellowship Program](#)

The NDSEG Fellowship Program is a Department of Defense (DoD) fellowship program sponsored by Air Force Office of Scientific Research (AFOSR), Army Research Office (ARO), Office of Naval Research (ONR), and the High Performance Computing Modernization Program (HPCMP). The DoD is committed to increasing the number and quality of our Nation's scientists and engineers. The actual number of awards varies from year to year, depending upon the available funding. The NDSEG Fellows do not incur any military or other service obligations. NDSEG Fellowships are highly competitive and will be awarded for full-time study and research. An awardee must be enrolled in a graduate program by Fall 2012; the graduate program must lead toward a Ph.D. ***Preference will be given to applicants in one, or closely related to one, of the following specialties:*** Aeronautical and Astronautical Engineering; Biosciences; Chemical Engineering; Chemistry; Civil Engineering; Cognitive, Neural and Behavioral Sciences; Computer

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and Computational Sciences; Electrical Engineering; Geosciences; Materials Science and Engineering; Mathematics; Mechanical Engineering; Naval Architecture and Ocean Engineering; Oceanography; and Physics.

Awards to Stimulate and Support Undergraduate Research Experiences (ASSURE)

The ASSURE program supports undergraduate research in DoD relevant disciplines and is designed to increase the number of high-quality undergraduate science and engineering majors who ultimately decide to pursue advanced degrees in these fields. A strong U.S. science and engineering workforce is of clear interest to the DoD, as the capability of producing superior technology is essential for future national security. DoD executes the ASSURE program collaboratively with the National Science Foundation (NSF) through its Research Experiences for Undergraduates (REU) Sites Program. DoD funded ASSURE sites will be selected by DoD scientists and engineers, but will be overseen by NSF as part of the NSF portfolio of REU Sites. There is no separate application for the ASSURE program; ASSURE funding is awarded through the NSF REU Sites Program. Information about the NSF REU Program can be found at NSF Program Solicitation NSF 05-592:

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5517 . Applications are submitted through Fastlane, <https://www.fastlane.nsf.gov/fastlane.jsp> . Contact: Mr. Neville Thompson, AFOSR/RSP, (703) 588-1779, DSN 425-1779, FAX: (703) 696-7364; neville.thompson@afosr.af.mil .

Small Business Technology Transfer Program (STTR)

The primary objective of the AF STTR program is to involve small businesses in AF-relevant defense research, and enable them to commercialize their innovative technologies for the advancement of U.S. economic competitiveness. Specifically, the STTR Program is designed to provide an incentive for small companies, academic institutions, and non-profit research institutions, including federally-funded research and development centers (FFRDC), to work together to move emerging technical ideas from the laboratory to the marketplace. Each STTR proposal must be submitted by a team that includes a small business (as the prime contractor for contracting purposes) and **at least one academic or non-profit research institution**, which have entered into a Cooperative Research and Development Agreement for the proposed effort. The STTR has two phases: Phase I efforts are up to \$100,000 for a period not to exceed one year; and Phase II projects are two year efforts for amounts up to \$750,000. More information Regarding the AF STTR can be found at:

<http://www.sbirsttrmall.com/TopicPreRelease/Default.aspx> .

Department of Defense Infrastructure Support Program for Historically Black Colleges and Universities and Minority Institutions.

The DoD has been providing grants for research and educational equipment at HBCU/MI. This program is administered by the Army Research Office, in collaboration with the AFOSR. Schools interested in this program should look for the Broad Agency Announcement that is usually published in the Fall of each year in the ARO webpage. The BAA is linked through the AFOSR Web site at <http://www.wpafb.af.mil/AFRL/afosr/> , under "Research Areas"; "Educational, Outreach and Special Programs" at

<http://www.wpafb.af.mil/library/factsheets/factsheet.asp?id=9304> .

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Young Investigator Research Program (YIP)

The Air Force YIP supports scientists and engineers who have received Ph.D. or equivalent degrees in the last five years and show exceptional ability and promise for conducting basic research. The objective of this program is to foster creative basic research in science and engineering; enhance early career development of outstanding young investigators; and increase opportunities for the young investigator to recognize the Air Force mission and related challenges in science and engineering. Individual awards will be made to U.S. institutions of higher education, industrial laboratories or non-profit research organizations where the principal investigator is a U.S. citizen, national or permanent resident; employed on a full-time basis and hold a regular position. Researchers working at the Federally Funded Research and Development Centers and DoD Laboratories will not be considered for the YIP competition. Each award will be funded at the \$120K level for three years. Exceptional proposals will be considered individually for higher funding levels and longer duration. When there is an open YIP BAA, specific information about YIP proposal preparation and submission can be found at AFOSR's Web site: <http://www.wpafb.af.mil/AFRL/afosr/> under 'Other Links'; "List of Broad Agency Announcements". Click the 'AFOSR BAAs' button. When AFOSR has an open Young Investigator Research Program BAA it will be listed. Dr. Julie Moses, AFOSR/RSE, (703) 696-9586
DSN 426-9586, FAX: (703) 696-8450; Email: julie.moses@afosr.af.mil .

University Research Initiative (URI) Programs

The URI programs are executed under the policy guidance of the Office of the Deputy Under Secretary of Defense for Laboratories and Basic Research, to enhance universities' capabilities to perform basic science and engineering research and related education in science and engineering areas critical to national defense. ***The URI programs include: the Defense Research Instrumentation Program (DURIP); the Multidisciplinary Research Program of the University Research Initiative (MURI); and the Presidential Early Career Awards for Scientists and Engineers.*** A short description of each program is listed below. Specific information on each URI program Broad Agency Announcement can be found on the AFOSR Web site at <http://www.wpafb.af.mil/AFRL/afosr/> , under "Research"; "Educational, Outreach and Special Programs" at <http://www.wpafb.af.mil/library/factsheets/factsheet.asp?id=8972> .

Defense University Research Instrumentation Program (DURIP)

This program is administered through the Air Force Office of Scientific Research, the Army Research Office, and the Office of Naval Research. The DURIP program is for the acquisition of major equipment to augment current or develop new research capabilities to support research in the technical areas of interest to the DoD. The competition is open only to U.S. institutions of higher education, with degree granting programs in science, math, and/or engineering. Proposals to purchase instrumentation may request \$50,000 to \$1,000,000. Awards are typically one year in length. The latest DURIP BAA can be found at <http://www.wpafb.af.mil/AFRL/afosr/> , under "Other Links"; "List of Broad Agency Announcements"; "Broad Agency Announcements – Current" or "Broad Agency

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Announcements – Archive” as applicable. Primary POC: Katie Wisecarver, AFOSR/RSL, (703) 696-9544, DSN 426-9544, FAX: (703) 696-7363; E-mail: Katie.Wisecarver@afosr.af.mil.

Multidisciplinary Research Program of the University Research Initiative (MURI)

MURI supports basic research in the science and engineering areas intersecting more than one traditional discipline. The program is focused on multidisciplinary team efforts to address issues of critical concern to the DoD and the AF. The goal of this program is to advance defense research, accelerate technology transition, and educate scientists and engineers in the interdisciplinary areas important to national defense. MURI is a DoD-wide program which complements other DoD programs that support university research through the single-investigator awards. The awards are typically for a period of three years with two additional years as options. New awards can be funded up to \$1.5M per year, with the actual amount contingent upon the availability of funds, the specific topic and the scope of the proposed work. All the award selections result from a merit based competition of the proposals. Proposal submission is a two-stage process including White papers and full proposals. Details of the proposal submission process and the specific MURI topics under the solicitation can be found in the most recent MURI announcement at <http://www.wpafb.af.mil/AFRL/afosr/>, under “Other Links”; “List of Broad Agency Announcements”; “Broad Agency Announcements – Current” or “Broad Agency Announcements – Archive” as applicable. Laura Cooney, AFOSR/RSA, (703) 696-9517, DSN 426-7315, FAX: (703) 696-1003; E-mail: laura.cooney@afosr.af.mil

Presidential Early Career Award in Science & Engineering (PECASE)

The National Science & Technology Council sponsors PECASE awards to recognize outstanding young scientists and engineers at the outset of their careers. The PECASE embodies the high priority placed by the President on maintaining the leadership position of the US in science by producing outstanding scientists and engineers and nurturing their continued development. The Awards will identify a cadre of outstanding scientists and engineers who will broadly advance science and the missions important to the participating agencies. Dr. Julie Moses, AFOSR/RSE, (703) 696-9586, DSN 426-9586, FAX: (703) 696-8450; julie.moses@afosr.af.mil .

Conferences and Workshops

Conferences and workshops have proven to be extremely valuable tools for AFOSR. They allow our technical managers the opportunity to receive current information in their respective disciplines. They also allow AFOSR the opportunity to inform the research community of the current thrust of AFOSR's programs. Conferences and workshops constitute key forums for research and technology interchange. ***AFOSR accepts proposals from all recognized scientific, technical, or professional organizations that qualify for federal tax-exempt status.*** AFOSR's financial support through appropriate financing vehicles for conferences and workshops is dependent on the availability of funds, program manager's discretion, and certain other restrictions.

Graduate Students and Postdocs Upcoming Funding, Databases & News

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Upcoming Fellowship Funding Opportunities

[Awards in Entomology, Insect Science \(Various Deadlines\)](#)

[Ruth Lilly Poetry Fellowships](#)

Five Ruth Lilly Poetry Fellowships in the amount of \$15,000 will be awarded to young poets through a national competition sponsored by the Poetry Foundation, publisher of *Poetry*. Established in 1989 by the Indianapolis philanthropist Ruth Lilly, the fellowships are intended to encourage the further study and writing of poetry. **Due March 31.**

[The Rachel Tanur Prize for Visual Sociology](#)

The Social Science Research Council announces a twenty-year program of biannual grants from the Mark Family Fund for the Rachel Tanur Memorial Prize for Visual Sociology. The prize recognizes students in the social sciences who incorporate visual analysis in their work. It is named for Rachel Dorothy Tanur (1958-2002), an urban planner and lawyer who cared deeply about people and their lives and was an acute observer of living conditions and human relationships. The 2012 competition for the Rachel Tanur Memorial Prize for Visual Sociology will open in January 2012 and applications will be judged by members of the [Visual Sociology group of the International Sociological Association](#) (ISA). Up to three prizes will be awarded at the Second ISA Forum of Sociology: Social Justice and Democratization, to be held in Buenos Aires, Argentina in August 2012. First prize is \$2,500, second prize is \$1,500, and third prize is \$500. **Due April 20.**

[Travelling Fellowships](#)

The Company of Biologists' journals – *Development*, *Disease Models & Mechanisms* (DMM), *Journal of Cell Science* and *The Journal of Experimental Biology* – offer fellowships of up to £2,500 or currency equivalent to graduate students and post-doctoral researchers wishing to make collaborative visits to other laboratories. These are designed to offset the cost of travel and other expenses. There is no restriction on nationality. Applicants should be working in the field of the journal to which they apply and intend to visit another laboratory. Each application will be judged on the excellence of the candidate, and the importance and innovative quality of

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the work to be done. Please review the [Frequently Asked Questions](#) before completing and submitting your application. **Due April 30; August 31.**

[Christine Mirzayan Fellowships](#)

The Christine Mirzayan Science & Technology Policy Graduate Fellowship Program within the [Policy and Global Affairs Division](#) of the National Academies is designed to engage its Fellows in the analytical process that informs U.S. science and technology policy. Fellows develop basic skills essential to working or participating in science policy at the federal, state, or local levels. **Due by May 1.**

[The Horton \(Hydrology\) Research Grant](#)

In 1982, the Hydrology Section of AGU was granted access to a portion of the income of the Robert E. Horton Fund for Hydrologic Research. This permitted the initiation of the Horton Research Grant for Ph.D. students, with a purpose to promote excellence through encouragement of the next generation of professionals in the hydrological sciences. The first Horton Research Grant was awarded in 1983. Each year the grant has been awarded to one or more students during their candidacy for a Ph.D. degree in hydrology, water resources, or a closely related field. **Due May 1.**

[AHRQ Grants for Health Services Research Dissertation Program \(R36\)](#)

The overall goal of the AHRQ grants for Health Services Research Dissertation Program is to help ensure that a diverse pool of highly trained health services researchers is available in adequate numbers and appropriate research areas to address the research mission and priorities of AHRQ, noted below. This announcement represents the continuation of an AHRQ program that provides support to individuals who are conducting research undertaken as part of an academic program to qualify for a research doctorate degree. **Due May 1.**

[NEH Fellowships](#)

Fellowships support individuals pursuing advanced research that is of value to humanities scholars, general audiences, or both. Recipients usually produce articles, monographs, books, digital materials, archaeological site reports, translations, editions, or other scholarly resources in the humanities. Projects may be at any stage of development. NEH encourages submission of Fellowships applications from faculty at Hispanic-Serving Institutions, Historically Black Colleges and Universities, and Tribal Colleges and Universities. **Due up to May 1. Sample successful applications:**

[American studies](#)

[British Literature](#)

[European History I](#)

[European History II](#)

[Latin American Studies](#)

[Philosophy](#)

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[Wenner-Gren Foundation for Anthropological Research - Dissertation Fieldwork Grants](#)

Dissertation Fieldwork Grants are awarded to aid doctoral or thesis research. The program contributes to the Foundation's overall mission to support basic research in anthropology and to ensure that the discipline continues to be a source of vibrant and significant work that furthers our understanding of humanity's cultural and biological origins, development, and variation. The Foundation supports research that demonstrates a clear link to anthropological theory and debates, and promises to make a solid contribution to advancing these ideas. There is no preference for any methodology, research location, or subfield. The Foundation particularly welcomes proposals that employ a comparative perspective, can generate innovative approaches or ideas, and/or integrate two or more subfields.

Deadlines: **May 1; Nov. 1.**

[W.E.B. Du Bois Fellowship for Research in Race, Gender, Culture and Crime FY 2012](#)

NIJ seeks proposals for funding under the W.E.B. Du Bois Fellowship for Research in Race, Gender, Culture, and Crime FY 2012. The Du Bois Fellowship Program seeks to advance knowledge regarding the confluence of crime, justice, and culture in various societal contexts. The Fellowship places particular emphasis on crime, violence, and the administration of justice in diverse cultural contexts within the United States. **Due May 2.**

[NIJ Ph.D. Graduate Research Fellowship Program](#)

NIJ seeks proposals for funding under the Ph.D. Graduate Research Fellowship (GRF) program, which provides awards for research on crime, violence, and other criminal justice-related topics to accredited academic universities that offer research-based doctoral degrees in disciplines relevant to NIJ's mission. The GRF program is intended to support universities that sponsor students who are in the final stages of graduate study. Awards are granted to successful applicants in the form of a grant to cover a doctoral student fellowship. Currently, the GRF fellowship is \$25,000. **Due May 2.**

[W.E.B. Du Bois Fellowship for Research in Race, Gender, Culture, and Crime FY 2012](#)

With this solicitation, NIJ seeks applications for the W.E.B. Du Bois Fellowship for Research in Race, Gender, Culture, and Crime FY 2012. The Fellowship program seeks to advance knowledge regarding the confluence of crime, justice, and culture in various societal contexts. The Fellowship places particular emphasis on crime, violence, and the administration of justice in diverse cultural contexts within the United States. **Due May 2.**

[International Research Foundation \(TIRF\) for English Language Education - Doctoral Dissertation Grants](#)

Since 2002, TIRF has supported students completing their doctoral research on topics related to the foundation's priorities. Each year applicants who have been advanced to candidacy in legitimate PhD or EdD programs are invited to submit proposals for Doctoral Dissertation Grants (DDGs). (By "advanced to candidacy" we mean [a] having completed all required course work, if any, and [b] having had a research plan approved by the candidate's university

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committee.) Proposals are reviewed by a TIRF committee of established international researchers. DDGs are provided in the amount of up to US \$5000 per awardee. **Due May 14.**

[Pre-doctoral and Early Career Research in Social Sciences, Humanities Relevant to Japan](#)

Research activities of social, academic and international needs in the areas of humanities and social sciences which promote international understanding and developing personnel with international perspective, or which pertain to establishing international relationships, solving various issues existing between Japan and other countries; especially pioneering research based on creative ideas is welcomed. **Due May 18.**

[National Council for the Social Studies - Social Studies Inquiry Grant Request for Proposals](#)

The Fund for the Advancement of Social Studies Education (FASSE) and the College and University Faculty Assembly (CUFA) of the National Council for the Social Studies (NCSS) have established a grant to support inquiry in citizenship education. Grant proposals should affirm social, cultural, and racial diversity and address issues of equality, equity, and social justice. Proposals that address aims for citizen action are preferred. Proposals should be relevant to school, university or community-based educational settings. FASSE and CUFA will award a \$10,000 grant to the successful applicant who presents a proposal for a research project that demonstrates potential to inform the educational field about justice oriented, citizenship education. **Due June 1.**

[Southern Region Sustainable Agriculture Research and Education \(SARE\) Program - Graduate Student Grants](#)

The Southern Region USDA Program on Sustainable Agriculture Research and Education (SARE) is requesting proposals for Graduate Student research projects that address issues of sustainable agriculture of current and potential importance to the Southern region and the nation. The Southern SARE Graduate Student Grants in Sustainable Agriculture grants a one-time project maximum of \$11,000. Projects may last up to three years. A candidate may receive only one Southern SARE Graduate Student Grant during his or her graduate student career. The Southern SARE program will only consider proposals submitted, and to be conducted, by graduate students (Master's and PhD) enrolled at an accredited college or university in the Southern region. The graduate student must be considered full-time (according to his or her institution's requirements) at the time of proposal submission. The SARE Southern Region includes Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, **North Carolina**, Oklahoma, South Carolina, Tennessee, Texas, Virginia, Puerto Rico, and the U.S. Virgin Islands. **Due June 4.**

[HR-2013 Thomas R. Pickering Foreign Service Fellowship Program](#)

The Thomas R. Pickering Foreign Affairs Fellowship program encourages the application of members of groups historically under-represented in the Foreign Service of the U.S. Department of State and those with financial need. The fellowship provides financial support towards the completion of a Master's degree and professional development training. Upon

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completion of the degree, recipients have a service commitment to work as a U.S. Department of State Foreign Service officer. **Due June 22.**

[Fulbright Post-Doctoral Fellowships](#)

The United States-Israel Educational Foundation (USIEF) plans to award 8 grants to American post-doctoral scholars who are about to begin a program of research at Israeli institutions of higher education which will commence during the 2013/2014 academic year. The total length of the proposed program of work in Israel must be at least two academic years (20 months net in Israel). The Fulbright award totals \$40,000, \$20,000 per academic year. Fulbright funding supplements basic post-doctoral stipends provided by Israeli host institutions. This program is open to post-doctoral researchers in all academic disciplines. **Due August 1.**

[International Association for Mathematical Geosciences](#)

To provide financial support to students in graduate school or post-doctoral position for research in the fields of mathematical geology, geomathematics, and geoinformatics. **Due October 15.**

National Fellowship Databases

[About GRAPES](#)

The GRAPES database catalogs extramural funding opportunities of interest to prospective and current graduate students, students working on a master's thesis or doctoral dissertation, and postdoctoral scholars. It contains information on over 500 private and publicly funded awards, fellowships, and internships. Advanced search options allow users to refine their search by field, academic level, award type, award amount, and other criteria. GRAPES is maintained by the Graduate Outreach, Diversity and Fellowships Office. **Access the database through the [GRAPES Search Form](#).**

[Cornell Fellowships Database](#)

[Michigan State University Graduate Fellowships Database](#)

[Duke Humanities & Social Science Fellowships](#) and Grants for Graduate and Professional Students.

[Externally Funded Fellowships, University of Texas, Arlington](#) [National Postdoctoral Association](#)

Headquartered at AAAS; an independent voice for postdocs.

[American Psychological Association, Scholarships, Grants and Awards](#)

APA and its affiliate organizations provide a wide range of grants, scholarships, awards with the aim of advancing the science and practice of psychology.

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[APA Scholarships, Fellowships and Dissertation Awards](#)

Psychology cannot thrive without nourishing our most intelligent and inquiring minds to pursue the discipline. To this end, the Foundation supports a number of programs aimed at helping graduate students further their education in psychology.

University of California, Berkeley Links

- [Postdoc Funding in the Biosciences](#)
- [Postdoc Funding in the Social Sciences](#)
- [Postdoc Funding in the Humanities](#)

Writing Advice

[Society for Social Work and Research, Doctoral Student Center](#)

- [Writing for Academic Journals](#) presents tips on structure and common mistakes authors make. This 20-page document isn't a quick read; however, it provides advice to advanced students. By Daryl J. Bem at Cornell University.
- [Research Proposals](#) presents guidelines, sections to include, and common mistakes in proposals. By The University of Hawaii.
- [Dissertation Writing](#) presents study skills and guided activities to aid in writing a dissertation. Ideal for students just beginning their work, and well as for students who are overwhelmed by the complexity of the dissertation process.
- [Grant Proposals](#) presents 10 common mistakes in grant writing. By Pearson.
- [Publishing Advice for Graduate Students](#) presents the hidden secrets behind publishing. By Thom Brooks.

Research Development & Grant Writing News

Research Grant Writing Web Resources

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[NORDP Research Development Resources](#)

[Research Funding Webinars](#)

The National Center for Special Education Research (NCSER) and the National Center for Education Research (NCER) within the Institute of Education Sciences (IES) will host a series of webinars related to research funding opportunities.

[Modeling Sustainable, Resilient, and Robust Infrastructure Systems](#)

Champaign, IL, November 17-18, 2011; Program Presentations (video and slides)

Sponsored by NSF's [Emerging Frontiers in Research Innovation](#) (EFRI), Resilient and Sustainable Infrastructures (RESIN) Program, this workshop allowed all eight RESIN project teams as well as invited experts from across the nation to (i) finalize overarching metrics for sustainability, resilience, and robustness (SRR) of critical infrastructure systems, and (ii) promote implementations of these synthesized metrics in infrastructure system modeling across various application contexts. The principal objective of the two-day workshop was to finalize cross-disciplinary metrics of sustainability, resilience, and robustness, promote quantitative implementations of these SRR metrics across different engineering infrastructure application contexts, and strategize on means to overcome critical conceptual and computational barriers that are common across RESIN projects. Additional objectives are to coordinate RESIN educational and outreach activities, and to discuss future opportunities and path forward for the RESIN community. This workshop builds upon the success of the past two EFRI-RESIN workshops to address infrastructure modeling challenges. The first "[Workshop on Resilient and Sustainable Interdependent Critical Infrastructures](#)" was held in Alexandria, Virginia on December 7-8, 2009, and the second "Workshop on Infrastructure Sustainability, Resilience, and Robustness" was held in Tucson, Arizona on January 13-14, 2011. These two workshops focused on the scoping of RESIN projects and creation of conceptual SRR definitions for infrastructure systems.

Research Development & Grant Writing News

Educational Grant Writing Web Resources

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Writing educational grants to federal agencies and foundations is helped by developing a knowledge base of proven and successful educational models and STEM standards at the K-12, community college, and university level.

Steps to Applying for IES Grants

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

Note: See "[Other IES Funding Opportunities](#)" for IES grants that follow different application procedures.

Funding Opportunities for Research and Research Training

The Institute of Education Sciences' overarching priority is research that contributes to school readiness and improved academic achievement for all students, and particularly for those whose education prospects are hindered by inadequate education services and conditions associated with poverty, race/ethnicity, limited English proficiency, disability, and family circumstance. Please read an [Overview of IES Research and Research Training Grant Programs](#) for background information before proceeding. Please note that not all of IES' research and research training programs are offered each funding year and that the requirements for research and research training programs may change from one year to the next. For FY 2013, the Institute supports the following research and research training programs (announced in the [Federal Register](#) on **March 6, 2012**).

Research Programs

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

Research Training Programs

- Research Training Programs in the Education Sciences (84.305B)
 - [Postdoctoral Research Training Program in the Education Sciences](#)
 - [Researcher and Policymaker Training Program in the Education Sciences](#) *NEW*

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- Research Training Program in Special Education (84.324B)
 - [Early Career Development and Mentoring Program](#) **NEW**

Other IES Funding Opportunities

- [Grants for Statewide, Longitudinal Data Systems](#)
- [Unsolicited Grant Opportunities](#)

[Education Resources Information Center \(ERIC\)](#)

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

[Developing Measures of Teachers' Mathematics Knowledge for Teaching](#)

In this article the authors discuss efforts to design and empirically test measures of teachers' content knowledge for teaching elementary mathematics. We begin by reviewing the literature on teacher knowledge, noting how scholars have organized such knowledge. Next we describe survey items we wrote to represent knowledge for teaching mathematics and results from factor analysis and scaling work with these items. We found that teachers' knowledge for teaching elementary mathematics was multidimensional and included knowledge of various mathematical topics (e.g., number and operations, algebra) and domains (e.g., knowledge of content, knowledge of students and content). The constructs indicated by factor analysis formed psychometrically acceptable scales.

The [Small Business Innovation Research \(SBIR\) Program](#) at the Institute of Education Sciences (Institute) provides up to \$1,050,000 in funding to small business firms and partners for the research and development (R&D) of commercially viable education technology products or tools. The program accepts proposals through two tracks:

- Through its education track, the Institute funds the R&D of (1) products to improve student learning directly or indirectly (e.g., through teacher practices) in authentic education delivery settings (e.g., schools, after-school programs, or distance learning programs), or (2) tools to facilitate research in the field of education. For more details on the current priority area in the education track, [click here](#).
- Through its special education track, the Institute funds the R&D of products for use by infants, toddlers, or students with or at risk for disabilities, or teachers (or other instructional personnel, related services providers, or family members) in early

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intervention or special education. For more details on the current priority area in the special education track, [click here](#).

[A Public Education Primer: Basic \(and Sometimes Surprising\) Facts about the U.S. Education System, 2012 Revised Edition](#)

The 2012 Public Education Primer highlights important and sometimes little-known facts concerning the U.S. education system, how things have changed over time, and how they may change in the future. Together these facts provide a comprehensive picture of the nation's public schools, including data about students, teachers, funding, achievement, management, and non-academic services

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Agency Research News

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[NSF/NIH Announce “Big Data” Funding Initiative](#)

NSF and NIH are funding a new program titled BIGDATA to extract and use knowledge from collections of large data sets in order to accelerate progress in science and engineering research. The NSF/NIH program is part of a federal “Big Data Research and Development Initiative,” announced by the White House Office of Science and Technology Policy whereby six federal departments and agencies (NSF, NIH, the Department of Defense, DARPA, the Department of Energy Office of Science, and the U.S. Geological Survey) will be announcing **more than \$200 million in new commitments**. Big Data will fund research to develop and evaluate new algorithms, statistical methods, technologies, and tools for improved data collection and management, data analytics and e-science collaboration environments. NSF deadlines are June 13 for mid-scale projects and July 11 for small projects. See related:

- NSF [Core Techniques and Technologies for Advancing Big Data Science & Engineering \(BIGDATA\)](#)
- [NSF-NIH Interagency Initiative: Core Techniques and Technologies for Advancing Big Data Science and Engineering \(BIGDATA\)](#)
- OSTP Blog [Big Data is a Big Deal](#)
- OSTP [Big Data Fact Sheet](#)
- OSTP [Big Data Press Release](#)
NSF Press Release [NSF Leads Federal Efforts In Big Data](#)

[NIH Announces the Posting of a Web-based Tutorial applicable to the 2011 revised regulation on Promoting Objectivity in Research for All NIH-Supported Institutions](#)

[NSF-NIH Interagency Initiative: Core Techniques and Technologies for Advancing Big Data Science and Engineering \(BIGDATA\)](#)

Institutes and Centers of the National Institutes of Health (NIH) and the National Science Foundation (NSF) have identified Big Data as a program focus. In particular, the present initiative covers the needs for core techniques and technologies for advancing big data science and engineering. Full details on the programmatic goals and application process are described in the NSF Program Solicitation (NSF-12-499). Description: BIGDATA seeks applications that develop and evaluate core technologies and tools that take advantage of available collections of large data sets to accelerate progress in science, biomedical research, and engineering. In addition, all applications must also include a description of how the project will build capacity. Also, a project may choose to focus its science and engineering big data project in an area of national priority, but this is optional. Each small project may receive NIH support up to \$150,000 in direct funds up to 3 years, while mid-scale projects may receive NIH support ranging from \$150,000 to \$650,000 in direct funds up to 5 years. In all, participating NIH Institutes have committed up to \$2.75M in FY 2012 and/or 2013. It is anticipated that NIH will

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pay 4 to 6 small projects and 1 to 2 mid-scale projects through the program in fiscal years 2012 and/or 2013, subject to availability of funds.

[Dear Colleague Letter: I/UCRC Research Experiences for Veterans - REV](#)

The National Science Foundation recognizes that Veterans represent a potential underutilized workforce for America's research and industrial communities. The Industrial Innovation and Partnerships Division (IIP) of the Engineering Directorate (ENG) at the National Science Foundation (NSF) is now accepting supplemental requests to conduct Research Experiences for Veterans (REV). The proposed REVs will afford Veterans an opportunity to intern either at an active Industry/University Cooperative Research Center (I/UCRC) university site, or at an active I/UCRC member company. Recommendations from NSF's Engineering Education and Centers Division Workshop entitled "Veterans' Education for Engineering and Science" in April 2009 stated "NSF and other federal science and engineering agencies should create an education/career development program focused on getting veterans into science and technology careers. NSF and the other federal agencies have long experience sponsoring education research and activities. The cost to expand and enrich such programs is a small fraction of the cost of the post-9/11 Veterans educational benefit. Yet by expanding it, the community could engage a significant number of veterans with the potential to pursue careers in fields of engineering, science and technology."

[Applications for New Awards; Education Research and Special Education Research Grant Programs; Correction](#)

On March 6, 2012, the Institute of Education Sciences in the U.S. Department of Education published in the Federal Register ([77 FR 13297](#)) a notice inviting applications for new awards for fiscal year 2013 for the Education Research and Special Education Research Grant Programs. This notice makes several corrections to the March 6, 2012, notice inviting applications (March 6 NIA).

[1000 Genomes Project data available on Amazon Cloud](#)

The world's largest set of data on human genetic variation — produced by the international 1000 Genomes Project — is now publicly available on the Amazon Web Services (AWS) cloud, the National Institutes of Health and AWS jointly announced today. The public-private collaboration demonstrates the kind of solutions that may emerge from the Big Data Research and Development Initiative announced today by the White House Office of Science and Technology Policy (OSTP) during an event at the American Association for the Advancement of Science in Washington, D.C.

[Dear Colleague Letter - IGERT-CIF21 Track](#)

NSF will soon institute a new CIF21 track in its Integrative Graduate Education and Research Traineeship (IGERT) program as a mechanism to address the training and education needs in CDS&E and cyberinfrastructure research. Of particular interest for this track are focused interdisciplinary efforts that involve:

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- Partnerships between computational, mathematical and statistical, and computer and information sciences on the one hand and the science and engineering domains on the other, that drive interdisciplinary research in cyberinfrastructure (software, data and visualization, networks, advanced computational infrastructure, etc.);
- Foundational and applied research in a variety of tools essential for advanced scientific discovery and engineering innovation in collaboration with domain sciences. Such tools could include computational models and the underlying mathematical and statistical theory and methodology; parallel programming languages; novel algorithmic techniques; real-time visualization; scalable data mining; effective utilization and optimization of computing, storage, and communications resources;
- Research and development of novel end-to-end science-driven scenarios that integrate and leverage major cyberinfrastructure investments including high-end supercomputers, cloud environments, real-time and remote visualization, provisionable networks, distributed data archives and software frameworks;
- Integration of educational and training opportunities with major cyberinfrastructure investments such as
 - XSEDE, Open Science Grid, FutureGrid, DataNet partners, the Global Environment for Network Innovations (GENI), International Research Network Connection sites, etc. (see www.nsf.gov/cif21 for a more extensive list of cyberinfrastructure components);
 - ongoing NSF Major Research Equipment and Facilities Construction (MREFC) projects or other large scale efforts such as iPlant or Network for Computational Nanotechnology;
 - cyberinfrastructure-related facilities managed by NSF, by other state or US federal agencies, or internationally;
- Synergies in cyberinfrastructure and CDS&E research with ongoing and emerging activities in CIF21;
- Significant impact on new curricula and career possibilities for cyberinfrastructure and/or CDS&E;
- Research, education and outreach activities that are expected to have a significant impact in developing an increasingly diverse STEM workforce that is inclusive of women and men, underrepresented minorities, and persons with disabilities.

[Hughes to Add Up To 30 Investigators](#)

Howard Hughes Medical Institute is holding a general competition for a new round of up to 30 [HHMI investigators](#). **The deadline for applications is June 13.** Semifinalists will give a lecture at HHMI as part of the selection process. The winners of the \$200 million competition will add to the 340 scientists who are part of the biomedical research charity's flagship investigator program at some 70 U.S. institutions (including [15 appointed last year](#) through a special competition for plant scientists). The new competition is open to researchers at more than 200 institutions in basic biomedical research and related areas, from evolutionary biology to patient-oriented research. Investigators will receive 5-year, renewable appointments.

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Institute of Education Sciences Grants

The Institute of Education Sciences is investing \$97.8 million in 54 new research and research training grants.

- Through the [National Center for Education Research](#), IES awarded 26 new research grants under the Education Research Grants Program (CFDA 84.305A) for a total investment of \$49.8 million. Descriptions and abstracts for each new grant are available on the [NCER projects page](#).
- Through the [National Center for Special Education Research](#), IES awarded 26 new research grants under the Special Education Research Grants Program (CFDA 84.324A) and 2 new grants under the Postdoctoral Research Training in Special Education Program (CFDA 84.324B) for a total investment of \$48 million. Descriptions and structured abstracts for each new grant are available on the [NCSEER projects page](#).

Research Funding Webinars Scheduled—Register Now

IES's National Center for Special Education Research and the National Center for Education Research are hosting a series of research funding webinars through August. For more information, visit the [Webinars page](#), where you can also view slides from [Previous Webinars Contributors](#) | [Sign-up for IES News to Subscribe](#)

Important Notice 132, Implementation of Revised National Science Board-approved Merit Review Criteria

In December 2011, the National Science Board (NSB) released a report on the National Science Foundation's merit review criteria. The NSB report, *National Science Foundation's Merit Review Criteria: Review and Revisions*, was the result of a thorough examination by the NSB Task Force on Merit Review. The Task Force was charged to investigate the effectiveness of the merit review criteria (intellectual merit and broader impacts) used by the National Science Foundation (NSF) since 1997 to evaluate all proposals. At the same time that the Task Force began its review, the U.S. Congress was writing the America COMPETES Reauthorization Act of 2010 (ACRA), which provides reauthorization for the NSF. The Broader Impacts review criterion was specifically addressed in Section 526 of the ACRA, which was signed into law on January 4, 2011. The Act stipulated that NSF shall apply a Broader Impacts review criterion to achieve an array of societal goals. It also charged NSF to develop policies related to strategies and approaches employed to address the Broader Impacts criterion: assessment and evaluation; institutional engagement in assisting investigators with activities associated with addressing broader impacts; and training to ensure NSF staff, merit review panels, and potential NSF-supported investigators understand these new policies.

Dear Colleague Letter: Unsolicited Proposals at the Interface of the Biological, Mathematical and Physical Sciences, and Engineering

Divisions in the Directorate for Biological Sciences (BIO) are receiving significantly more proposals that incorporate approaches and address questions that have traditionally been the domain of the mathematical and physical sciences and engineering. BIO, ENG and MPS

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recognize that it is vital for biological, mathematical, statistical and physical scientists and engineers to increase their collaborations, both in new research efforts and in ongoing research projects, to advance the frontiers of discovery and innovation. This letter is to remind our research communities that BIO, MPS and ENG strongly encourage proposals from interdisciplinary research teams that involve collaborations among investigators from the biological, mathematical, and physical sciences and engineering to support new interactions that span interfaces between BIO, ENG, and MPS. Unsolicited research proposals, depending on their scientific focus, can be submitted to the deadlines of any relevant program in BIO, ENG, or MPS. For the Divisions and programs that require a preliminary proposal before a complete proposal can be submitted, the PIs must submit a preliminary proposal at the relevant deadlines. Investigators are encouraged to contact appropriate program directors to discuss their research topics and objectives prior to submitting a proposal. Proposals that address the interface between the biological, mathematical and physical sciences and engineering should include the label "BIOMAPS:" at the beginning of the proposal title. Such proposals may be jointly considered by appropriate program directors in BIO, ENG, and MPS. Principal investigators should consult the NSF web site for additional information about programs in the three Directorates.

[Dear Colleague Letter -Prepare, Engage, and Motivate a Diverse STEM Workforce - Design Proposals to Develop a Broadening Participation in STEM Resource Network](#)

This letter is to call your attention to an opportunity in the Division of Human Resource Development (HRD) for design proposals to develop strategies to assist HRD grantees and other NSF stakeholders to achieve the NSF performance goal to "Prepare and engage a diverse STEM workforce motivated to participate at the frontiers." The design project should lead to the development of a proposal for a *Broadening Participation in STEM Resource Network (BPS-Resource Network)*. Design projects should consult broadly with the HRD grantee community and other NSF stakeholders to perform a needs assessment. This consultation should be the foundation for developing innovative models for a resource network. HRD anticipates funding the implementation of a *BPS-Resource Network* after the design phase. HRD anticipates funding up to five 18-month design projects for up to \$250,000 each as described in the [HBCU-UP solicitation](#). This opportunity is expected to also be included in other HRD program solicitations over the next six months which will be posted on the [HRD web site](#). This is not a new program, design proposals should be submitted according to the instructions in the HRD solicitations. Design proposals must address broadening participation in STEM across all underrepresented groups (women, persons with disabilities, and underrepresented minorities). All entities eligible for NSF support are encouraged to consider this opportunity. The window for submission of design proposals is **January 12, 2012 to July 12, 2012**.

[Dear Colleague Letter -Data-Intensive Education-Related Research Funding Opportunities](#)

The purpose of this letter is to inform you of an upcoming solicitation related to data-intensive education research that is expected to occur during FY 2012-2013 and to highlight existing complementary data-intensive education research funding opportunities. The need for

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transformative advances in teaching and student learning environments represents a significant challenge that requires novel ideas and innovative approaches. Today's technological capabilities to mine large datasets provide new avenues that can be valuable for developing new models of teaching and learning at the K-16 levels and beyond. The increasing availability of large datasets and the capabilities to capture additional datasets have great potential for advancing teaching and learning effectiveness in many areas. These include, for example: improving student learning and engagement; optimizing personalized instruction; and supporting adaptive, rapid decision-making. The challenge is maximizing the benefits that can be gained from analysis of the data in these large datasets. ***To help address this challenge, NSF expects to announce a solicitation that will call for participants for an Ideas Lab on the topic of advancing teaching and learning focused on transforming large datasets into knowledge that leads to actions that can improve learning environments.*** An Ideas Lab is an intensive, interactive workshop aimed to develop bold approaches to address grand challenges that could benefit from a new dimension in thinking. During the Ideas Lab, participants will work in teams to develop collaborative research proposals that will leverage existing research and develop new research directions. The participants of the Lab will be selected to ensure that they cover a range of disciplines and backgrounds to foster multidisciplinary approaches. Expected outcomes from the Lab will be research project concepts that vary in scale and scope in addressing the challenges. Funding will be available to support some or all of the meritorious research projects emerging from the Lab; however, no one will be guaranteed funding by virtue of participating in the Lab.

[Dear Colleague Letter -Supplemental Funding Opportunity for SBIR/STTR - Technology Enhancement for Commercial Partnerships](#)

The Directorate for Engineering's Division of Industrial Innovation and Partnerships (IIP) Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs invites all active SBIR/STTR Phase II grantees to participate in the Technology Enhancement for Commercial Partnerships (TECP) program, a supplemental funding opportunity. TECP supplements to SBIR/STTR grantees are intended to pave the way for partnerships between strategic corporate partners and investors and SBIR/STTR companies as a means to increase the potential for SBIR/STTR grantees to commercialize successfully 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 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.

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[In-Water Wave Energy Conversion \(WEC\) Device Testing Support - Notice of Intent \(NOI\)](#)

The purpose of this Notice of Intent is to provide potential applicants advance notice of a proposed upcoming Funding Opportunity Announcement initially titled: In-Water Wave Energy Conversion (WEC) Device Testing Support. NO APPLICATIONS WILL BE ACCEPTED THROUGH THIS NOTICE. ***Prospective applicants 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 FY12. Please do not respond or submit questions in response to this Notice of Intent. DOE intends to fund one industry-led project that will deploy a long-term (one year) in-water WEC device. The device will be deployed at the Navy Wave Energy Test Site (WETS) facility in Kaneohe Bay on the Hawaiian Island of Oahu. The full Notice of Intent (NOI) is posted on the EERE eXCHANGE [website](#). The applicant must first register and create an account on the EERE eXCHANGE website. A User Guide for the EERE eXCHANGE can be found on the EERE [website](#) after logging in to the system.

[NSF FY-2013 SBIR Phase I Solicitation Released](#)

NSF will accept proposals for the following broad topics from **May 19, 2012 to June 19, 2012**:

The four broad topics are:

1. [Biological and Chemical Technologies \(BC\)](#)
2. [Education Applications \(EA\)](#)
3. [Electronics, Information and Communication Technologies \(EI\)](#)
4. [Nanotechnology, Advanced Materials, and Manufacturing \(NM\)](#)

For a detailed description of the four topics reference section V. Proposal Preparation and Submission Instructions, A.10. Research Topic.

[What Has Been Funded \(Recent Awards Made Through This Program, with Abstracts\)](#)

[Map of Recent Awards Made Through This Program](#)

[EPA 2013 SBIR Phase I Solicitation Opens](#)

The Environmental Protection Agency began accepting proposals in response to their 2013 SBIR Solicitation on March 15, 2012, and will close on **May 3, 2012**. EPA is interested in advanced technologies that address priority environmental issues. This year's solicitation has seven topics grouped into five general areas: Safe and Sustainable Water Resources (topic includes A. Water), Chemical Safety for Sustainability (topic is B. Innovation in Manufacturing), Sustainable and Healthy Communities (topics include C. Green Building and D. Waste Monitoring and Management), Air/Climate/Energy (topics include E. Air Quality and F. Sustainable Utilization of Biomass), and G. Homeland Security. " EPA anticipates awarding approximately \$2.1M in firm fixed price contracts for amounts up to \$80,000 for Phase I, and approximately 10 Phase II awards each with a dollar amount of \$300,000 for this solicitation.

[DOT FY12.2 SBIR Presolicitation Notice](#)

The Department of Transportation (DOT) posted a presolicitation notice for their FY12.2 SBIR program on the [Federal Business Opportunities](#) website on March 5, 2012 ([HERE](#)). The Volpe National Transportation System Center is issuing a solicitation pursuant to the Small Business

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Innovation Development Act of 1982, PL 97-219, as amended by PL 99-443 and PL 102-564 and reauthorized by PL 106-554, as amended and reauthorized by PL 112-81. **The solicitation will be issued on or about April 2, 2012.** The purpose of this solicitation is to invite small businesses with their valuable resources and creative capabilities to submit innovative research proposals that address high priority requirements of the U.S. Department of Transportation.

The solicitation and any documents related to this procurement will be available on the DOT SBIR Program Internet site. The URL for the 2012 DOT SBIR Program is [here](#). The solicitation will be issued through electronic means only. No hard copies will be available. Offerors desiring to receive electronic notification of the solicitation's posting and availability for downloading must register on the FedBizOpps [website](#).

Dear Colleague Letter - Data Citation

Facilitating open and equal access to data and data sets is a fundamental operating principle of the Directorate for Geosciences (GEO), and the National Science Foundation (NSF) as a whole. Investigators are expected to share with other researchers, at no more than incremental cost and within a reasonable time, the primary data, samples, physical collections and other supporting materials created or gathered in the course of work under NSF grants. Grantees are expected to encourage and facilitate such sharing. See [Award & Administration Guide \(AAG\) Chapter VI.D.4](#). The Australian National Data Service lists many references to the benefits of and practices for data citation (http://ands.org.au/cite-data/resources.html#Data_Citation_Benefits). Benefits include the acceptance of research data as a legitimately citable contribution to the scientific record; permitting results to be verified and re-purposed for future study; and enabling data citation metrics to be tracked, as is done with publications. Also, data citation is one mechanism for complying with the long-standing NSF policy of data sharing (see Award and Administration Guide, [Chapter VI.D.4](#), http://www.nsf.gov/pubs/policydocs/pappguide/nsf11001/aag_6.jsp#VID4). An example of a data facility that currently assigns Digital Object Identifiers (DOIs) to datasets that investigators submit to its repository is the NSF-funded data facility Integrated Earth Data Applications (IEDA, www.iedadata.org).

About IES: Scientific Integrity Policy

The Institute of Education Sciences invites comments on the draft Scientific Integrity Policy document posted below. This document is intended to describe the ways in which the Department of Education assures the integrity of the scientific activities supported by the Department. We are very interested in receiving and considering your comments on our draft Scientific Integrity Policy. It is important to note, however, that this is only a draft policy at this point, and is not currently in effect nor is it in any way binding on the agency or any of its officials or employees at this time. We request that your comments relate to the contents of the Draft Scientific Integrity Policy and be as specific as possible. All opinions, ideas, suggestions and comments are considered informal input. The Department will not respond to individual e-mails, and the comments and suggestions made in e-mails we receive may or may not be reflected in the final Scientific Integrity Policy adopted by the Department.

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[DOE Offers \\$10 Million to Promote Zero-Emission Cargo Transport Vehicles](#)

DOE announced on March 20 that up to \$10 million will be available this year to demonstrate and deploy electric transportation technologies for cargo vehicles, such as trucks and forklifts. DOE's support for the development and demonstration of innovative alternative vehicle technologies is designed to help reduce U.S. reliance on gasoline and diesel and oil imports. Electrifying cargo transportation vehicles and infrastructure will slash petroleum use, carbon emissions, and air pollution at transportation hubs, such as ports. DOE seeks applicants to demonstrate cost-effective zero-emission cargo transport systems and collect detailed performance and cost data to analyze the benefits and viability of this approach to freight transportation. This funding opportunity is open to local governments and private companies, with federal funds matched in a 50% cost share. **Applications are due May 15, 2012.** See the DOE [Progress Alert](#) and the [Funding Opportunity Announcement](#).

[Research Supplements to Promote Diversity in Health-Related Research \(Admin Supp\)](#)

Funding Opportunity PA-12-149 from the NIH Guide for Grants and Contracts. The National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC) hereby notify Program Director(s)/Principal Investigator(s) (PD(s)/PI(s)) holding specific types of NIH research grants, listed in the full Funding Opportunity Announcement (FOA) that funds are available for administrative supplements to improve the diversity of the research workforce by supporting and recruiting students, postdoctorates, and eligible investigators from groups that have been shown to be underrepresented in health-related research. This supplement opportunity is also available to PD(s)/PI(s) of research grants who become disabled and need additional support to accommodate their disability in order to continue to work on the research project. Administrative supplements must support work within the scope of the original project.

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Agency Reports, Workshops & Research Roadmaps

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The competitiveness of proposals can be enhanced by grounding the arguments you make in the proposal narrative, as appropriate, on national reports, agency research roadmaps, and research workshops that demonstrate your understanding of the national research agenda and how your research advances and maps to that agenda.

[U.S. Requires New Dual-Use Biological Research Reviews](#)

On March 29 the U.S. government released a new policy that will require federal agencies to systematically review the potential risks associated with federally funded studies involving 15 "high consequence" pathogens and toxins, including the H5N1 avian influenza virus. The reviews are designed to reduce the risks associated with "dual use research of concern" (DURC) that could be used for good or evil.

[Entering Mentoring, The Wisconsin Program For Scientific Teaching](#)

Effective mentoring can be learned, but not taught. Good mentors discover their own objectives, methods, and style by mentoring. And mentoring. And mentoring some more. Most faculty learn to mentor by experimenting and analyzing success and failure, and many say that the process of developing an effective method of mentoring takes years. No two students are the same or develop along the same trajectory, so mentoring must be continually customized, adjusted, and redirected to meet each student's needs. A skilled mentor's decisions and actions are guided by a reflective philosophy, a well-developed style, and an ability to assess student needs. There is certainly no book that can tell us how to deal with every student or situation, but a systematic approach to analyzing and discussing mentoring may lead us to a method for tackling the knotty challenges inherent in the job. The goal of the seminar outlined in this manual is to accelerate the process of learning to be a mentor. The seminar provides mentors with an intellectual framework to guide them, an opportunity to experiment with various methods, and a forum in which to solve mentoring dilemmas with the help of their peers. Discussing mentoring issues during the seminar provides every mentor with experience—direct or indirect—working with diverse students, tackling a range of mentoring challenges, and considering a myriad of possible solutions.

[USGCRP Strategic Planning Underway](#)

The U. S. Global Change Research Program (USGCRP) is developing a new decadal strategic plan in compliance with the terms of the [Global Change Research Act \(GCRA\) of 1990](#). The plan, which will dictate the direction of the program from 2011-2020, will provide guidance to ensure that the USGCRP functions successfully around the new program priorities, which include adaptation science, climate services, integrated observations, fundamental research, modeling, Assessments, and communication, education, and engagement. The goal of the new USGCRP strategy is to be a truly integrated "end-to-end" program that not only provides basic science, but also tools to use the science, and to translate it to a broad audience. The primary challenge is to develop a plan that has sufficient flexibility and agility to respond to scientific and

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technological advances, changing user needs, and economic fluctuations. There will be opportunities for public outreach on the plan, including a webinar on the outline of the plan, a public comment period, townhalls at professional meetings, among others. There has also already been significant input into the strategic planning process, including 21 public “Listening Sessions” held throughout the US in 2007-2009. Reports from these listening sessions are available at www.globalchange.gov. USGCRP and Member Agencies have also commissioned more than twenty reports on related topics from the National Research Council (NRC) over the last four years that will also be used to help guide the creation of the plan ([MORE](#)).

Space Studies Board Annual Report 2011

The original charter of the Space Science Board was established in June 1958, 3 months before NASA opened its doors. The Space Science Board and its successor, the Space Studies Board (SSB), have provided expert external and independent scientific and programmatic advice to NASA on a continuous basis from NASA's inception until the present. The SSB has also provided such advice to other executive branch agencies, including the National Oceanic and Atmospheric Administration (NOAA), the National Science Foundation (NSF), the U.S. Geological Survey (USGS), the Department of Defense, as well as to Congress.

Rural Philanthropy—Building Dialog from Within

Examines the disparity in giving between urban and rural nonprofits, and how geographical isolation and capacity-building needs greatly reduce the ability for rural nonprofits to secure funding. The report offers recommendations on ways to make philanthropy more responsive to rural America. National Committee for Responsive Philanthropy.

Depth Of Teachers' Knowledge: Framework For Teachers' Knowledge Of Mathematics

This article describes seven teacher knowledge frameworks and relates these frameworks to the teaching and assessment of elementary teacher's mathematics knowledge. The frameworks classify teachers' knowledge and provide a vocabulary and common language through which knowledge can be discussed and assessed. These frameworks are categorized into two classes: content knowledge and content knowledge for teaching. Content knowledge frameworks include Bloom's Taxonomy (1956); Skemp's (1976) Instrumental and Relational Understandings; Hiebert and Carpenter's (1992) Procedural and Conceptual Understandings; Webb's (2002) Depth of Knowledge; and Porter's (2002) Cognitive Complexities. Content knowledge for teaching frameworks includes Schulman's (1986) Type of Teachers Knowledge and Ball's (2000) Mathematical Knowledge for Teaching. The article concludes with examples of quantitative assessments of teachers mathematics knowledge based on these teacher knowledge frameworks.

Global Navigation Satellite Systems: Report of a Joint Workshop of the National Academy of Engineering and the Chinese Academy of Engineering

Global Navigation Satellite Systems ([download free pdf](#)) summarizes the joint workshop on Global Navigation Satellite Systems held jointly by the U.S. National Academy of Engineering

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and the Chinese Academy of Engineering on May 24-25, 2011 at Hongqiao Guest Hotel in Shanghai, China. We have one world, and only one set of global resources. It is important to work together on satellite navigation. Competing and cooperation is like Yin and Yang. They need to be balanced," stated Dr. Charles M. Vest, President of the National Academy of Engineering, in the workshop's opening remarks. Global Navigation Satellite Systems covers the objectives of the workshop, which explore issues of enhanced interoperability and interchangeability for all civil users aimed to consider collaborative efforts for countering the global threat of inadvertent or illegal interference to GNSS signals, promotes new applications for GNSS, emphasizing productivity, safety, and environmental protection. The workshop featured presentations chosen based on the following criteria: they must have relevant engineering/technical content or usefulness; be of mutual interest; offer the opportunity for enhancing GNSS availability, accuracy, integrity, and/or continuity; and offer the possibility of recommendations for further actions and discussions. Global Navigation Satellite Systems is an essential report for engineers, workshop attendees, policy makers, educators, and relevant government agencies.

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New Funding Opportunities

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Links to New & Open Funding Solicitations

Solicitations Remaining Open from Prior Issues of the Newsletter

New Funding Solicitations Posted Since March 15 Newsletter

[Biomass Research and Development Initiative \(BRDI\)](#)

This FOA is a joint effort between the U.S. Department of Agriculture (USDA) and the U.S. Department of Energy (DOE) for fiscal year (FY) 2012 BRDI which requires that funded projects integrate all three legislatively mandated technical areas. These areas include (A) Feedstocks development, (B) Biofuels and biobased products development, and (C) Biofuels and biobased products development analysis. A. Feedstocks Development: Research, development, and demonstration activities regarding feedstocks and feedstock logistics (including harvest, handling, transport, preprocessing, and storage) relevant to production of raw materials for conversion to biofuels and biobased products. B. Biofuels and Biobased Products Development - Research, development, and demonstration (R,D,&D) activities to support: (i) Development of diverse cost-effective technologies for the use of cellulosic biomass in the production of biofuels, bioenergy, and biobased products; and (ii) Product diversification through technologies relevant to the production of a range of biobased products (including chemicals, animal feeds, and cogeneration power) that potentially can increase the feasibility of fuel production in a biorefinery. C. Biofuels and Biobased Products Development Analysis. The intent of this section and integrating Technical Areas A, B, and C is to apply systems evaluation methods that can be used to optimize system performance and market potential and to quantify the project's impact on sustainability; therefore, successful applications will consider the life-cycle (cradle-to-grave) impacts including environmental, social, and economic implications that are attributable to the project. Successful projects should include these sustainability data in engineering process models and be used over the life of the project to improve the system and quantify sustainability impacts. **Pre-application due April 24; invited full August 3.**

[Social Science Weather Research](#)

This research funding opportunity is being jointly issued by the U.S. Weather Research Program in the National Oceanic and Atmospheric Administration's (NOAA) Office and Weather and Air Quality (OWAQ) in NOAA Research and the National Weather Service (NWS). It seeks to stimulate research and develop collaborations between social and physical scientists that can help build a Weather Ready Nation. (See <http://www.nws.noaa.gov/com/weatherreadynation/> for more information about NOAA's Weather Ready Nation activities.) This research will help to better understand human behavior and positively affect decision-making during weather-

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related events and the formulation and communication of forecast uncertainty, or forecast confidence. The results of this research are expected to improve the communication within the weather community and to the public to invoke a response that will help protect life and property during dangerous weather events. **Due April 27.**

Scientific Collaborations at Extreme-Scale

The Office of Advanced Scientific Computing Research (ASCR) of the Office of Science (SC), U.S. Department of Energy (DOE), hereby invites applications for research and development that represents transformational advances in scientific collaboration systems and distributed data systems addressing the fundamental challenges related to extreme-scale science collaborations. Scientific grand challenges in the next decade in areas such as combustion modeling, climate science, energy generation, bio-remediation processes, and material structure aging will usher in the era of extreme-scale science. Increasingly these challenges may only be solved by multi-disciplinary teams working with unique scientific instruments, exascale class computers, and/or handling extreme amounts of data. To meet these challenges these teams will need a distributed science environment that promotes scientific collaboration and resource sharing. Scientists currently rely on basic, and fairly primitive, tools and services designed for social networking and commercial activities to carry out simple collaboration tasks. However, these primitive collaboration tools are proving to be inadequate for large-scale scientific efforts involving the sharing of massive data sets or complex instruments, among thousands of distributed researchers. **Due April 27.**

Paul Coverdell Forensic Science Improvement Grants Program

NIJ seeks proposals for the Paul Coverdell Forensic Science Improvement Grants Program, which awards grants to States and units of local government to help improve the quality and timeliness of forensic science and medical examiner services. Among other things, funds may be used to eliminate a backlog in the analysis of forensic evidence and to train and employ forensic laboratory personnel. State Administering Agencies may apply for both "base" (formula) and competitive funds. Units of local government may apply for competitive funds. **Due May 4.**

Ocean Education Partnership Grants for Professional Development and other Capacity-building of Informal Science Educators and Volunteers

The goal of this funding opportunity is to support a collaborative team of aquariums and other institutions to expand or develop professional development and other capacity-building activities for informal science educators and volunteers. A successful project will utilize the resources of multiple institutions to enhance the capacity of informal science educators and volunteers to engage visitors and promote public understanding and stewardship of coastal, marine, and/or freshwater environments. A successful project will also incorporate NOAA assets through partnerships with NOAA entities. When applicable, project design should be informed by successful capacity-building and professional development activities previously funded by NOAA's Environmental Literacy Grants Program (See "Awards" tab under

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<http://www.oesd.noaa.gov/grants/elg.html>). Project topics should relate to NOAA's mission in the areas of ocean, coastal, Great Lakes, weather, and climate sciences and stewardship and focus on one or more of the goals of NOAA's Next Generation Strategic Plan <http://www.ppi.noaa.gov/ngsp/goals/> : healthy oceans; weather-ready nation; climate adaptation and mitigation; and resilient coastal communities and economies. Proposed projects should be between two and five years in duration and have maximum total combined budget requests of \$1,000,000 for all years of the project. The combined total must include any funding that would support a partnership with NOAA. No awards funds for NOAA project costs will be given to any collaborative applicant; the anticipated NOAA project costs will be transferred directly within NOAA. Eligible applicants are collaborative teams that include at least three (3) non-profit U.S. aquariums, of which at least one must be accredited by the Association of Zoos and Aquariums (AZA). Collaborative teams should involve applicants from multiple U.S. states and are strongly encouraged to include at least one aquarium that has not previously received a grant from NOAA's Office of Education. There is special interest in collaborative teams that include aquariums representing a wide range of annual operating budgets, total visitorship numbers, and/or physical sizes. Also, there is special interest in projects that address reaching groups traditionally underserved and/or underrepresented in Earth System science. Links to this announcement and other helpful information for applying is available at <http://www.oesd.noaa.gov/grants/elg.html> , under the "Funding" tab. **Due May 7.**

Testing Geospatial Police Strategies and Exploring Their Relationship to Criminological Theories

NIJ is seeking applications for research related to links between criminological theories and geospatial police strategies. In particular, NIJ is seeking proposals that test current geospatial police strategies implemented at the micro-place and micro-time levels. Additionally, applicants should propose to explore how criminological theories may explain the utility of these strategies, what mechanisms are in place that allow these strategies to be effective and efficient, and how such strategies can be improved. **Due May 7.**

DE-FOA-0000674: Energy Storage SBIR/STTR Funding Opportunity Announcement (FOA)

ARPA-E is soliciting proposals for projects to be performed under the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs authorized pursuant to Section 9 of the Small Business Act (15 U.S.C. § 638). ARPA-E seeks to fund the development of transformational technologies that reduce the barriers to mass adoption of electrical energy storage for stationary and transportation applications. For stationary applications, this solicitation focuses on two emerging research areas for low-cost stationary energy storage: (1) low-cost, grid-scale storage, particularly for electric distribution systems supporting high local-penetration of electric vehicles with high-rate charging demands and (2) low-cost storage for consumer-side of the meter applications. For transportation applications, this solicitation focuses on developing electrical storage technologies in three areas : (1) new battery chemistries; (2) new battery architectures and (3) novel electric storage systems. **LOI May 14; full May 23.**

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[DE-FOA-0000675: Advanced Management and Protection of Energy-storage Devices \(AMPED\)](#)

Energy storage can significantly improve U.S. energy independence, efficiency, and security by enabling a new generation of electric vehicles and by enhancing the capabilities of the U.S. electricity grid. While rapid advances are being made in research and development of new battery materials and storage technologies, there remains a need for transformational innovations in the management of energy storage systems. Batteries are complex systems, and developing techniques to cost-effectively monitor, manage, and predict important performance measures remains a key technological challenge. As a result, many battery systems are over-designed and operated well below their maximum energy and power capabilities to meet operational requirements that minimize the risk of premature or catastrophic failure. ARPA-E's AMPED Program seeks to develop breakthrough sensing, control, and system technologies that can be practically deployed for superior management of commercial battery systems. **LOI due May 14; full May 23.**

[Building and Enhancing Criminal Justice Researcher-Practitioner Partnerships](#)

NIJ is interested in funding multiple criminal justice research projects involving researcher-practitioner partnerships as well as capturing, in detail, relevant accounts of these collaborations. Such partnerships have frequently been encouraged in NIJ solicitations for research. However, this 2012 solicitation specifically aims to support criminal justice research and evaluation activities that include a researcher-practitioner partnership component. Within the context of the proposed research or evaluation project, these partnerships can be new or ongoing. Results from these projects should lead to better criminal justice policy, practice, and research, including as it relates to the participating practitioner partner. **Due May 20.**

[Solving Cold Cases With DNA](#)

NIJ seeks proposals from States and units of local government for funding to identify, review, and investigate "violent crime cold cases" that have the potential to be solved using DNA analysis, and to locate and analyze the biological evidence associated with these cases. Experience has shown that cold case programs can solve a substantial number of violent crime cold cases, including homicides and sexual assaults. Advances in DNA technologies have substantially increased the successful DNA analysis of aged, degraded, limited, or otherwise compromised biological evidence. As a result, crime scene samples once thought to be unsuitable for testing may now yield DNA profiles. Additionally, samples that previously generated inconclusive DNA results may now be successfully analyzed. **Due May 21.**

[Building Opportunity Out of Science and Technology \(BOOST\)](#)

The Bureau of Oceans and International Environmental and Scientific Affairs (OES) Office of Science and Technology Cooperation at the Department of State announces the Request for Applications (RFA) for the Building Opportunity Out of Science and Technology (BOOST) program. This program aims to advance the Bureau's mission to increase the role that science, technology, and innovation play in societies across the world by building capacity for young scientists to perform innovative research, to connect with the international scientific

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community, and to apply their technical training in addressing key global challenges and in advancing economic growth. **Due May 24.**

Bio-Oil Stabilization and Commoditization

This FOA is intended for research and development (R&D) at either (1) Technology Readiness Levels (TRLs) 2 through 3 in Topic Area 1 or (2) TRL 4 through 6 in Topic Area 2, that will accelerate the development of thermochemical liquefaction technologies to produce a bio-oil feedstock from biomass considered to be a high-impact feedstock or from algal biomass. The bio-oil feedstock produced must be utilized within a petroleum refinery and leverage its existing capital for further processing to final fuels (such as renewable: gasoline, diesel, jet fuel) that will contribute to the Energy Independence and Security Act of 2007, Renewable Fuels Standard volumetric goals for advanced biofuels. **LOI May 1; full May 29.**

ROSES 2012: Surface Water and Ocean Topography Mission Science Definition Team

Due May 30.

Building and Enhancing Criminal Justice Researcher-Practitioner Partnerships

NIJ seeks proposals for the funding of multiple criminal justice research projects involving researcher-practitioner partnerships as well as capturing, in detail, relevant accounts of these collaborations. This solicitation specifically aims to support criminal justice research and evaluation activities that include a researcher-practitioner partnership component. Within the context of the proposed research or evaluation project, these partnerships can be new or ongoing. Results from these projects should lead to better criminal justice policy, practice, and research, especially for the participating practitioner partners. **Due May 30.**

Theoretical Research in Magnetic Fusion Energy Science

The Office of Fusion Energy Sciences (FES) of the Office of Science (SC), DOE, announces its interest in receiving grant applications for theoretical and computational research relevant to the U.S. magnetic fusion energy sciences program. All individuals or research groups planning to submit applications for new or renewal funding in Fiscal Year 2013 should submit in response to this FOA. The specific areas of interest are: 1. Macroscopic Stability 2. Confinement and Transport 3. Boundary Physics 4. Plasma Heating & Non-inductive Current Drive, and 5. Energetic Particles Due to the limited availability of funds, Principal Investigators with continuing theory grants may not submit a new application in the same topical area(s) as their existing grant(s). An applicant may submit only one application in response to this FOA, but applications can target multiple topical areas. Instructions for completing the Grant Application Package are contained in the full text of the FOA which can be obtained [here](#): **Due May 31.**

DE-FOA-000667: Wireless Charging for Electric Vehicles

The objective of this Funding Opportunity Announcement is to research and develop a production feasible wireless charging system, integrate the system into a production intent vehicle, and to demonstrate the readiness of the technology to deliver the benefits of static

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(and possibly quasi-dynamic) wireless charging to drivers of light duty (10,000 lb Gross Vehicle Weight Rating or less) Grid Connected Electric Drive Vehicles (GCEDV). While the primary focus of this project is the advancement of static and possibly quasi-dynamic charging, the Department of Energy recognizes that the research and demonstration results of this Funding Opportunity Announcement may contribute to the future development of dynamic charging capability. This project shall demonstrate wireless charging technology while being cost competitive and compliant with safety standards. The full Funding Opportunity Announcement is posted on the EERE eXCHANGE website. Applications must be submitted through the EERE eXCHANGE website to be considered for award. The applicant must first register and create an account on the EERE eXCHANGE website. Information on where to submit questions regarding the content of the announcement and where to submit questions regarding submission of applications is found in the full FOA posted on the [EERE eXchange website](#). **Due May 31.**

FY 2012 Methane Hydrate Program

Select and award projects in FY12 that focus on (1) field programs for deepwater hydrate characterization, (2) response of methane hydrate systems to changing climates, and (3) advances in the understanding of gas hydrate bearing sediments. **Due June 1.**

United Engineering Foundation Grants - 2013

The United Engineering Foundation advances the engineering arts and sciences for the welfare of humanity. It supports engineering and education by, among other means, making grants.

Concept paper due June 1.

2012 Mathematical Multifaceted Integrated Capability Centers (MMICCs)

The Office of Advanced Scientific Computing Research (ASCR) of the Office of Science (SC), U.S. Department of Energy (DOE), hereby invites applications for basic research that addresses grand challenges of increasing complexity within DOE's mission areas of energy, environment and security, from a mathematical perspective that require new integrated, iterative processes across multiple mathematical disciplines. This Funding Opportunity Announcement (FOA) will holistically address mathematics for increasingly complex DOE-relevant systems for scientific discovery, design, optimization and risk assessment. This will be achieved through Mathematical Multifaceted Integrated Capability Centers (MMICCs). The full text of the FOA is located on FedConnect. Instructions for completing the Grant Application Package are contained in the full text of the FOA which can be obtained at:

<https://www.fedconnect.net/FedConnect/?doc=DE-FOA-0000698&agency=DOE> A companion Program Announcement to DOE National Laboratories, LAB 12-698, will be posted on the SC Grants and Contracts web site at: <http://www.science.doe.gov/grants> **Due June 1.**

NOAA Cooperative Institute to expand Understanding of the Earth as it Relates to Atmospheric Processes and Trends, Climate Variability and Change, Stratospheric Ozone, Weather Prediction, Air Quality, Geodynamics, Space Weather and the Water Cycle

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The NOAA Office of Oceanic and Atmospheric Research (OAR) invites applications for the establishment of a Cooperative Institute (CI) to help meet NOAA's strategic goals in the areas of Climate Adaptation and Mitigation and Weather Ready Nation, as well as the underpinning Science & Technology and NOAA Engagement enterprise objectives. The proposed CI will collaborate with NOAA scientists to improve understanding of climate variability and change, stratospheric ozone, weather, and space weather processes and impacts; improve air quality and weather forecasts and climate prediction; develop advanced observation and modeling techniques to aid in research, forecasts and predictions; advance understanding and usefulness of current and cutting-edge information technology systems; develop and implement a paleoclimate research and modeling capability; and enhance environmental literacy to improve the public's capability for making scientifically-informed environmental decisions. The CI will be established at a research institution not only having outstanding graduate degree programs in NOAA-related sciences, but also located within a daily commuting distance to the NOAA's Earth System Research Laboratory (ESRL) facilities in Boulder, Colorado. The CI will provide significant coordination of resources among all non-governmental partners and will promote the involvement of students and post-doctoral scientists in NOAA-funded research. If the CI is comprised of multiple supporting academic institutions, only the lead institution applying for the award and where the CI will be established must satisfy the daily commuting distance requirement. **Due June 1.**

[Agriculture and Food Research Initiative - Childhood Obesity Prevention](#)

This [Challenge Area Focuses](#) on the societal challenge to end obesity among children, the number one nutrition-related problem in the US. Food is an integral part of the process that leads to obesity and USDA has a unique responsibility for the food system in the United States. This program is designed to achieve the long-term outcome of reducing the prevalence of overweight and obesity among children and adolescents 2-19 years. The Childhood Obesity Program supports Multi-function Integrated Research, Education, and/or Extension Projects and Food and Agricultural Science Enhancement (FASE) Grants. **Due June 5.**

[Biologically-derived Medicines on Demand \(Bio-MOD\)](#)

The Bio-MOD program seeks to develop devices and techniques to produce multiple protein biologics in response to specific battlefield threats and medical needs. This will be achieved by investing in (1) novel, flexible methodologies for genetic engineering/modification of microbial strains, eukaryotic strains, and/or cell-free systems to synthesize multiple protein-based therapeutics; and (2) flexible and portable device platforms for manufacturing multiple biologics with high purity, efficacy and potency at the point-of-care, in short timeframes, when the specific need arises. Consequently, Bio-MOD will provide a battlefield medical supply for military medics at the front lines of support that is responsive to far-forward emergency settings and emergent in-theater needs. **Due June 12.**

[Core Techniques and Technologies for Advancing Big Data Science & Engineering \(BIGDATA\)](#)

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The Core Techniques and Technologies for Advancing Big Data Science & Engineering (BIGDATA) solicitation aims to advance the core scientific and technological means of managing, analyzing, visualizing, and extracting useful information from large, diverse, distributed and heterogeneous data sets so as to: accelerate the progress of scientific discovery and innovation; lead to new fields of inquiry that would not otherwise be possible; encourage the development of new data analytic tools and algorithms; facilitate scalable, accessible, and sustainable data infrastructure; increase understanding of human and social processes and interactions; and promote economic growth and improved health and quality of life. The new knowledge, tools, practices, and infrastructures produced will enable breakthrough discoveries and innovation in science, engineering, medicine, commerce, education, and national security -- laying the foundations for US competitiveness for many decades to come. **Due June 13; July 11.**

[Hydropower Advancement Project- Standard Assessments to Increase Generation and Value](#)

The Department of Energy (DOE), Office of Energy Efficiency and Renewable Energy (EERE), Wind and Water Power Program, is seeking applications from hydropower professionals to participate in the Hydropower Advancement Project (HAP) standard assessments activity. The HAP standard assessments will identify opportunities to increase generation and value at existing hydropower facilities. Through this FOA, DOE will select teams to perform these standard assessments. The selected teams will perform HAP standardized assessments as described herein and per the HAP documents associated with the standard assessments. The HAP documents are available at <http://hydropower.ornl.gov/HAP/> and include the following: 1. Hydropower Technology Taxonomy (HTT) 2. Best Practices Catalog (BPC) 3. Assessment Manual The selected teams will receive financial assistance in the form of a cooperative agreement and will complete HAP standardized assessments at five (5) or more hydropower facilities. Assessment teams that are selected will be required to attend the HAP standard assessment training planned for October, 2012, and then to perform multiple HAP standard assessments as described herein and per the HAP documents. The full Funding Opportunity Announcement (FOA) is posted on the EERE eXCHANGE website at <https://eere-exchange.energy.gov> Applications must be submitted through the EERE eXCHANGE website to be considered for award. **Due June 14.**

[Institute of Education Sciences \(IES\): Research on Statistical and Research Methodology in Education CFDA Number 84.305D](#)

The official version of this document is the document published in the Federal Register ([HERE](#)). Free Internet access to the official edition of the Federal Register and the Code of Federal Regulations is available on GPO Access at: <http://www.access.gpo.gov/nara/index.html> . Please review the official application notice for pre-application and application requirements, application submission information, performance measures, priorities and program contact information. Purpose of Program: The central purpose of the Institute's research grant programs is to provide parents, educators, students, researchers, policymakers, and the general public with reliable and valid information about education practices that support learning and improve academic achievement and access to education opportunities for all students. In

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carrying out its grant programs, the Institute provides support for programs of research in areas of demonstrated national need. Catalog of Federal Domestic Assistance (CFDA) Number: 84.305D. **Due June 21.**

[Humanities Initiatives at Historically Black Colleges and Universities](#)

NEH Humanities Initiatives are intended to strengthen and enrich humanities education and scholarship at Historically Black Colleges and Universities. These grants may be used to enhance the humanities content of existing programs, develop new programs, or lay the foundation for more extensive endeavors in the future. Each project must be organized around a core topic or set of themes. **Due June 27.**

[Humanities Initiatives at Hispanic-Serving Institutions](#)

NEH Humanities Initiatives are intended to strengthen and enrich humanities education and scholarship at Hispanic-Serving Institutions. These grants may be used to enhance the humanities content of existing programs, develop new programs, or lay the foundation for more extensive endeavors in the future. Each project must be organized around a core topic or set of themes. **Due June 27.**

[Bridging Cultures through Film: International Topics](#)

The *Bridging Cultures* through Film: International Topics program supports documentary films that examine international and transnational themes in the humanities. These projects are meant to spark Americans' engagement with the broader world by exploring one or more countries and cultures outside of the United States. Proposed documentaries must be analytical and deeply grounded in humanities scholarship. The Division of Public Programs encourages the exploration of innovative nonfiction storytelling that presents multiple points of view in creative formats. The proposed film should range in length from a standard broadcast length of thirty minutes to a feature-length documentary. **Due June 27.**

[Preservation and Access Education and Training](#)

Preservation and Access Education and Training grants support national or regional (multistate) education and training programs. Grants aim to help the staff of cultural institutions, large and small, obtain the knowledge and skills needed to serve as effective stewards of humanities collections. Grants also support educational programs that prepare the next generation of conservators and preservation professionals, as well as projects that introduce the staff of cultural institutions to new information and advances in preservation and access practices. **Due June 28.**

[Humanities Collections and Reference Resources](#)

This program supports projects that provide an essential underpinning for scholarship, education, and public programming in the humanities. Thousands of libraries, archives, museums, and historical organizations across the country maintain important collections of books and manuscripts, photographs, sound recordings and moving images, archaeological and

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ethnographic artifacts, art and material culture, and digital objects. Funding from this program strengthens efforts to extend the life of such materials and make their intellectual content widely accessible, often through the use of digital technology. Awards are also made to create various reference resources that facilitate use of cultural materials, from works that provide basic information quickly to tools that synthesize and codify knowledge of a subject for in-depth investigation. **Due July 19.**

[International Research Experiences for Students \(IRES\)](#)

The International Research Experiences for Students (IRES) program supports development of globally-engaged U.S. science and engineering students capable of performing in an international research environment at the forefront of science and engineering. The IRES program supports active research participation by students enrolled as undergraduates or graduate students in any of the areas of research funded by the National Science Foundation. IRES projects involve students in meaningful ways in ongoing research programs or in research projects specifically designed for the IRES program. **Due August 21.**

[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. The research activities managed within each directorate are summarized in the BAA. 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 (RSA), Physics and Electronics (RSE), and Mathematics, Information and Life Sciences (RSL). The research activities managed within each directorate are summarized in the BAA. **Open until superseded.**

[Initiative for Conservation in the Andean Amazon Phase II](#)

The United States Agency for International Development (USAID) is seeking concept papers and later, applications, from Non-Governmental Organizations (NGOs), education institutions, partnerships and consortia to implement activities to support the Initiative for Conservation in the Andean Amazon (ICAA) with Landscape-based programs. Please note, at this time we are

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not accepting full applications or proposals. Only concept papers will be reviewed. Instructions on how to prepare a concept paper are provided within this APS. **Open to May 2, 2013.**

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. Multiple awards of grants up to \$100k are anticipated with a period of performance ranging from one to two years. Subject to the availability of funding, AFRL/RD plans to award a minimum of one grant per fiscal year. However, AFRL/RD does reserve the right to make multiple awards or no awards pursuant to this solicitation. **This BAA will remain open for a period of five years from the date of publication (April 1, 2017).** Proposals may be submitted at any time during that period. However, prospective offerors/applicants must call the technology points of contacts (POCs) listed in Paragraph C of the full text announcement to confirm funding is available for the technology area of consideration before submitting a proposal. Proposals are reviewed and evaluated as they are received. Potential offerors/applicants must call the appropriate point of contact (POC) to confirm interest in the effort to be proposed and the funding availability prior to submitting a proposal. **Proposals submitted without prior contact with the POC will not be considered for award.** DIRECTED ENERGY CORE TECHNOLOGY COMPETENCIES (CTCs):

1. Lasers: This includes solid state, fiber, semi-conductor, short pulse and advanced chemical, gas, and hybrid laser technology for scalable, high energy laser devices for insertion into airborne tactical and strategic applications and ground-based laser system concepts.

Primary POC: Dr Roy Hamil, Phone: (505) 846-0874

Alternate POC: Dr Timothy Madden, Phone: (505) 846-9076

2. Optics and Beam Control: This includes advanced optical and imaging technologies such as optical components, optical coatings, advanced beam control, atmospheric compensation, and pointing and tracking.

Primary POC: Maj Daniel Wheeler, Phone: (505) 853-3713

Alternate POC: Capt Lachlan Belcher, Phone: (505) 846-4947

3. High Power Microwaves: This includes generation and transmission of high power microwaves (HPM), identification of the susceptibility and vulnerability of electronic systems to HPM, and applications of HPM to meet national defense needs. Technologies include HPM sources, pulsed power, and high energy beam and plasma physics.

Primary POC: Mr Wes Tucker, Phone: (505) 846-4682

Alternate POC: Capt Katrina Schweiker, Phone: (505) 853-8172

4. Directed Energy Effects, Modeling and Simulation: This includes efforts to improve the fundamental understanding of HPM, lasers, beam control, and space situational awareness (SSA) through effects research and development of multi-level modeling and simulation tools,

Research Development & Grant Writing News

and application of high performance computing and advanced numerical simulations to represent directed energy and SSA capabilities.

Primary POC: Dr Nicholas Morley, Phone: (505) 846-0805

Alternate POC: Mr Richard Berdine, Phone: (505) 853-0474

Links to New & Open Funding Solicitations

- [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](#)
- [NIAID Funding Blog](#)
- [EPA 2012 Science To Achieve Results \(STAR\) Research Grants](#)
- [NASA Open Solicitations](#)
- [Defense Sciences Office Solicitations](#)
- [The Mathematics Education Trust](#)
- [Opportunities for Humanities Funding Announced](#)
- [EPA Open Funding Opportunities](#)
- [DOE Funding Opportunity Exchange](#)
- [CDMRP FY 2012 Funding Announcements](#)
- [Office of Minority Health](#)
- [Department of Justice Open Solicitations](#)
- [DOE/EERE Funding Opportunity Exchange](#)
- [HHS/Administration for Children and Families Funding Opportunities](#)
- [New Posting of Funds Available at HUD \(more\)](#)
- [New Funding Opportunities at NIEHS \(NIH\)](#)
- [National Human Genome Research Institute Funding Opportunities](#)
- [Army Research Laboratory Open Broad Agency Announcements \(BAA\)](#)
- [Institute of Education Sciences FY 2012 Opened Funding Opportunities](#)
- [SBIR Gateway to Funding](#)
- [Water Research Funding](#)
- [Fellowship and Grant Opportunities for Faculty Humanities and Social Sciences](#)
- [Humanities Funding Sources A-to-Z](#)

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- [DARPA Current Solicitations](#)
- [Office of Naval Research Currently Active BAAs](#)
- [Department of Commerce, Notice of Grants for FY 2011](#)
- [HRSA Health Professions Open Opportunities](#)
- [NIH Funding Opportunities Relevant to NIAID](#)
- [Active Funding Opportunity Announcements \(FOAs\) for All NICHD](#)
- [National Institute of Justice Current Funding Opportunities](#)
- [NIST Fiscal Year FY2011 Measurement Science and Engineering Research Grants](#)
- [Funding Opportunities by the Department of Education Discretionary Grant Programs](#)
- [Science and Technology Funding Sources A-to-Z](#)
- [EPA's Office of Air and Radiation \(OAR\) Open Solicitations](#)
- [NETL Open Solicitations](#)
- [Duke University Funding Alerts](#)
- [DoED List of Currently Open Grant Competitions](#)
- [Foundation Center RFP Weekly Funding Bulletin](#)
- [NIST Funding Opportunities](#)
- [Funding News RSS](#) ; [Deadline Watch](#) ; [International Grants and Fellowship Index](#)
- [Sign up for GrantsNet Express](#)

Solicitations Remaining Open from Prior Issues of the Newsletter

[NIJ Current Funding Opportunities](#)

NIJ is accepting applications for the following solicitations. Solicitations are presented in order of application deadline with the solicitation with the nearest deadline first. **Due dates April 20 to May 23.**

[Applications for New Awards; Fulbright-Hays Group Projects Abroad Program--Short-Term Projects and Advanced Overseas Intensive Language Training Projects](#)

A group project funded under this priority must focus on one or more of the following geographic regions of the world: Africa, East Asia, South Asia, Southeast Asia and the Pacific, the Western Hemisphere (Central and South America, Mexico, and the Caribbean), East Central Europe and Eurasia, and the Near East. **Due April 23.**

[Pan-American Advanced Studies Institutes Program \(PASI\)](#)

The Pan-American Advanced Studies Institutes (PASI) Program is a jointly supported initiative between the Department of Energy (DOE) and the National Science Foundation (NSF). Pan-American Advanced Studies Institutes are short courses ranging in length from ten to twenty-one days, involving lectures, demonstrations, research seminars, and discussions at the advanced graduate, post-doctoral, and junior faculty level. PASIs aim to disseminate advanced scientific and engineering knowledge and stimulate training and cooperation among

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researchers of the Americas in the mathematical, physical, and biological sciences, the geosciences, the computer and information sciences, and the engineering fields. **Due April 24.**

[Centers for Sustainable Molecular Design](#)

The U.S. Environmental Protection Agency, as part of its Science to Achieve Results (STAR) program, is seeking applications for an interdisciplinary center focusing on the sustainable molecular design of chemicals. The aim of the center will be to develop a set of parameters and strategies that will establish design criteria regarding the properties of chemicals that will lead to the development of intrinsically less hazardous substances when compared to those currently used in society. These newly acquired criteria and design principles will direct researchers towards the generation of novel chemicals that will minimize, and preferably eliminate, associated potential environmental and human health impacts that may occur during the life cycle of that chemical. **Due April 25.**

[NEH Fellowships](#)

Fellowships support individuals pursuing advanced research that is of value to humanities scholars, general audiences, or both. Recipients usually produce articles, monographs, books, digital materials, archaeological site reports, translations, editions, or other scholarly resources in the humanities. Projects may be at any stage of development. NEH encourages submission of Fellowships applications from faculty at Hispanic-Serving Institutions, Historically Black Colleges and Universities, and Tribal Colleges and Universities. **Due up to May 1.**

[Fellowship Program for Advanced Social Science Research on Japan](#)

The Fellowship Program for Advanced Social Science Research on Japan is a joint activity of the Japan-U.S. Friendship Commission (JUSFC) and the National Endowment for the Humanities. Awards support research on modern Japanese society and political economy, Japan's international relations, and U.S.-Japan relations. The program encourages innovative research that puts these subjects in wider regional and global contexts and is comparative and contemporary in nature. Research should contribute to scholarly knowledge or to the general public's understanding of issues of concern to Japan and the United States. Appropriate disciplines for the research include anthropology, economics, geography, history, international relations, linguistics, political science, psychology, public administration, and sociology. **Due May 1.**

[AHRQ Mentored Career Enhancement Award in Patient Centered Outcomes Research \(PCOR\) for Mid-Career and Senior Investigators \(K18\)](#)

This Funding Opportunity Announcement (FOA) issued by AHRQ, invites applications for Mentored Career Enhancement grant awards (K18) in Patient Centered Outcomes Research (PCOR). The program targets established mid-career and senior investigators who are interested in developing new skills in comparative effectiveness research methodology and applying these methods to patient-centered outcome research (PCOR). **Due May 2.**

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[Air Force Defense Research and Development Rapid Innovation Fund \(RIF\) Program](#)

The National Defense Appropriation Act (NDAA) for FY2011 provided the Department of Defense (DoD) with the authorities and funds to facilitate the rapid insertion of innovative technologies into military systems or programs meeting critical national security needs. It is primarily for the transition of technologies developed by small businesses, including those resulting from the Small Business Innovation Research (SBIR) Program and DoD-reimbursed Independent Research and Development (IR&D). **Due May 5.**

[Small Research Grant Program, American Astronomical Society](#)

The Small Research Grant (SmRG) Program is administered by the AAS Executive Office. The program is funded by a grant from NASA and is thus intended mainly to support investigators in the U.S. working on NASA-relevant projects. A small amount of additional funding may be provided by income from the AAS operating-reserve fund to support particularly meritorious proposals from outside the U.S. and/or not strictly relevant to current or future NASA missions. The amount of money available during any proposal cycle depends on the sources of support available to the Society at that time. There are two opportunities to apply each year, one in May and the other in November. **Due May 7; November 26, 2012.**

[Development of Quantum Computing Algorithms](#)

This BAA seeks research that develops new quantum computing algorithms for hard computational problems, develops insight into the power of quantum computation, and considers issues of quantum complexity and computability. **Due May 8.**

[Special Program Announcement for 2012 Office of Naval Research Basic Research Challenge: Decentralized Online Optimization](#)

Objective and Areas of Interest: The objective of this topic is to develop scientific principles and algorithms for solving decentralized, online optimization problems. To achieve this, first, solid mathematical frameworks need to be proposed and put into place so that various algorithmic strategies can be developed, analyzed, and compared. Second, canonical models need to be defined. These models should capture the fundamental difficulties associated with decentralized, online optimization. The aim in defining a few, simple canonical models is not to include all possible real-world complexities, but rather create a set of models whose rigorous treatment will drive design and analysis principles. Third, promising algorithmic strategies need to be identified and developed ([Link to ONR BAA's](#)). **Due May 15.**

[Science, Technology, Engineering & Mathematics \(STEM\)](#)

The U.S. Army Engineer Research and Development Center (ERDC) seeks proposals under authority of the National Defense Education Act (1959) and under the Pre-Engineering Program (PEP) to stimulate young pupils in the sciences, technology, engineering and mathematics (STEM). **Due May 15.**

[Bridging Research Interactions through Collaborative Development Grants in Energy \(BRIDGE\)](#)

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Bridging Research Interactions through Collaborative Development Grants in Energy (BRIDGE) is a new program that intends to support the SunShot Initiative by increasing the depth and breadth of expertise being applied to PV and CSP technology challenges. The BRIDGE program will employ a two-part linking approach to effectively develop U.S. capability in PV and CSP device and system design. First, BRIDGE will support the development of new Collaborative Research Teams (CRTs) of researchers who share coherent scientific goals and diverse but complementary theoretical, computational and/or experimental approaches. In addition, BRIDGE will encourage CRTs to explore opportunities to leverage existing DOE assets and expertise housed within the DOE Basic Energy Sciences (BES) Scientific User Facilities, the DOE Biological and Environmental Sciences (BER) Environmental Molecular Sciences Laboratory (EMSL) and Advanced Scientific Computing Research facilities (ASCR). **For more information, see the [full solicitation](#). Due May 21.**

[Building Community and Capacity for Data-Intensive Research in the Social, Behavioral, and Economic Sciences and in Education and Human Resources](#)

As part of NSF's Cyberinfrastructure Framework for 21st Century Science and Engineering ([CIF21](#)) activity, the Directorate for Social, Behavioral, and Economic Sciences (SBE), the Directorate for Education and Human Resources (EHR), and the Office of Cyberinfrastructure seek to enable research communities to develop visions, teams, and capabilities dedicated to creating new, large-scale, next-generation data resources and relevant analytic techniques to advance fundamental research for the SBE and EHR sciences. Successful proposals will outline activities that will have significant impacts across multiple fields by enabling new types of data-intensive research. Investigators should think broadly and create a vision that extends intellectually across multiple disciplines and that includes--but is not limited to--the SBE or EHR sciences. **Due May 22.**

[Climate Change and Health: Assessing and Modeling Population Vulnerability to Climate Change \(R21\)](#)

This FOA encourages research applications to examine the differential risk factors of populations that lead to or are associated with increased vulnerability to exposures, diseases and other adverse health outcomes related to climate change. Applications may involve either applied research studies that address specific hypotheses about risk factors or population characteristics associated with increased vulnerability, or research projects to develop general models or methods for identifying and characterizing population vulnerability to climate change. The ultimate goal of this research program is to help inform climate change adaptation and public health interventions to reduce current and future vulnerability of various populations to the health effects of climate change. Applications are anticipated to involve a multidisciplinary research team, **including experts in health sciences and climatology as well as geography, modeling, statistics, demography, and social and behavioral sciences as appropriate.** In addition, partnerships with community-based or advocacy organizations, public health officials, urban planners and others are encouraged. **Due May 24.**

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[U.S. Offshore Wind: Advanced Technology Demonstration Projects](#)

The U.S. Department of Energy seeks to provide support for regionally-diverse Advanced Technology Demonstration Projects through collaborative partnerships. By providing funding, technical assistance, and government coordination to accelerate deployment of these demonstration projects, DOE can help eliminate uncertainties, mitigate risks, and help create a robust U.S. Offshore Wind Energy Industry. The primary goals of the Advanced Technology Demonstration Projects are to: 1. Install innovative offshore wind systems in U.S. waters in the most rapid and responsible manner possible, and 2. Expedite the development and deployment of innovative offshore wind energy systems with a credible potential for lowering the levelized cost of energy (LCOE) below 10 cents / kWh or the local hurdle price at which offshore wind can compete with other regional generation sources without subsidies. The full Funding Opportunity Announcement (FOA) is posted on the EERE eXCHANGE website at <https://eere-exchange.energy.gov> . Applications must be submitted through the EERE eXCHANGE website to be considered for award. The applicant must first register and create an account on the EERE eXCHANGE website. A User Guide for the EERE eXCHANGE: <http://eere.energy.gov/financing/exchangeExchange/Manuals.aspx> after logging in to the system. **Due May 31.**

[NSF GeoPrisms Program](#)

GeoPRISMS (Geodynamic Processes at Rifting and Subducting Margins) is the successor to the MARGINS Program. GeoPRISMS will investigate the coupled geodynamics, earth surface processes, and climate interactions that build and modify continental margins over a wide range of timescales. These interactions cross the shoreline and have applications to margin evolution and dynamics, construction of stratigraphic architecture, accumulation of economic resources, and associated geologic hazards and environmental management. The GeoPRISMS Program includes two broadly integrated science initiatives (*Subduction Cycles and Deformation* and *Rift Initiation and Evolution*), linked by five overarching scientific topics and themes, where transformative advances are likely to occur in the next decade, and where a focused scientific program could be most effective. **Due July 2.**

[Opportunities for Promoting Understanding through Synthesis \(OPUS\)](#)

All four clusters within the Division of Environmental Biology (Population and Community Ecology, Ecosystem Science, Evolutionary Processes and Systematic Biology and Biodiversity Inventories) encourage the submission of ***proposals aimed at synthesizing a body of related research projects conducted by a single individual or a group of investigators over an extended period.*** **Due August 1.**

[DARPA-BAA-11-65: Defense Sciences Research and Technology, Response Date 8/09/2012](#)

The mission of the Defense Advanced Research Projects Agency's ([DARPA](#)) Defense Sciences Office (DSO) is to pursue and exploit fundamental science and innovation for National Defense. Therefore, DSO is soliciting proposal abstracts and full proposals for advanced research and development in a variety of enabling technical areas ([more](#)). **Due August 9.**

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[Fiscal Year 2012 Funding Opportunity Announcement \(FOA\) for Navy and Marine Corps Science, Technology, Engineering and Mathematics \(STEM\) Programs 12-002](#)

The purpose of this announcement is to receive proposals in support of the Naval Strategic Plan and the Office of Naval Research's scientific outreach and education mission to develop its next generation of scientists and engineers. **The objective of these activities will be to:** 1. Establish successful, sustainable, and affordable long-term, national Navy-sponsored programs targeted at elementary and secondary schools as well as institutions of higher learning. 2. Increase the awareness of and exposure to Naval relevant STEM content, research experience and career options through education and outreach programs. 3. Establish and maintain a pipeline of students, particularly women and under-represented minorities, who will apply for and participate in Naval education and outreach programs. 4. Increase the number of domestic students (particularly students from under-represented groups) completing STEM degrees through enhancing student interest and attitudes toward science, technology, engineering, and mathematics. 5. Strengthen peer, family, and school support for STEM programs. 6. Ensure long-term inclusiveness of women and minorities in Naval science and technology programs. 7. Increase the number of students taking college-prep science and mathematics courses. 8. Strengthen the resources and training offered to STEM teachers. For more information on these priorities, please review the Naval STEM Strategic Plan at www.onr.navy.mil . ([MORE](#)). **Open to September 30, 2012**

[Fiscal Year 2012 Basic Research Initiative \(BRI\)](#)

The Air Force Office of Scientific Research (AFOSR) manages the basic research investment for the U.S. Air Force (USAF). As a part of the Air Force Research Laboratory (AFRL), AFOSR's technical experts foster and fund research within the Air Force Research Laboratory, universities, and industry laboratories to ensure the transition of research results to support USAF needs. AFOSR announces a competition for the Fiscal Year 2012 Basic Research Initiative (BRI) program, for the topics listed below. Detailed descriptions of the topics may be found in Section I of this announcement. It is expected that multiple awards will be made. **The Air Force Defense Research Sciences Program is open to November 23, 2012.**

[FY 12 Funding Opportunity For The National Consortium For Measurement And Signature Intelligence \(MASINT\) Research Program](#)

FY12 Program: Offerors are invited to present related work, on-going research activities and proposed future activities associated with the following areas: (A) Remote assessment of missile performance characteristics such as location, thrust, throw weight, warhead accuracy, defensive capabilities, etc. (B) Remote assessment and detection of weapons of mass destruction such as nuclear, biological, chemical and radiological weapons. This thrust area does not include improvised explosive devices utilizing standard explosives such as dynamite, TNT, C4, ANFO, etc. (C) Remote assessment and detection of directed energy weapons. This would include all lasers that are primarily designed as weapons as well as high-powered microwave (HPM) and electromagnetic pulse (EMP) weapons. **Open to Dec. 31, 2012.**

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DARPA Strategic Technologies

The Defense Advanced Research Projects Agency's (DARPA) Strategic Technology Office (STO) is soliciting innovative proposals under this Broad Agency Announcement (BAA) for the performance of research, development, design, and testing that directly supports Strategic Technology Office (STO). This includes Finding Difficult Targets; Communications, Networks and Electronic Warfare; Shaping the Environment; and Foundational Technologies that support multiple STO focus areas. DARPA-BAA-12-09, entitled Strategic Technologies, is provided as an attachment to this presolicitation notice and includes information on the specific areas of interest, the submission process, proposal formats, as well as all other pertinent administrative information. [DARPA-BAA-12-09 at FedBizOpps](#) **Open through January 16, 2013.**

DARPA Strategic Technologies

The Defense Advanced Research Projects Agency's (DARPA) Strategic Technology Office (STO) is soliciting innovative proposals under this Broad Agency Announcement (BAA) for the performance of research, development, design, and testing that directly supports Strategic Technology Office (STO). This includes Finding Difficult Targets; Communications, Networks and Electronic Warfare; Shaping the Environment; and Foundational Technologies that support multiple STO focus areas. DARPA-BAA-12-09, entitled Strategic Technologies, is provided as an attachment to this presolicitation notice and includes information on the specific areas of interest, the submission process, proposal formats, as well as all other pertinent administrative information. **Open to January 12, 2013.**

Mexican Partnership Program

The United States Agency for International Development (USAID) Mission in Mexico is seeking concept papers and, later, applications from Mexican for-profit and non-for-profit organizations to implement activities to support the Mexican Partnership Program related to global climate change, economic competitiveness, youth, human rights and rule of law. Eligible organizations include, but are not limited to, non-government organizations (NGOs), associations, cooperatives, universities, civil society organizations, foundations, and private companies. **Open to January 29, 2013.**

APS for Food Security, Nutrition, Biodiversity and Conservation

The U.S. Agency for International Development (USAID) continues its commitment to foster more strategic alliances with the private sector's "solution holders" who are often well positioned to address specific development challenges. The purpose of this APS is to announce USAID/Uganda's plans to fund a limited number of Public Private Alliances to enhance food security and address issues of biodiversity and conservation. Competition under this APS will consist of a two-step process where applicants first submit a Concept Paper for an initial competitive review. ***All Concept Papers received will be evaluated for responsiveness to the application criteria specified in this APS.*** USAID will then request applicants successful in the first stage (i.e. selected Concept Papers) to submit a Full Application. This APS seeks PPAs in two key priority areas: (1) food security and nutrition; and (2) biodiversity and conservation. In

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regards to food security and nutrition, USAID/Uganda is seeking priority partnerships that include promising methods for substantially advancing coffee, maize, beans, agro-inputs, nutritional food products, financial services, and information and communication technologies (ICT) solutions. Biodiversity priorities include innovative methods for promoting ecotourism as well as averting ecological and trans-boundary threats. **Open to September 15, 2013.**

National Oceanic and Atmospheric Administration (NOAA)

The purpose of this notice is to request applications for special projects and programs associated with NOAA's strategic plan and mission goals, as well as to provide the general public with information and guidelines on how NOAA will select proposals and administer discretionary Federal assistance under this Broad Agency Announcement (BAA). This BAA is a mechanism to encourage research, education and outreach, innovative projects, or sponsorships that are not addressed through our competitive discretionary programs. It is not a mechanism for awarding congressionally directed funds or existing funded awards. Funding for potential projects in this notice is contingent upon the availability of Fiscal Year 2012, Fiscal Year 2013 and Fiscal Year 2014 appropriations. Applicants are hereby given notice that funds have not yet been appropriated for any potential activities in this notice. Publication of this announcement does not oblige NOAA to review an application, or to award any specific project, or to obligate any available funds. **Open until September 30, 2013.**

National Geospatial-Intelligence Agency Academic Research Program

The National Geospatial-Intelligence Agency (NGA) is releasing this solicitation for its *sponsored academic research program*. This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Department of Defense (DoD) Grant and Agreement Regulations (DoDGARs) 22.315(a). Awards will take the form of grants. However, other instruments may be considered as appropriate based on the proposals. **Open to September 30, 2013.**

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.**

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.

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[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.**

[Small University Grants Open 5-Year Broad Agency Announcement](#)

Open to August 26, 2015

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

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- 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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