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New Faculty Guide to Competing for Research Funding

provides an invaluable tool to faculty writing research grants, or for use by research offices developing grantwriting workshops to help faculty write more competitive proposals.

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Much has been written and presented on the topics of team science and the science of team science, e.g., NIH Collaboration and Team Science: A Field Guide, NIAID Opportunities and Guidelines to Facilitate Scientific Collaborations, NSF Profiles in Team Science, The Science of Team Science: Origins and Themes, and Burroughs Welcome Fund Thriving In An Era Of Team Science, among hundreds of other contributions to the literature of this field. This commentary typically converges on common denominators and generic best practices relevant to these two topics. However, the toughest nut left uncracked is the very practical one of how does successful team science impact, or translate into, the writing of a successful proposal?

Successful in this context means a funded proposal, or at least a highly competitive proposal hugging the funding line sufficiently closely to warrant confidence in a successful resubmittal. Defining the key characteristics of the successful research team--shared vision, compelling ideas, leadership, trust, communication, interpersonal dynamics, etc.--obliquely addresses issues that will be critical if the research team is to develop and write a successful proposal. However, success will depend upon a very specific and detailed understanding of how the research narrative of a team science proposal differs from the research narrative of the individual PI proposal or a proposal that aligns but does not need to integrate a few PIs.

Keep in mind, too, that many members of a research team come to it by way of funding success as an individual PI or as a member of a funded proposal with a few PIs, but likely not with experience at the scale and scope of a large interdisciplinary or transdisciplinary proposal. By their very nature, these proposals involve high award dollars; complex, interrelated research topics; and a challenging research development and grant writing process. Regardless, the best advice to beginning the team science proposal was given to Dorothy in the Wizard of Oz: “Follow the Yellow Brick Road.”

The Yellow Brick Road of grant writing is not a path from Munchkin Country to the Emerald City of the Wizard of Oz films but rather a path leading from silos to synergy, the latter being the Emerald City of the successful proposal. Moreover, the path from silos to synergy is likely the most challenging road traveled by the author of a funded proposal. As a core goal of the successful project description, narrative synergy is central to a successful proposal, particularly as solicitations address research objectives that require multi- or transdisciplinary teams aligned in often novel configurations.

Moreover, the degree to which a proposal narrative is siloed often is a function of how wide an interdisciplinary net needs to be cast in order to be competitive for a specific solicitation. For example, some research requires only an individual principal investigator working in a very narrowly defined topic area to be competitive, while other research solicitations may require aligned but not integrated research activities by a few principal investigators, whereas other proposals of a transdisciplinary nature require a deep synthesis of the research contributions of team members.

The ideal foundation of narrative synergy is an integrated research team characterized by a substantive understanding among team members of the role each member’s research
plays in the overall effort. However, something less than that ideal is the more common occurrence in developing and writing research narratives whose success depends heavily upon the skillful description of the value-added benefits resulting from disciplinary synergy. Unfortunately, most proposal drafts begin with multiple silos contributed by multiple authors, and from that starting point the somewhat arduous path from silos to synergy begins.

Synergy begins with a connectedness deepened by integration. Some synergy is brought to the proposal development process by the selection of the research team itself in order to fully respond to the solicitation; however, this initial synergy significantly deepens and broadens from the interaction of the team members in planning and writing the research project description, particularly as the scale, scope, and synthesis of the project vision, goals, and objectives become more fully defined, illuminated, and honed with each draft iteration.

The process of writing multiple draft iterations of the research narrative amounts to a discovery process in itself. It advances and deepens the understanding of each research team member about how to best optimize the configuration of research capacities and expertise across disciplines in a way that convincingly demonstrates the value-added benefits of the proposed project to the funding agency. The path from silos to synergy is essentially the same path from an unfunded to a funded proposal, or from failure to success in grant writing.

In its most extreme manifestation, the siloed proposal is easily diagnosed. It essentially reads like a collection of journal articles written by independent authors with no connection to each other beyond the most generic of similar threads around a general topic. In some severe cases, the siloed proposal reads like disconnected journal articles published in different disciplinary journals. Siloed narratives are the geopolitical equivalent of Balkanization, whereby narrative sections inhabit the same proposal neighborhood but with sufficient privacy fencing to ensure that the narrative sections are essentially estranged rather than interdependent.

Assessing the extent to which a narrative draft is siloed is a key step in moving a proposal along the pathway from uncompetitive or unsuccessful to competitive and successful. Look for several of the tell-tale signs of the siloed proposal, some of which will likely exist in the initial draft and will need to be addressed in each subsequent draft to converge on an integrated research narrative. These signs include:

- The lack of a clearly stated vision statement that defines the goals and objectives of the proposed project and serves as the central reference point, or anchor, for each narrative component of the project description. Essentially, synergy requires a conceptual foundation that serves as the center of gravity and illuminates the relational framework for the key research topics. These topics need to be defined as individual research areas and then melded by explaining their key disciplinary intersections, or research integrators, that, in turn, give rise to synergy.
  - Heuristically, this process is somewhat like the use of the Armillary sphere that originated with the ancient Greek astronomers, or the celestial globes used by the Chinese, to help visualize the relational motion of the planets and relational path of the stars, later formalized mathematically by Kepler’s planetary laws. While an integrated proposal does not meet this grand scale, it is key to understand synergy as the relational framework among component parts rather than just a discrete explanation of each part. It is the difference
between having all the parts needed to build a mechanical clock and the insight into how all the parts fit and work together, the former representing a proposal that is not integrated and the latter a proposal that is integrated and achieves synergy, or in the case of the clock, accurately tells time.

- Lack of a clear and logical narrative path that binds the research goals and objectives and the underpinning hypotheses together in a way that synthesizes the research elements and clarifies how they contribute to integration.
- The absence of a clearly described interdependency of various sections of the proposal, either among the research strands or between the research section and other required sections of the proposal.
- The lack of narrative synthesis across sections, for example, explaining how one research strand enables another, or demonstrating how the research topics are dependent rather than independent activities.
- The absence of a logically ordered research plan, linked to a milestone chart, that describes the order of the research and clarifies the key points of intersection of the research components that in turn give rise to an integrated narrative.
- A draft of the proposal that contains “spare narrative parts” or sections of the research narrative that do not appear necessary for the success of the project or contribute to a better understanding of the integrative aspects of the proposed research.
- The lack of integrative visuals that serve as complementary graphical integrators to the narrative.
- The lack of clarity and the introduction of ambiguity in the research narrative, particularly assuming that what is clear to the authors will be clear to the readers.

The key takeaway, however, is that proposals that can be classified generally as “team science proposals” require a very clear and nuanced understanding of how they differ and to what extent they differ in the development and writing of the research narrative than more traditional grants to ensure the path from silos to synergy is successfully navigated and you arrive at your funding destination successfully--the grant writing equivalent of arriving at the Emerald City.
In today’s funding climate, many researchers will be transitioning from writing grants with a single or small number of investigators addressing narrowly defined disciplinary topics to writing larger, interdisciplinary or center-level grants under the umbrella of team science. As these new collaborations form, team members may discover that while some of them have gained funding experience at the agency to which the current effort will be submitted, others have not. This is a natural outgrowth of a research climate in which solicitations increasingly address more challenging research questions of importance to a funding agency. For example, the National Academy of Engineering’s 14 grand challenges for engineering in the twenty-first century and similar documents have prompted solicitations from various agencies addressing these complex research topics. Many research agencies identify their own research grand challenges and advance them through targeted solicitations, such as DOE’s Office of Science five grand challenges related to matter and energy. These grants typically feature a scale and scope, as well as funding levels and funding periods larger and more expansive than those with narrower disciplinary bounds.

In this time of transition from more to less bounded disciplinary exploration, the entire research team stands to benefit from a discussion of the nature of each member’s experience with the funding agency’s mission and culture. A close understanding of that mission and culture should underlie team members’ decision of how best to define and describe the project’s vision, goals, and objectives in the research narrative. While the PI and some other research team members may have varying degrees of funding success at the specific agency, it is not uncommon that other members of the team have little or none. This uneven spread of experience among team members can be anticipated as a natural outgrowth of solicitations more frequently requiring a transdisciplinary team configuration.

With this in mind, the team might consider beginning its work with an explanation of the agency’s mission and culture presented by those team members who have gained the most experience with that agency. This presentation will convey the most benefit if it occurs before team members have begun drafting their respective sections of the research narrative. In preparing this overview of the agency’s mission and culture, the presenters will want to stress the important ways in which the mission and culture of the agency in question differs from the mission and culture of other research agencies where some members of the research team have achieved most of their funding success.

Taking this step will give the team a strong advantage when you consider that a competitive proposal undergoes several key development stages, each of which depends upon each team member’s complete understanding of the solicitation in the context of the funding agency’s mission and culture. This understanding begins with a reading of the solicitation through the lens of the agency’s unique purpose. Insufficient understanding of the agency’s
particular mission and culture can lead to an insufficient understanding of the solicitation itself, a common Achilles Heel of unsuccessful proposals. Further, in cases where several members of a research team lack knowledge of the agency’s mission and culture, development discussions frequently veer off track or fail to adequately target key aspects of the solicitation, or they fundamentally misinterpret the solicitation. This can make development discussions difficult and time consuming.

For example, suppose a research team has been configured to address some grand challenge area, perhaps sustainability, in an NSF solicitation. Perhaps the PI is well funded at NSF, and maybe a few other members of the team are as well, but several other members of the team have no experience with NSF but extensive experience in the topic at such mission agencies as DOE, USDA, and DOD. Perhaps the team also includes one or more members from such disciplines as the social and behavioral sciences, public policy, economics, or communications, among others.

Before beginning discussion of the scale, scope, and proportional contribution each discipline will make to the overall effort, and before discussing how those disciplines must be integrated to achieve a synergistic vision, the leaders must begin by defining a common language for the entire research team. The founding of a common language responsive to a specific solicitation will emerge from all team members’ understanding of the mission, culture, and language of a specific funding agency. Without this common language based upon a common understanding, some members may misjudge and consequently poorly express their contribution to the line of research being proposed. In such cases, team members are likely to revert to language appropriate not to the current agency but to agencies with which those members have had previous experience. Setting out a common understanding and common language for that understanding as a first step in the team’s collaboration may head off a member’s tendency to draw upon familiar but currently inappropriate terms and concepts in drafting their contribution to the emerging narrative.

Given the amount of time that will be required to develop the research ideas and to write the proposal, it is important to minimize the unproductive time spent during that process by ensuring that all team members begin the collaboration with a thorough understanding of the sponsoring agency’s mission and culture expressed in a shared language. The key points to include in presenting that mission and culture include such factors as noting the type of research funded by the agency (e.g., basic or applied), characteristics of the agency’s merit review process, partnership configurations and characteristics that have proven to be most competitive at the agency, and the scope and scale of interdisciplinarity at the agency, among others. The key point is to understand these issues in the context of the particular agency that will fund the proposed project and not as an artifact of a team member’s experience of these factors viewed through the lens of prior success at a different agency with a different mission and culture.

It is helpful at the start of developing and writing large team science and/or interdisciplinary proposals to spend time differentiating the mission and culture of the sponsoring agency from those agencies at which various members have experienced success. Arriving at a common understanding and language for describing the mission, culture, and
investment priorities of any funding agency, as well as research program areas within an agency, positions a team to achieving competitiveness at that agency.

The success of a large inter- or transdisciplinary proposal can be undermined when team members assume that their success at one agency can be applied directly to another agency with a distinct mission and culture. Obviously, the preponderance of the research experiences gained by some team members at one agency on a topic such as sustainability will likely transfer in large part to another agency, say from DOE or USDA to NSF. But some smaller portion will not transfer, and since proposals are successful that approach perfection, it is important not to confuse agency expectations by ensuring that every team member shares an understanding of and a language for appealing to the particular agency sponsoring the proposal under development. In this way, the team can enhance the competitiveness of a proposal by fitting the research narrative closely to the mission, culture, and solicitation requirements of the sponsoring agency.
Saturated Superlatives Clog the Arteries of Proposals

By Mike Cronan, co-publisher

There is sufficient anecdotal evidence from reviewers that saturated superlatives in the research narrative, like saturated fats in the arteries, pose a risk factor for your proposal, especially when they are used in an obviously transparent attempt to amplify and intensify and thereby disguise the mundane. As non-grammarians, we can think of superlatives as adjectives on steroids. While a robust cascade of superlatives about his boxing prowess was often used by boxing great Muhammad Ali to unnerve his opponents, it is language best left to theatricals, Valley Girls, and big wave surfers, but not the project narrative.

Of course, amplified adjectives and superlatives appear not only in proposals that would benefit from a good editor but are seeing their way into solicitations. Even program officers seem motivated to use and invent ever more grand and creative language to describe the scope, scale, and complexity of new research directions. It is as if a linguistic arms race has begun to find adjectives and superlatives of ever increasing megatonnage to sufficiently describe the research sublime. A nonproliferation treaty on the excessive and injudicious use of superlatives in both the research narrative and in some research solicitations seems warranted.

For example, back in the 1990s, solicitations commonly referred to cross disciplinary and multidisciplinary research. Subsequently, when solicitations commonly began using the term interdisciplinary, the National Academies in 2004 felt compelled to define the term: “Interdisciplinary research is a mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice.” [Committee on Facilitating Interdisciplinary Research, Committee on Science, Engineering, and Public Policy (2004). Facilitating interdisciplinary research. National Academies. Washington: National Academy Press, p. 2.]

More recently, transdisciplinary research and transformative research have become common terms in many research solicitations. For example, in a 2007 report, "Enhancing Support of Transformative Research at the National Science Foundation," the National Science Board presented its findings and recommendations for NSF to enhance its ability to identify and fund transformative research. Based on this report, NSF adopted the following working definition: “Transformative research involves ideas, discoveries, or tools that radically change our understanding of an important existing scientific or engineering concept or educational practice or leads to the creation of a new paradigm or field of science, engineering, or education. Such research challenges current understanding or provides pathways to new frontiers.”

So when researchers respond to research solicitations sprinkled with such terms as “transcendent research paradigms” and “holistic synergy”, among many other allusive and elusive terms, it is not surprising that some attempt is made to describe their research in a way
that reflects the language of the funding agency. This is a reasonable tactic, after all, although to many it may seem like being caught up the linguistic equivalent of monetary inflation. A little bit is good, but too much devalues the currency. This is the case with the use of amplified adjectives and superlatives in the research narrative. A few are permissible when used judiciously, but the author must guard against inflationary linguistics and the sprinkling of adjectives and superlatives on the research narrative like sprinkles on a cupcake.

Clarity and the lack of ambiguity are two of the most important characteristics of the successful proposal. Clarity is grounded on simplicity, detail, and specificity. Superlatives, on the other hand, are inherently ambiguous, substituting an amplified emotional appeal for specificity and detail. Therefore, it may well be that your research is transformative, but a cascade of superlatives characterizing your research should originate from the reviewers rather than from you.
If you think of your available time and resources as investment capital and the writing of a proposal as an expenditure of time and resources, then faculty and those assisting them, will want to pursue an efficient proposal development process. Too often, faculty fail to anticipate in a detailed and realistic way the time and resources needed to develop and write a competitive proposal. Finding the time and resources needed to produce a competitive proposal represents a significant time management problem not only for faculty already committed to teaching, research, and service but also for the research offices that may assist them in this process.

Of course, “competitive” is the operative word here, as any time and resources invested in a noncompetitive proposal have been squandered. Therefore, developing an accurate and realistic assessment of the time and resource expenditures required to develop and write a competitive proposal is a critical step in deciding whether or not to pursue a solicitation. In this context, a competitive proposal is one that is reviewed positively enough to produce either a recommendation for funding or a recommendation sufficiently close to the funding boundary to encourage a resubmission.

How should faculty incorporate time for proposal development and grant writing into their other academic obligations? To make a reasonable estimate of the requirements for developing a competitive proposal, the faculty member must learn how to develop an accurate sense of the time required to write a competitive grant. If that time is not available, then any time committed to a likely noncompetitive grant is wasted. Submitting a proposal is easy, but submitting a competitive proposal that will rank in the top ten or fifteen percentile of all reviewed grants is difficult. So the decision to submit or not submit must be based on a realistic assessment of the time and effort available to complete the task at a high level of effort.

You can arrive at a reasonable estimate of a proposal’s time requirements by determining how long it will take to write one page of a competitive proposal based on a review of the solicitation. This procedure will help whether you are writing every page of a 15-page proposal or writing a 5-page contribution to a 25-page proposal. If you use this method and adapt it to your personal performance metrics, you will converge over time on a fairly accurate estimation of how much time you will need to write or participate in the writing of a competitive proposal.

Of course, determining the unit of time required to produce one submission-ready page of a competitive proposal will be a ball park estimate, but it should be possible to answer with more certainty than the question that perplexed medieval theologians wondering how many angels could dance on the head of a pin. If you are the PI and principal author of a proposal, it may be prudent to plan to spend eight hours to produce one page of research narrative.

This may seem inflated, but the unit of time you assign to producing each page of the research narrative will be filled by answering many questions unanticipated when estimating your proposal production time. Keyboard skills are not relevant to this calculation, but many
other factors are, including the time you spend before even putting a word to the first page of the project description. For example, you must be prepared to:

- analyze the solicitation and any referenced documents,
- discuss the solicitation with possible research partners,
- make the decision to submit or not to submit,
- configure any research collaborations,
- hold research development meetings,
- identify your research vision, goals, and objectives and map them to the solicitation,
- work with research and sponsored project offices,
- plan, organize, and develop the proposal production schedule, and
- outline the proposal as a template that fully responds to all of the solicitation’s questions, objectives, and review criteria.

Simply answering these common questions laying the groundwork for writing the research narrative may require an investment of two hours per page, thereby leaving perhaps six hours per page for the remaining tasks required to finalize a competitive proposal. This remaining six hours of time per page will likely be consumed by completing such remaining key tasks as, for example,

- using the proposal template to draft responses to all the solicitation requirements,
- writing the initial complete first draft of the project narrative from this template,
- sending the draft out for review and edits and rewrites,
- writing a second complete draft of the project narrative based on review comments,
- sending the second draft out for review, edits, and rewrites,
- writing a near final draft of the proposal and continuing to fine tune iterations until due,
- writing the project summary,
- writing and compiling components required in supplemental documents, e.g., letters of commitment, data management plan, postdoc mentoring plan, biographical sketches, current and pending support, required support data, etc.,
- compiling references,
- completing the budget, and
- writing the budget justification.

Using the above examples, you can see many of the hidden costs that must be identified and accounted for before accurately determining the time it actually takes to produce one page of a research narrative. However, with experience, you will converge on your own personal metric of the time commitment you must make to either lead or participate on a proposal. For example, if you are serving as the PI of the proposal and the sole or principal author, you may have to increase your time unit cost per page of final narrative. Additionally, your allocation of this time commitment must account for other academic obligations as well, and must be scheduled over sufficient time to ensure that the proposal development activities do not distort your other obligations.
However, it is also important to realize that if you are a coPI on a proposal and responsible for a narrative contribution of several pages addressing the role your research will play in the project, you may need to increase your assessment of the time required to bring competitive value-added benefits to the proposal. In this situation, an off-the-shelf-contribution of something you have written in the past, perhaps as part of another proposal, to explain your research topic will likely not represent a value-added benefit to the success of the proposed effort. In this situation, the hidden time costs of your participation as a team member bringing added value to the proposal may include:

- reading and understanding the solicitation and referenced documents,
- attending proposal development meetings,
- working with other coPIs to fully understand the role of their research in the project,
- understanding how your research complements and contributes to the proposed research,
- understanding how the research of other coPIs complements your research,
- drafting narrative text contributions written specifically for the current effort,
- making other contributions to the project as required for competitiveness, and
- providing high quality narrative and other contributions to the project on schedule.

As General Colin Powell once observed: “Everyone has a plan until they are shot at.” While no one is actually shot at during the writing of a research proposal, it may nonetheless feel as if you are being targeted during the process. Everyone will likely use different personal metrics to describe the actual unit cost of time per page of final text. To ensure that you have accurately assessed your own metric, identify the hidden time costs associated with developing and writing a successful proposal and avoid the temptation to underestimate the time required. To stop production on a proposal or to submit a proposal that clearly cannot compete represents opportunity and time lost.

Determining your time cost per page for developing and writing a competitive proposal is one helpful strategy for optimizing your proposal planning and development capacities.
Why Formatting Matters, Part 2: Graphics

It may seem that formatting of your proposal is a superficial concern, but it’s important to understand the effect formatting can have on your reader.

Last month, we discussed the importance of formatting text. This month, we’ll discuss the use of graphics. You have probably heard the advice that including graphics in proposals is a good idea. Graphics help break up the text and provide visual appeal. More importantly, they can provide an overview of complex information at a glance. This is particularly important in complex proposals, where a reviewer might easily become confused. Below are some tips on how to maximize the effectiveness of the graphics in your proposals.

When to Use Graphics

While graphics can be very useful, they also take up space, which is at a premium in most proposals. The rule of thumb for using a graphic should be that it communicates ideas or concepts better or more concisely than they could be communicated in text. A particularly appropriate use for graphics is to communicate concepts, plans, or ideas that are inherently non-linear, for example, how several parallel research thrusts are interrelated, or the multiple inputs and outcomes of a project plan. Since text is inherently linear—you read one sentence after another—it can be difficult to communicate these kinds of complex, non-linear concepts using text. Often, a graphic can communicate in one glance what might take paragraphs to communicate in text. It can also provide an overview before you delve into details, making it easier for your reader to follow your discussion. Figure 1 provides an example of a flow chart for a research plan that involves four tasks; two of them will be conducted in parallel, the results of which will feed into the fourth task. A figure like this gives the reader the big picture before you describe each task in detail.

Graphics are also very useful in presenting research results, for example, preliminary data that establishes that your approach is likely to be successful, that poses questions that you will answer in the proposed project, or that demonstrates that you have experience with a particular methodology. These research results might be presented in graphs, charts, micrographs, or illustrations and provide the reader not only with details, but also provide evidence that you have done the work that is more concrete than a mere description in the text would provide. For example, you can state in the text that you were able to synthesize carbon nanotubes with 1 nm diameter, coated with a uniform gold layer, and the reviewer is unlikely to consciously doubt you, particularly if you’ve published the results. But including a micrograph of those nanotubes clearly showing that the diameters are 1 nm and the gold
layer is uniform will be much more compelling to the reviewer at a subliminal level because the evidence is right there in front of the reader’s eyes.

Similarly, because when a reader first looks at a page, her eyes are naturally drawn to the graphics on the page, graphics can be used to emphasize important points. They can also be used to provide a concise summary of points that you want the reviewer to understand. For example, if you’re planning a complex, institutional transformation or educational project with numerous activities aimed at accomplishing several different objectives which support your overall goal, you might include a table listing the activities and the objectives that they will help meet (Table 1). The point of this table is to provide an easy-to-find summary of all the activities and show how they relate to the objectives of the project. This information will be repeated in the text in much more detail, but it can be difficult for a reader to see how all of the activities described over 10 pages fit together. The graphic can serve to tie together what initially might seem to be a collection of disjointed activities.

Table 1. Planned Project Activities and Objectives Addressed

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<thead>
<tr>
<th>Project XYZ Activities</th>
<th>Project Objectives</th>
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<tbody>
<tr>
<td></td>
<td>Objective 1: Recruit more minority students into STEM undergrad majors</td>
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<td>High school summer STEM camp</td>
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<td>One-on-one mentoring</td>
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<td>Study skills enhancing cohorts</td>
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Schedule and milestone charts provide another example of how this approach can help bring together information for reviewers (Table 2). Even though you have spent numerous pages describing in detail your research plan and all the associated phases and tasks, a schedule chart (Gantt or similar) can bring all of this information together in one place for a tired or confused reviewer. Often, reviewers will flip through a proposal before reading it, stopping at the figures and the schedule chart in order to get an overview of the project before reading the text. This is an opportunity for you to engage that reader and get her interested.
Table 2. Example Project Schedule

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<thead>
<tr>
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<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
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<tbody>
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<td><strong>Objective 1: Development of the hoosits</strong></td>
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<td>Integration and calibration</td>
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<td>Optimization of frumpits measurement methodology</td>
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<td><strong>Objective 2: Assess XYZ</strong></td>
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<td>XYZ spectroscopy</td>
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<td>MOA microscopy</td>
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<td>ABC testing</td>
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<td>Pandax studies</td>
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<tr>
<td><strong>Objective 3: Integrate hoosits with XYZ</strong></td>
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**Graphics Do’s and Don’ts**

In order to ensure that your graphics are effective, here are some things you’ll want to keep in mind:

**Make sure your graphics are legible.** The natural tendency is to insert a very nice, legible figure, but as you work on your proposal and struggle to cut the length to fit the page limit, to keep going back and making your figures smaller. Sometimes a figure doesn’t need to be very large (for example, a photo where the fine detail is not important), but often there is text, such as labels, that becomes totally illegible as the figure size is reduced. You may be able to overcome this problem simply by going back to your original figure and redoing the text and labels in the figure to make them larger so that when the size of the figure is reduced you can still read them. Be especially careful about taking a Powerpoint slide and inserting it directly into your proposal as a figure. While that slide may have looked beautiful on a large screen, it is probably indecipherable as a small figure. You may still be able to use that figure, but you’ll need to rework it keeping in mind the space available in your proposal.

**Don’t make your graphics too complex.** If your graphic is so complex that it will require the reader to spend time deciphering it, you can be reasonably sure that he will simply skip it. This is often the case with very complex diagrams and flowcharts, where the reader may be expected to follow a spaghetti bowl of arrows and squint to read text in boxes. Think about what you want your reader to learn from your figure. If, for example, your point is simply that there is an algorithm, and it’s extremely complex, then including such a graphic will make your point. If you want the reader to actually understand the specific steps in a very complex algorithm, then you’ll need to find another way to communicate that—perhaps by using a table listing the steps and descriptions, describing the steps in your text, or by providing an overview of the steps in your flowchart without including so much detail. Sometimes, a very complex figure works better when the content is split into two figures. Just remember that a graphic that the reader doesn’t easily understand is simply wasted space.

**Use informative figure captions.** It’s a universal principle in writing proposals that you don’t want to leave it to your reader to decipher what your point is. This is especially true in the case of figures. If you’re showing a micrograph of your 1 nm diameter gold-coated carbon nanotubes, if you caption it, “Figure 1. Scanning electron micrograph of gold-coated nanotubes” you are leaving it to your reviewer...
to try to figure out why this is significant. Is the important point that the nanotubes are only 1 nm in diameter (as shown by the scale in the photo, which you are hoping your reviewer has noticed)? Is it that the nanotubes are coated with gold? Is it that you have been able to make carbon nanotubes at all? Even if you discuss these points in your text, the figure and caption alone should make your point, for example, by using the caption “Figure 1. The PI’s group are the first researchers who have been able to synthesize carbon nanotubes with a diameter of only 1 nm and a uniform gold surface coating.” This way, when the reader’s eyes jump down to that graphic and read the caption, he is getting a strong, concise, self-contained message that will make an impact rather than just seeing a picture whose significance he may or may not understand. On the other hand, be careful about using very long, detailed captions. The strength of figures and captions lies in their conciseness. If you include a caption that’s a paragraph long, you’ve lost that advantage. Make your caption brief and to-the-point, and include detailed discussions in your accompanying text.

**Make sure the resolution of your graphic is appropriate for the page.** Some disciplines, such as molecular biology, produce beautiful figures (for example, detailed illustrations of complex macromolecules), and a proposal may include many of those figures. Remember that in many cases, the resolution of the original figure is much higher than is necessary for inclusion as a small figure in a proposal. If you don’t reduce the size of those graphics files, you can find yourself with a proposal file that is so big that it won’t convert to pdf or crashes when you try to upload it into Fastlane.

Conversely, some figures have insufficient resolution when imported into your document and look fuzzy. A fuzzy figure will irritate your reader and make your proposal look less professional. One cause of a fuzzy figure may be that your original file was too small or low in resolution (for example, if you took a small photo and blew it up). In that case, you’ll probably need to redraw or retake the photo. Another cause may be related to the procedure you used to transfer your figure from one software program to another. This has become an extremely irritating problem with later versions of Powerpoint. It used to be that you could draw a figure in Powerpoint and then save it in jpg, gif, emf or other graphics format at a high resolution in order to import the figure into Word. For reasons that are known only to the software gurus at Microsoft, Powerpoint 2007 and later only allows you to save a slide in graphics format (jpg, gif, etc.) at a low resolution (96 dpi). As a result, when you import the file into MS Word, the figure is fuzzy. If you are computer savvy, you can change the default export resolution of Powerpoint, but it requires editing your computer registry, which can have dire consequences (i.e., a crashed computer) if you do it wrong, so if you’re not confident in your computer skills you may want to bring in an expert to do it. (Instructions can be found [here](#).)

**Make sure your graphics and text are integrated.** Every graphic should be referred to in the text. Otherwise, you run the risk of your reader puzzling about why the graphic is there. Remember also, particularly when discussing data such as preliminary results, that providing too many graphs related to the same point may actually dilute your point. Present the most important data and summarize your findings and their significance, but don’t try to make this section a journal paper.

If you do a good job with your graphics, you’ll find that they are a powerful tool to help you communicate with your reviewer.
NORDP Research Development Resources

Grants awarded by Howard Hughes Medical Institute (HHMI) fit within two general categories: research grants for individuals and science education grants for institutions. Most HHMI grants are awarded through competitions that have specific objectives and eligibility criteria; thus, HHMI does not encourage and rarely funds unsolicited grant proposals.


Updates to the NSF Proposal & Award Policies & Procedures Guide (PAPPG) Presentation - November 19, 2012

NSF Grants Conference hosted by George Mason University - October 22-23, 2012
- Introduction and NSF Overview
- Proposal Preparation
- NSF Merit Review Process
- Award Management
- Revised NSF Merit Review Process
- Crosscutting and Special Interest Programs
- Office of International Science and Engineering
- Office of the Inspector General
- Breakout Sessions:
  - Biological Sciences
  - Post-Award Monitoring and Compliance
  - Computer and Information Science and Engineering
  - Education and Human Resources
  - Engineering
  - Faculty Early Career Development (CAREER) Program
  - Geosciences
  - Mathematical and Physical Sciences
  - Merit Review 2.0
  - NSF Award Payment & Financial Report Processes
  - Office of Cyberinfrastructure
  - Office of Integrative Activities
  - Policies and Procedures Q&A
  - Science, Engineering & Education for Sustainability (SEES)
  - Social, Behavioral and Economic Sciences
  - Research.gov
Agriculture and Food Research Initiative (AFRI)
Request for Applications (RFA)
AFRI will solicit its core program through seven separate RFAs. Applicants are encouraged to review each RFA to explore all the opportunities available to them. Additional AFRI information is available on the AFRI More Information Page.

FY 2013:
- FY 2013 Childhood Obesity Prevention
  Release date January 2013
- FY 2013 Foundational Program
  Text Version | PDF Version
- FY 2013 NIFA Fellowships Grant Program
  Release date November 2012
- FY 2013 Agricultural and Natural Resources Science for Climate Variability and Change
  Text Version | PDF Version
- FY 2013 Food Security
  Release date December 2012
- FY 2013 Sustainable Bioenergy
  Release date December 2012

Social Science Research Council
“The Art of Writing Proposals” by Adam Przeworski (Univ. of Chicago) & Frank Solomon (Univ. of Wisconsin).

Previous IES Research Funding Opportunities Webinars
The National Center for Special Education Research (NCSER) and the National Center for Education Research (NCER) within the Institute of Education Sciences (IES) periodically host a series of webinars related to research funding opportunities. The FY 2013 funding opportunities webinar series will begin in March 2012. Presentations and transcripts from the FY 2013 webinars will be posted on this page as they become available.
For more information on the upcoming FY 2013 funding opportunities webinars, browse here.

BASIC WEBINARS
- Basic Overview: During this webinar, IES staff provided a general overview of IES, NCSER and NCER research topics, the IES goal structure, and the peer review process.
  Download PPT | View html version
  View, download, and print the transcript as a PDF file (568 KB)
- Application Process: During this webinar, IES staff will provide information regarding the grant submission process. The webinar will focus on information in the application instructions package, including content and formatting requirements, human subjects clearance, and application forms.
  Download PPT with Transcript text | View, download, and print the slides and
National Center for Special Education Research: Overview
In this webinar, NCSER Commissioner Speece presents the history, structure, current status of investments, and current initiatives of the National Center for Research in Special Education.

Early Career Development and Mentoring Program in Special Education Research:
During this webinar, IES staff provided an overview of NCSER's Research Training Program in Special Education: Early Career Development and Mentoring competition, as well as a brief overview of the application submission and peer review processes.

Accelerating the Academic Achievement of Students with Learning Disabilities Research Initiative:
During this webinar, IES staff provided an overview of NCSER's Accelerating the Academic Achievement of Students with Learning Disabilities Research Initiative, as well as a brief overview of the application submission and peer review processes.

Grant Writing Workshop:
During this workshop, IES staff provided more in-depth information about preparing applications in response to current requests for applications and the IES goal structure.

Grant Writing Workshop for Early Career Investigators:
During this presentation, IES staff will provide more in-depth information about preparing applications in response to current requests for applications and the IES goal structure, with special focus on advice for early career investigators who are new to submitting IES proposals.

Grant Writing Workshop for Minority Serving Institutions:
During this presentation, IES staff will provide more in-depth information about preparing applications in response to current requests for applications and the IES goal structure. Topics focus on general research requirements, preparing a research narrative, building a strong research team, and forming partnerships with schools.

GRANT WRITING WORKSHOPS FOR 84.305A AND 84.324A
• **Grant Writing Workshop for Exploration Projects**: During this workshop, IES staff will provide in-depth information on preparing an Exploration (Goal 1) application. Topics include methodological requirements for the Exploration goal and developing a research plan.

  Download PPT with Transcript text | View, download, and print the slides and transcript as a PDF file (3.8 MB)

  View html version | View, download, and print the transcript as a PDF file (231 KB)

• **Grant Writing Workshop for Development & Innovation Projects**: During this workshop, IES staff will provide in-depth information on preparing a Development & Innovation (Goal 2) application. Topics include methodological requirements for the Development & Innovation goal and developing a research plan.

  Download PPT with Transcript text | View, download, and print the slides and transcript as a PDF file (3.8 MB)

  View html version | View, download, and print the transcript as a PDF file (338 KB)

• **Grant Writing Workshop for Efficacy and Replication Projects and Effectiveness Projects**: During this workshop, IES staff will provide in-depth information on preparing Efficacy and Replication (Goal 3) applications and Effectiveness (Goal 4) applications. Topics will include methodological requirements for both goals and developing a research plan.

  Download PPT with Transcript text | View, download, and print the slides and transcript as a PDF file (3.1 MB)

  View html version | View, download, and print the transcript as a PDF file (231 KB)

• **Grant Writing Workshop for Measurement Projects**: During this workshop, IES staff will provide in-depth information on preparing a Measurement (Goal 5) application. Topics will include methodological requirements for the Measurement goal and developing a research plan.

  Download PPT with Transcript text | View, download, and print the slides and transcript as a PDF file (5.9 MB)

  View html version | View, download, and print the transcript as a PDF file (538 KB)

**OVERVIEWS OF SPECIFIC FUNDING OPPORTUNITIES**

• **Overview of the Researcher & Policymaker Training Program**: The Researcher & Policymaker Training Program was established to help current education researchers maintain and upgrade their methodological skills and to provide education practitioners and policymakers working on a specific program or policy with evidence from rigorous education research. During this webinar, IES staff will provide an overview of the training program and the requirements for training projects aimed at researchers and the requirements for training projects aimed at policymakers and practitioners. IES staff will also discuss training plan development and the grant review criteria.

  Download PPT | View html version

  View, download, and print the transcript as a PDF file (1 MB)

• **Overview of the Postdoctoral Research Training Program in the Education Sciences**: The Postdoctoral Research Training Program in the Education Sciences (84.305B) was
established to increase the supply of scientists and researchers in education who are prepared to conduct rigorous and relevant education research addressing issues that are important to education leaders and practitioners. During this webinar, IES staff will provide an overview of the requirements for the postdoctoral training program, training plan development, and the grant review criteria.

- **Overview: Funding Opportunities for Researcher-Practitioner Partnerships in Education Research:** The Researcher-Practitioner Partnerships in Education Research grant program was established to support partnerships composed of research institutions and State or local education agencies that will identify an education issue with important implications for improving student achievement that is of high priority for the education agency, carry out initial data analyses regarding the education issue, and develop a plan for further research on the issue culminating in an application to one of the Institute's research grant programs. During this webinar, IES staff will provide an overview of the partnership program. Topics will include requirements for the researcher-practitioner partnerships, research plan development, and the grant review criteria.
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.

**What Is STEM? A Discussion About Conceptions of STEM in Education and Partnerships**

Educational reformation has proceeded slowly despite the many calls to improve science and mathematics for our students. The acronym STEM (science, technology, engineering, and mathematics) has been adopted by numerous programs as an important focus for renewed global competitiveness for the United States, but conceptions of what STEM entails often vary among stakeholders. This paper examines the conceptions of STEM held by faculty members from a public Research I institution in the middle of a regional "STEM movement." Faculty members responded to two open-ended questions: (1) What is STEM? and (2) How does STEM influence and/or impact your life? Although 72% of these faculty members possessed a relevant conception of STEM, the results suggest that they do not share a common conceptualization of STEM. Their conception is most likely based on their academic discipline or how STEM impacts their daily lives. STEM faculty members were likely to have a neutral or positive conception where non-STEM faculty members often had negative feelings about STEM.

**Monitoring Progress Toward Successful K-12 STEM Education: A Nation Advancing?**

Following a 2011 report by the National Research Council (NRC) on successful K-12 education in science, technology, engineering, and mathematics (STEM), Congress asked the National Science Foundation to identify methods for tracking progress toward the report's recommendations. In response, the NRC convened the Committee on an Evaluation Framework for Successful K-12 STEM Education to take on this assignment. The committee developed 14 indicators linked to the 2011 report's recommendations, shown in the table below. By providing a focused set of key indicators related to students' access to quality learning, educators' capacity, and policy and funding initiatives in STEM, the committee addresses the need for research and data that can be used to monitor progress in K-12 STEM education and make informed decisions about improving it.

**Applying New Research to Improve Science Education**

Focusing on STEM learning and how it is achieved provides a valuable perspective for understanding the shortcomings of the educational system and how it can be improved. It clarifies why the current system is producing poor results and explains why current and past efforts to improve the situation have had little effect. However, it also offers hope. Improvement is contingent on changes in the incentive system in higher education to bring about the widespread adoption of STEM teaching methods and the training of K-12 teachers that embody what research has shown is important for effective learning. These tasks are
admittedly challenging, but the results would be dramatic. The United States would go from being a laggard in STEM education to the world leader.
Dear Colleague Letter for NSF 12-608, Sedimentary Geology and Paleobiology (SGP)
The Sedimentary Geology and Paleobiology (SGP) program is pleased to announce a revised funding opportunity for the SGP community! "Earth-Life Transitions" (ELT) is a direct response to some of the grand challenges posed by the community through a number of workshops and National Academy reports. ELT will support fundamental research into Earth system dynamics, focusing on scientific questions at the frontiers of climate change and biogeosciences. The goals of the Earth-Life Transitions program are 1) to develop the synergistic activities and capabilities of multi-disciplinary scientists to address critical questions about Earth-Life interactions in deep time and 2) to enable team-based interdisciplinary projects to understand the major linked events of environmental, climate and biotic change at a mechanistic level. These projects may involve stratigraphy, sedimentology, paleontology, calibration and application studies, geochronology, and climate modeling at appropriately resolved scales of time and space.

Frequently Asked Questions (FAQs) for NSF 12-610: Hazard SEES
1. What is meant by interdisciplinary Hazards SEES research?
2. Can Type 2 projects request support for new equipment, instrumentation, or observing systems?
3. My project involves biological research. Would this project be appropriate for the Hazards SEES solicitation?
4. My project is large and complex or my project is a large collaboration among multiple institutions. Can I request additional space in the Project description?
5. Do all proposals require a Data Management Plan? And do all proposals require a Management and Integration Plan as well?
6. Can a researcher be involved in more than one Hazards SEES proposal?
7. Who can attend the grantees meeting? Can my students or post-doc attend the PI meeting?
8. The solicitation uses a lot of terms such as vulnerability, resilience, hazards, and disasters. Would you please define these?
9. What is the difference between natural hazards, technological hazards, and technological hazards linked to natural phenomena?
10. Which natural hazards are of interest to the Hazards SEES program?

Dear Colleague Letter - NSF Graduate Research Fellowship Program (GRFP) Graduate Research Opportunities Worldwide (GROW)
The purpose of this Dear Colleague Letter is to announce the GRFP's Graduate Research Opportunities Worldwide (GROW). Through GROW, NSF Graduate Fellows are provided an international travel allowance to engage in research collaborations with investigators in partner countries located outside the United States. With GROW, NSF Graduate Fellows can benefit
Research Development & Grant Writing News

from partnerships developed by NSF with funding organizations in other countries to develop international research collaborations. For the last four years, GRFP has offered a pilot international research opportunity in cooperation with counterpart funding organizations in Norway, Finland, Denmark and Sweden, known as the Nordic Research Opportunity. GROW continues the Nordic opportunity with Denmark, Finland, Norway and Sweden and introduces new partnership opportunities to NSF Graduate Research Fellows in France, Japan, South Korea and Singapore. Details for each partner country differ and are available through links to their websites, grouped by geographic region, and accessed at: http://www.nsf.gov/grow. As additional countries develop GROW partnerships with NSF, information for those countries will be added to the website to facilitate future planning.

DCL - Clarification of the Proposal Submission Process for the Cascadia Initiative
The Cascadia Initiative (CI) is a project to build an onshore/offshore network of seismic and geodetic stations from Cape Mendocino in California to Cape Flattery in Washington. The network is targeted at understanding the structure and processes of this subduction margin, which has a history of large earthquakes every 300-500 years. The Cascadia Initiative is a community experiment: the data will be made freely available as quickly as possible. Half of the funds were allocated to build 60 Ocean-Bottom Seismometers (OBS). These instruments were built by the three Ocean Bottom Seismometer Instrument Pool (OBSIP) Institutional Instrument Contributors (IICs), which are Scripps Institution of Oceanography, Woods Hole Oceanographic Institute and Lamont Doherty Earth Observatory. These new instruments have Trillium Compact seismometers and pressure gauges. A subset of the instruments is trawl-resistant so they can be deployed on the continental shelf. The OBS deployments began in late summer 2011. The network configuration and site locations were determined at a planning workshop in Portland, Oregon in October 2010.

- Cascadia Amphibious Facility Planning Group report (July, 2009)

NIH Proposes Critical Initiatives to Sustain Future of U.S. Biomedical Research
The National Institutes of Health is seeking to launch multiple initiatives designed to help strengthen the biomedical research enterprise and sustain the global competitiveness of the U.S. scientific community well into the future. Faced with significant challenges affecting the biomedical research workforce and the storage and use of large biomedical datasets, the NIH Director charged the Advisory Committee to the Director (ACD) to develop recommendations. The ACD used three specialized committee working groups, each of which included additional outside experts on the relevant topics.

“The future of biomedical research depends upon our ability to support a research ecosystem that leverages the flood of biomedical data, strengthens the research workforce through diversity, and attracts the next generation of researchers,” said NIH Director Francis S. Collins M.D., Ph.D. “I’m grateful to the experts, both inside NIH and from the broader biomedical research community, who have given these matters extensive thought and made it possible for NIH to put forward actions designed to benefit our entire research community for years to come.”
The ACD presented its recommendations to the NIH director in June 2012. NIH leadership further deliberated on the recommendations and presented its implementation plan at the 105th meeting of the ACD on Dec. 6 and 7.

**DCL - Designing Materials to Revolutionize and Engineer our Future (DMREF)**
The National Science Foundation (NSF) is excited to bring to your attention our second year of a national materials initiative, Designing Materials to Revolutionize and Engineer our Future (DMREF), which is NSF’s way of participating in the Materials Genome Initiative (MGI) for Global Competitiveness. MGI recognizes the importance of materials science to the well-being and advancement of society and aims to "deploy advanced materials at least twice as fast as possible today, at a fraction of the cost." As a national initiative, MGI integrates all aspects of the materials continuum, including materials discovery, development, property optimization, systems design and optimization, certification, manufacturing, and deployment, with each employing the toolset developed within the materials innovation infrastructure. The toolset will synergistically integrate advanced computational methods and visual analytics with data-enabled scientific discovery and innovative experimental techniques so as to revolutionize our approach to materials science and engineering.

It is anticipated that many proposed efforts will bridge program and divisional interests and that these will be coordinated, co-reviewed, and funded by the programs and divisions as appropriate. The complexity and challenge of activities addressed by this initiative require a transformative approach to discovering and developing new materials, optimizing and/or predicting properties of materials, and informing the design of material systems. Accordingly, the proposed research must be a collaborative and iterative process where computation guides experiments and theory, while experiments and theory advance computation. Because this DMREF approach emphasizes a more integrated approach to materials research, cross-disciplinary educational activities are encouraged, as are public outreach activities.

Participants interested in submitting proposals are strongly encouraged to first contact one of the following program officers: CHE, Timothy Patten (tpatten@nsf.gov); DMR, Daniele Finotello (dfinotello@nsf.gov), Linda Sapochak (lsapocha@nsf.gov), or Diana Farkas (dfarkas@nsf.gov); DMS, Michael Steuerwalt (msteuerw@nsf.gov); CMMI, Martin Dunn (mldunn@nsf.gov), or Mary M. Toney (mtoney@nsf.gov); CBET, Ashok Sangani (asangani@nsf.gov); ECCS, John Zavada (jzavada@nsf.gov), Dimitris Pavlidis (dpavlidi@nsf.gov); CISE, Ralph Wachter (rwachter@nsf.gov).

**NAS Sets Up Gulf Program on Human Health and Environmental Protection**
As part of the $4 billion court settlement announced today concerning the 2010 Deepwater Horizon disaster, the U.S. Department of Justice has asked the National Academy of Sciences to establish a program to fund projects and carry out activities focused on human health and environmental protection in the Gulf of Mexico. In response and in keeping with its mission, the NAS -- a private, nonprofit institution chartered by Congress in 1863 to advise the government on matters of science -- has agreed to bring its resources to bear on this important national priority. The legal settlement between the federal government and BP Exploration and Production Inc. requires penalty payments (formally called "remedial order payments") by the
company that will total $350 million over a five-year period. These payments will be made to a fund administered by the NAS. Full Statement.

**Upcoming Changes to Public Access Policy Reporting Requirements and Related NIH Efforts to Enhance Compliance**

With this Notice, NIH informs grantees that in Spring, 2013, at the earliest, NIH will delay processing of non-competing continuation grant awards if publications arising from that award are not in compliance with the NIH public access policy. The award will not be processed until recipients have demonstrated compliance. This change will take effect in tandem with NIH requiring the use of the Research Performance Progress Report (RPPRs) for all Streamlined Non-competing Award Process (SNAP) and Fellowship awards in the Spring of 2013 (see NIH NOT-OD-12-142).


A new version of the NSF Proposal & Award Policies & Procedures Guide (PAPPG), (NSF 13-1), has been issued. The PAPPG is comprised of documents relating to the Foundation’s proposal and award process and consists of the:

a. *Grant Proposal Guide* (GPG) for guidance on the preparation and submission of proposals to NSF; and

b. *Award & Administration Guide* (AAG) to guide, manage, and monitor the award and administration of grants and cooperative agreements made by the Foundation.

This new version of the PAPPG will be effective for proposals submitted or due on or after **January 14, 2013**. Significant changes to the PAPPG include:

- Revisions to the NSF Merit Review Criteria which implement the National Science Board’s (NSB) recommendations. Changes will affect the project summary and project description sections of proposals. Annual and final reports also will be affected.
- Instructions for preparation of the Biographical Sketch have been revised to rename the "Publications" section to "Products" and amend terminology and instructions accordingly. This change makes clear that products may include, but are not limited to, publications, data sets, software, patents, and copyrights.
- Coverage on compensation of Indirect Costs (also known as Facilities and Administrative Costs (F&A) for Colleges and Universities) has been clarified to specify that, except as noted in the GPG sections on participant support and international travel grants, or as specified in an NSF program solicitation, the applicable indirect cost rate(s) negotiated by the organization with the cognizant negotiating agency must be used in computing indirect costs for a proposal.
- Modification of the Facilities, Equipment and Other Resources section of proposals to assist proposers in complying with the NSF cost sharing policy.
- Additional proposal certifications must be submitted by the Authorized Organizational Representative (AOR) covering organizational support of the proposed research, tax obligations/liability and felony convictions.
- Numerous clarifications also have been made throughout the document.
Frequently Asked Questions for NSF 12-594: Coastal SEES

1. **Are the North American Great Lakes included?**
2. **Are Arctic coastal systems included?**
3. **My idea may be appropriate for both Coastal SEES and another NSF program: can I submit to both?**
4. **How do I decide if my proposal should be submitted to Coastal SEES as opposed to another SEES (or SEES-like) program, such as CNH (Dynamics of Coupled Natural and Human Systems), ArcSEES (Arctic SEES), Hazards-SEES, or RCN (Research Coordination Networks)-SEES?**
5. **What is meant by inter/trans-disciplinary research in the context of this solicitation?**
6. **How do I demonstrate that we have an integrated inter/trans-disciplinary research team?**
7. **What are the opportunities and rules governing international collaborations?**
8. **Can a PI participate in more than 1 Coastal-SEES proposal?**
9. **Is a Track 1 Coastal-SEES proposal expected to lead to a Track 2 Coastal-SEES proposal?**
10. **I work for a government agency. Can I submit a proposal to Coastal-SEES through my agency?**
11. **I am a federal government employee. How can I participate in Coastal-SEES as an investigator?**

**DCL: Opportunity for Support of Innovative Managing Director Models in I/UCRC**

The National Science Foundation (NSF) invites supplemental funding requests from NSF Industry/University Cooperative Research Centers (I/UCRC). Cultivation and maintenance of trusted industry relationships as well as professional project management of the center's portfolio of activities are essential to I/UCRC member recruitment and retention and a vibrant I/UCRC ecosystem. In recognition of the importance of these functions to Center success, this opportunity provides support to assist Centers in either creating and filling a new position of Center Managing Director or supporting an existing position in their leadership team with this function.

The Center Managing Director is an individual at the Center's lead university for whom the full-time responsibilities may include marketing; prospective member recruitment; nurturing and maintaining industry relationships; and operations, budget, and project management oversight of the center's portfolio. The Managing Director has a firm grasp of both industry and academic sides of the I/UCRC partnership, is able to communicate dynamically to the center's different stakeholders, and keeps the center's portfolio on schedule and on budget. The NSF is seeking supplement requests that propose innovative models for this position and successfully implement it within the center's organization. **Supplemental Funding Request Due Dates:** February 3, 2013 by 5:00 PM, submitter's local time and first Friday in February, annually thereafter.
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.

NAE Showcases Exemplary Engineering Programs at U.S. Colleges and Universities

The National Academy of Engineering (NAE) has released *Infusing Real World Experiences into Engineering Education* which showcases 29 engineering programs at colleges and universities across the nation that effectively incorporate such activities into their curriculum and highlights best practices for schools seeking to create new programs. The publication was sponsored by Advanced Micro Devices, Inc. (AMD) in support of the AMD NextGen Engineer initiative.

“This nation’s prosperity, security, and quality of life are direct results of leadership in the engineering achievements that drive society forward,” said Dr. Charles M. Vest, president of the National Academy of Engineering. “These programs are strategically preparing students to become the engineers who will tackle the technical and social complexities that lie ahead in the 21st century.”

“Simply mastering technical engineering is no longer enough to successfully compete and lead in today’s marketplace,” said Mark Papermaster, AMD’s senior vice president and chief technology officer. “We see first-hand at AMD that our engineers must also be able to solve complex problems, communicate clearly, and collaborate globally. The innovative approaches taken by these leading engineering schools will help prepare our future engineers.”

The best practices outlined in the report include incorporating multidisciplinary team-based projects into curricula to help students develop skills in decision-making, leadership, written and oral communication, organization/time management, cultural awareness, and problem-solving. The report identifies frequent impediments to infusing real-world experiences into engineering programs and suggests ideas for overcoming these barriers to program implementation. The most frequent obstacles cited include lack of funding and financial support, faculty workload concerns, and challenges encountered with partners.

Infusing Real World Experiences into Engineering Education

This publication presents 29 programs that have successfully infused real world experiences into engineering or engineering technology undergraduate education. The Real World Engineering Education committee acknowledges the vision of AMD in supporting this project, which provides useful exemplars for institutions of higher education who seek model programs for infusing real world experiences in their programs. The NAE selection committee was impressed by the number of institutions committed to grounding their programs in real world experience and by the quality, creativity, and diversity of approaches reflected in the submissions. A call for nominations sent to engineering and engineering technology deans, chairs, and faculty yielded 95 high-quality submissions. Two conditions were required of the nominations: (1) an accredited 4-year undergraduate engineering or engineering technology program was the lead institutions, and (2) the nominated program started operation no later
than the fall 2010 semester. Within these broad parameters, nominations ranged from those based on innovations within a single course to enhancements across an entire curriculum or institution.

**Electric Power Grid 'Inherently Vulnerable' to Terrorist Attacks**
The U.S. electric power delivery system is vulnerable to terrorist attacks that could cause much more damage to the system than natural disasters such as Hurricane Sandy, blacking out large regions of the country for weeks or months and costing many billions of dollars, says a newly released report by the National Research Council. Physically the power grid is inherently vulnerable, because it is spread across hundreds of miles and many key facilities are unguarded. This is exacerbated by a reorganizational shift in the mid-1990s, prompted by federal legislation to introduce competition in bulk power across the country, resulting in the transmission network being used in ways for which it was not designed. As a result, many parts of the bulk high-voltage system are heavily stressed, leaving it especially at risk to multiple failures following an attack. Important pieces of equipment are decades old and lack improved technology for sensing and control that could help limit outages and their consequences -- not only those caused by a terrorist attack but also in the event of natural disasters.

**Effects of Climate Change on U.S. National Security**
Scientific evidence indicates that the global climate is moving outside the bounds of past experience and can be expected to put new stresses on societies around the world, prompting examination of a variety of plausible scenarios through which climate change might pose or alter security risks for the United States. A new report from the National Research Council offers recommendations to improve understanding of the links between climate and security, monitoring and analysis of the factors linking climate change to security risks, and the ability to anticipate potential security risks arising from climate phenomena. The report focuses on social and political stresses outside the United States, and on security risks that might arise from situations in which climate-related events have consequences that exceed the capacity of affected populations to cope and respond. It also emphasizes climate-driven security risks that call for action within the coming decade either to anticipate or respond to security threats.

**Materials and Manufacturing Capabilities for Sustaining Defense Systems: Summary of a Workshop**
The Standing Committee on Defense Materials Manufacturing and Infrastructure (DMMI) conducted a workshop on July 23-24, 2012, to share information and gather perspectives on issues concerning Materials and Manufacturing Capabilities for Sustaining Defense Systems. This workshop, held at the headquarters building of the National Academies, 2101 Constitution Avenue N.W., Washington D.C., was conducted according to the procedures of the National Research Council (NRC) for a convening activity. That is, all workshop participants—including presenters, members of the DMMI standing committee, Reliance 21, invited guests, and visitors—spoke as individuals, and no overall findings, conclusions, or recommendations were developed during or as a result of the workshop. All statements and views summarized in this publication are attributable only to those individuals who expressed them. It is worth noting
that the sponsor, Reliance 21, is a Department of Defense group of professionals that was established to enable the DOD science and technology (S&T) community to work together to enhance Defense S&T programs, eliminate unwarranted duplication, and strengthen cooperation among the military services and other DOD agencies.
New Funding Opportunities

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New Funding Solicitations Posted Since November 15 Newsletter

Plant Feedstock Genomics for Bioenergy: A Joint Research FOA USDA, DOE
The U.S. Department of Energy's Office of Science, Office of Biological and Environmental Research (BER), and the U.S. Department of Agriculture (USDA), National Institute of Food and Agriculture (NIFA), are interested in receiving applications for genomics based research that will lead to the improved use of biomass and plant feedstocks for the production of fuels such as ethanol or renewable chemical feedstocks. Specifically, applications are sought for fundamental research on plants that will improve biomass characteristics, biomass yield, or sustainability. Systems biology approaches to identify genetic indicators enabling plants to be efficiently bred or manipulated, or research to predict phenotype from underlying genotype that could lead to improved feedstock characterization and sustainability are also encouraged. **Required pre-application December 18; full February 25.**

Academia-Industry Collaboration (AIC)-Synchrophasor Engineering Education Program
The American Recovery and Reinvestment Act of 2009 funded synchrophasor deployment projects that have created a quantum increase in the quantity of high-speed, time-synchronized measurements available for the United States bulk electric power system. However, there are a limited number of professionals, researchers and students that have the knowledge and expertise to understand and analyze the data that will be generated. One of the reasons for this is that university affiliated researchers, professors and their students have not been able to obtain production-grade synchrophasor data. To rectify this problem, the Department of Energy (DOE), National Energy Technology Laboratory (NETL), on behalf of the Office of Electricity Delivery and Energy Reliability (OE), is issuing a Funding Opportunity Announcement (FOA) to: 1) enable university researchers and students to gain access to and conduct research using synchrophasor data collected from utility distribution systems, and 2) enable universities to create a successful curriculum and training program that will produce a knowledgeable and skilled workforce in disciplines that will meet the current and future workforce needs of electricity industry. In accordance, with Section III-Eligibility Requirements, this FOA is being restricted to United States Colleges, Universities and University-affiliated Research Institutions with accredited undergraduate and graduate programs. **Due January 15.**

2013 Grant A. Harris Research Instrumentation Fellowship
The Grant A. Harris Research Instruments Fellowship provides $30,000 worth of Decagon research instruments (6 awards worth $5,000 each) to graduate students studying any aspect
of environmental or geotechnical science. This year, the committee is emphasizing studies that propose innovative soil and plant monitoring. **Due January 18.**

**K-12 Classroom Challenge Grants Program**
The Secondary Education, Two-Year Postsecondary Education, and Agriculture in the K-12 Classroom Challenge Grants (SPECA) program seeks to: (a) promote and strengthen secondary education and two-year postsecondary education in agriscience and agribusiness in order to help ensure the existence in the United States of a qualified workforce to serve the food and agricultural sciences system; and (b) promote complementary and synergistic linkages among secondary, two-year postsecondary, and higher education programs in the food and agricultural sciences in order to advance excellence in education and encourage more young Americans to pursue and complete a baccalaureate or higher degree in the food and agricultural sciences. **Due January 18.**

**Special Program Announcement for 2013 Office of Naval Research Opportunity: Free Space Optical Quantum Key Distribution**
The Office of Naval Research (ONR) is interested in receiving proposals that develop the mathematical framework and associated analysis that eventually supports practical secure physical implementations of QCs schemes with high bandwidth, long range, provable secure communications. The proposed research efforts must focus on the free space optical communications environment that has been described earlier. The primary emphasis should be on the mathematical framework with limited resources being devoted to experimental verification. Applicants shall NOT apply under this Special Notice. Applicants shall apply using the Application Instructions and Package under ONRBA13-001. **Due January 22.**

**Young Faculty Award (YFA)**
This DARPA RA solicits ground-breaking single-investigator proposals from junior faculty at universities and their equivalent at non-profit research institutions for research and development in the specific areas of Science, Mathematics and Engineering of interest to DARPA’s Microsystems Technology Office (MTO) and Defense Sciences Office (DSO). **Due January 21.**

**Water, People, and Ecosystems**
This call for synthesis proposals is specifically focused on the integration of data and the development of models (e.g., simulation, theoretical etc.) to enhance our understanding of the relationships between the **spatial and temporal variability of water**, ecological systems, and human welfare or behavior. This solicitation specifically focuses on the intersection of these three components with implications for policy and practice. The goal is to increase our understanding of how to balance the water needs of ecosystems and society if water availability is or may become more uncertain. We encourage the submission of projects that synthesize data, develop and apply models, or couple quantitative and qualitative information in new ways to address fundamental socio–environmental research questions on this topic. “Fundamental research questions” are those with implications that go well beyond a single
place or point in time to provide new insights that can contribute to solutions for water–environment–human challenges more generally. **Due January 25.**

**Sustainable Landscapes, Clean Energy and Adaptation**
USAID’s climate change program uses three pillars of funding—“Sustainable Landscapes” investments in land use practices that stop, slow, and reverse emissions from deforestation and degradation of forests and other landscapes; “Clean Energy” investments to establish a foundation for low carbon energy systems; and “Adaptation” to increase the resilience of people, places and livelihoods to a changing climate. This Addendum to the GDA APS seeks private sector partners that wish to collaborate with USAID on programs that realize these three pillars while pursuing their own business or philanthropic interests. **Due January 31.**

**Sparks! Ignition Grants for Libraries and Museums**
The Sparks! Ignition Grants for Libraries and Museums are a special funding opportunity within the IMLS National Leadership Grants program. These small grants encourage libraries, museums, and archives to test and evaluate specific innovations in the ways they operate and the services they provide. Sparks Grants support the deployment, testing, and evaluation of promising and groundbreaking new tools, products, services, or organizational practices. You may propose activities or approaches that involve risk, as long as the risk is balanced by significant potential for improvement in the ways libraries and museums serve their communities. Successful proposals will address problems, challenges, or needs of broad relevance to libraries, museums, and/or archives. A proposed project should test a specific, innovative response to the identified problem and present a plan to make the findings widely and openly accessible. **Due February 1.**

**Advanced Nursing Education Program**
This announcement solicits applications for advanced nursing education programs that address the health care needs of persons with multiple chronic conditions (MCC). Eligible applicants should describe how these advanced nursing education programs will be incorporated into an interprofessional education (IPE) model. Projects must engage other graduate health professionals and demonstrate the integration of IPE into the nursing curriculum. For purposes of this section, the term “advanced education nurses” means individuals trained in advanced degree programs including individuals in combined R.N./Master’s degree programs, post-nursing master’s certificate programs, or, in the case of nurse midwives, in certificate programs in existence on the date that is one day prior to the date of enactment in this section, to serve as nurse practitioners, clinical nurse specialists, nurse-midwives, midwives, nurse anesthetists, nurse educators, nurse administrators, public health nurses or other nurse specialists determined by the Secretary to require advanced nurse education. Advanced nursing education programs include master’s and doctoral degree programs, or in the case of certificate nurse-midwifery programs, those in existence on November 12, 1998. **Due February 1.**

**Global Biosecurity Engagement Activities**
The Department of State’s Office to Cooperative Threat Reduction (ISN/CTR) is pleased to announce an open competition for assistance awards through this Request for Proposals (RFP). ISN/CTR invites non-profit/non-governmental organizations and educational institutions to submit proposals for projects that will advance the mission of the Department’s Biosecurity Engagement Program (BEP). ISN/CTR has approximately $20,000,000 available in the current fiscal year to award multiple grants and cooperative agreements in this field. ISN/CTR prefers projects that cost less than $500,000, though awards may involve multiple projects that cumulatively exceed $500,000. Due February 1.

**SBIR/STTR FY 2013 Phase I Release 2**

This Funding Opportunity Announcement describes two distinct funding opportunities for the U. S. Department of Energy Small Business Innovation Research (SBIR) and the Small Business Technology Transfer (STTR) programs for Fiscal Year (FY) 2013. Phase I and Fast-Track (combined Phase I and Phase II). Under this FOA, Fast-Track applicants may not apply concurrently to the Phase I funding opportunity. The full text of the Funding Opportunity Announcement 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-0000801&agency=DOE

Due February 5.

**Graduate Psychology Education (GPE) Program**

This announcement solicits applications for the Graduate Psychology Education (GPE) Program. This program supports doctoral-level psychology education and training programs to prepare psychologists to address the behavioral health needs of vulnerable and underserved populations. For the purposes of this funding announcement, vulnerable and underserved populations include, but are not limited to, those populations in rural areas, children and adolescents, the elderly, victims of abuse, the chronically ill, disabled, returning war veterans, military personnel and their families, and tribal populations. The program will foster an integrated and interprofessional approach to addressing access to behavioral health care for vulnerable and underserved populations. Due February 8.

**Summer Undergraduate Research Fellowship (SURF) NIST Boulder Programs**

NIST Boulder is soliciting applications from eligible colleges and universities located in the U.S. and its territories nominating undergraduate students to participate in the Summer Undergraduate Research Fellowship (SURF) NIST Boulder Programs (SURF NIST Boulder Programs). The SURF NIST Boulder Programs will provide research opportunities for undergraduate students to work with internationally known NIST scientists, to expose them to cutting-edge research, and to promote the pursuit of graduate degrees in science and engineering. Due February 15.

**Major Research Instrumentation Program (MRI): Instrument Acquisition or Development**

The Major Research Instrumentation Program (MRI) serves to increase access to shared scientific and engineering instruments for research and research training in our Nation's
institutions of higher education, and not-for-profit museums, science centers and
scientific/engineering research organizations. This program especially seeks to improve the
quality and expand the scope of research and research training in science and engineering, by
supporting proposals for shared instrumentation that fosters the integration of research and
education in research-intensive learning environments. Each MRI proposal may request support
for the acquisition (Track 1) or development (Track 2) of a single research instrument for shared inter-
and/or intra-organizational use; development efforts that leverage the strengths of
private sector partners to build instrument development capacity at MRI submission-eligible
organizations are encouraged. Due February 21.

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

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

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

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

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

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

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

**Water Resources Research National Competitive Grants Program**
Section 104g of the Water Resources Research Act of 1984 requires that this competitive grant program focus on water problems and issues of a regional or interstate nature beyond those of concern only to a single State and which relate to specific program priorities identified jointly by
the Secretary of the Interior and the water resources research institutes. Objectives of this program also include the following. **Promote collaboration between the USGS and university scientists in research on significant national and regional water resources issues.** Proposals exhibiting substantial collaboration between the USGS and the applicant are encouraged and will receive extra weight in the evaluation and selection process. Collaborative proposals should describe in detail the respective roles of the USGS and the applicant in the proposed work. Potential applicants seeking collaborative opportunities are encouraged to contact USGS Water Science Center Directors. Potential applicants are also encouraged to contact the Water Resources Research Branch Chiefs see Attachment F for contact information. B. Promote the dissemination and application of the results of the research funded under this program. C. Assist in the training of scientists in relevant water resource fields. Proposals that include a strong educational component student support are encouraged, as are proposals from faculty beginning their careers. The USGS and NIWR prefer that research supported by this program involve substantial collaboration between the USGS and university scientists. Collaboration can range from use of USGS data and information in the research to mutual involvement of USGS and university scientists on projects. **Due March 7.**

**Agriculture and Food Research Initiative (AFRI): NIFA Fellowships Grant Program**
The **FY 2013 AFRI NIFA Fellowship RFA** focuses on developing the next generation of research, education, and extension professionals in the food and agricultural sciences who will lead agriculture into the future by solving current and future challenges facing our society. The AFRI NIFA Fellowships Grant Program targets talented, highly-motivated doctoral candidates and postdoctoral trainees that demonstrate remarkable promise and the potential to become gifted education, extension, and research professionals in the United States. The NIFA Fellows are individuals who have the potential for remarkable accomplishments in agricultural science. The Program seeks to develop the technical and academic competence of doctoral candidates and the research independence and teaching competencies of postdoctoral students in the food, forestry and agricultural sciences, which are within NIFA’s challenge areas, through well-developed and highly interactive mentoring and training activities. Project types supported by AFRI within this RFA include single-function Research, Education, and Extension Projects and multi-function Integrated Research, Education, and/or Extension Projects. **Due March 7.**

**Institute for Historical Editing**
The National Historical Publications and Records Commission seeks proposals to improve the training and education of people training to be or working as historical editors. The Institute for Historical Editing can consist of both basic and advanced institutes. This program does not support requests from individuals for their own training, education, or professional advancement. Such requests will be ineligible. For a comprehensive list of the Commission’s limitations on funding, please see What we do and do not fund (http://www.archives.gov/nhprc/apply/eligibility.html). A grant normally is for one to three years and up to $275,000. The Commission expects to make one grant in this category, for a total of up to $275,000. **Due March 7.**
**FY 2013 Economic Development Assistance Programs**
EDA provides strategic investments that foster job creation and attract private investment to support development in economically distressed areas of the United States. Under this FFO, EDA solicits applications from both rural and urban areas to provide investments that support construction, non-construction, technical assistance, and revolving loan fund projects under EDA’s Public Works and Economic Adjustment Assistance programs. Grants made under these programs are designed to leverage existing regional assets to support the implementation of economic development strategies that advance new ideas and creative approaches to advance economic prosperity in distressed communities. **Funding cycles March 13, June 13 and September 13.**

**Next-Generation National Nanotechnology Infrastructure Network (NG NNIN)**
The National Nanotechnology Infrastructure Network (NNIN) will reach its ten year authorized award life at the end of Fiscal Year 2013. The National Science Foundation is announcing in this solicitation an open competition to establish a Next-Generation National Nanotechnology Infrastructure Network (NG NNIN) for Fiscal Years 2014-2018.

NNIN has enabled major discoveries, innovations, and contributions to education and commerce within all disciplines of nanoscale science, engineering, and technology through NSF support of a national network of university-based user facilities. These facilities have provided open access to leading-edge nanotechnology fabrication and characterization tools, instrumentation, and expertise for users across the nation from academia, small and large industry, and government. The core mission of NNIN has included national-level education and outreach programs to enable a diverse science and engineering workforce, the study of societal and ethical implications of nanotechnology including issues of environment, health, and safety, as well as important modeling and simulation capabilities.

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

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

**ONR Electronic Warfare Technology**
The goal of Electronic Warfare (EW) is to control the Electro-Magnetic Spectrum (EMS) by exploiting, deceiving, or denying enemy use of the spectrum while ensuring its use by friendly forces. To that end, the Office of Naval Research (ONR) EW Discovery and Invention (D&I) program invests in Science and Technology (S&T) initiatives that will provide naval forces (including Navy and Marine Corps) with improved threat warning systems; Electronic warfare Support (ES); decoys and countermeasures against weapon tracking and guidance systems; Electronic Attack (EA) against adversary Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR); and Electronic Protection (EP) of our own weapons and C4ISR from intentional and unintentional interference. **Due May 7 (See BAA for White Paper Due Dates).**

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

**Consolidated Innovative Nuclear Research**
The Department of Energy’s (DOE) Office of Nuclear Energy (NE) conducts crosscutting nuclear energy research and development (R&D) and associated infrastructure support activities to develop innovative technologies that offer the promise of dramatically improved performance for advanced reactors and fuel cycle concepts while maximizing the impact of DOE resources. NE funds research activities through both competitive and direct mechanisms, as required to best meet the needs of NE. These efforts are essential to balancing NE’s R&D portfolio and encourage new nuclear power deployment with creative solutions to the universe of nuclear energy challenges. The competitive portion of NE’s R&D portfolio is accomplished in part by promoting integrated and collaborative research conducted by university, industry, international and national laboratory partners under the direction of Office of Nuclear Energy’s programs: Nuclear Energy University Programs (NEUP), elements of the Nuclear Energy Enabling Technologies (NEET) Crosscutting Technology Development Program, the Advanced Test Reactor (ATR) National Scientific User Facility (NSUF), and Small Business Innovative Research (SBIR) / Small Business Technology Transfer (STTR). Specifically, **NE designates up to 20 percent of funds appropriated to its R&D programs for R&D and infrastructure support at university and research institutions, through open, competitive solicitations.** Additionally, through the NEET Crosscutting Technology Development Program, NE provides direct and competitive awards for university, industry and national laboratory-led research that crosscuts the NE R&D portfolio. The primary objective of consolidating fiscal year (FY) 2013 competitive
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research sought by NE in the area of innovative nuclear research into a single FOA is to promote efficiency and the effective use of resources. Due June 12.

Nuclear Energy University Programs - Fellowship and Scholarship
This program supports education and training for future nuclear scientists, engineers and policy-makers who are attending U.S. universities and colleges in nuclear-related graduate, undergraduate and two-year study programs. These are zero-dollar awards that will be funded as students apply through the Department of Energy, Office of Nuclear Energy. Open until November 30, 2015.

Links to New & Open Funding Solicitations

- SAMHSA FY 2012 Grant Announcements and Awards
- DARPA Microsystems Technology Office Solicitations
- Open Solicitations from IARPA (Intelligence Advanced Research Projects Activity)
- Bureau of Educational and Cultural Affairs, Open Solicitations, DOS
- ARPA-E Funding Opportunity Exchange
- DOE Funding Opportunity Exchange
- NIAID Funding Opportunities List
- NPS Broad Agency Announcements (BAAs)
- NIJ Current Funding Opportunities
- NIJ Forthcoming Funding Opportunities
- Engineering Information Foundation Grant Program
- Comprehensive List of Collaborative Funding Mechanisms, NORDP
- ARL Funding Opportunities — Open Broad Agency Announcements (BAA)
- HHS Grants Forecast
- American Psychological Association, Scholarships, Grants and Awards
- 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 Funding Opportunities at NIEHS (NIH)
Solicitations Remaining Open from Prior Issues of the Newsletter

Desalination and Water Purification Research and Development Pre-proposal Solicitation
The U.S. Department of the Interior, Bureau of Reclamation (Reclamation), is currently requesting pre-proposals sponsored by the Desalination and Water Purification Research and Development Program (DWPR). Through this program, Reclamation is forming partnerships with private industry, universities, water utilities, and others to address a broad range of desalting and water purification needs. The intent of the program is to augment the supply of usable water in the United States. This will be accomplished by reducing the costs, improving operation and reliability, and developing innovations in desalination and water purification technologies. The Water Desalination Act of 1996 defines the following important terms: (1) Desalination or desalting means “the use of any process or technique for the removal and, when feasible, adaptation to beneficial use, of organic and inorganic ... compounds from saline or biologically impaired waters, by itself or in conjunction with other processes” and (2) Saline water means “sea water, brackish water, and other mineralized or chemically impaired water.”

Due January 3.

Fiscal Year 2013 Office of Naval Research Young Investigator Program (YIP)
The Office of Naval Research (ONR) is interested in receiving proposals for its Young Investigator Program (YIP). ONR’s Young Investigator Program (YIP) seeks to identify and
support academic scientists and engineers who are in their first or second full-time tenure-track or tenure-track-equivalent academic appointment and for FY2013, have begun their first appointment on or after 01 November 2007, and who show exceptional promise for doing creative research. The objectives of this program are to attract outstanding faculty members of Institutions of Higher Education to the Department of the Navy’s research program, to support their research, and to encourage their teaching and research careers. Proposals may request up to $170,000 per year for three (3) years. These funds may be budgeted against any reasonable costs related to the conduct of the proposed research, for example, salary for the Young Investigator, graduate student support, supplies, and operating expenses. Additional funds (beyond the basic $170,000 yearly amount) for capital equipment which enhances the Young Investigator’s proposed research may be requested for the first budget period, based on the needs of the research. Due January 4.

Environmental Justice Small Grants Program
The Environmental Justice Small Grants Program, supports and empowers communities working on solutions to local environmental and public health issues. The program assists recipients in building collaborative partnerships to help them understand and address environmental and public health issues in their communities. Successful collaborative partnerships involve not only well-designed strategic plans to build, maintain and sustain the partnerships, but also working towards addressing the local environmental and public health issues. Due January 7.

Innovation Corps Sites Program (I-Corps Sites)
The National Science Foundation seeks to develop and nurture a national innovation ecosystem that builds upon research to guide the output of scientific discoveries closer to the development of technologies, products and processes that benefit society. In order to contribute to a national innovation ecosystem, NSF is establishing the NSF Innovation Corps Sites Program (NSF I-Corps Sites). Due January 7.

Small Business Technology Transfer Program Phase I Solicitation FY-2013 (STTR) Release: 2
The Small Business Technology Transfer program stimulates technological innovation in the private sector by strengthening the role of small business concerns in meeting Federal research and development needs, increasing the commercial application of federally supported research results, and fostering and encouraging participation by socially and economically disadvantaged and women-owned small businesses. The Small Business Technology Transfer Program (STTR) requires researchers at universities and other non-profit research institutions to play a significant intellectual role in the conduct of each STTR project. These researchers, by joining forces with a small company, can spin-off their commercially promising ideas while they remain primarily employed at the research institution. The program is governed by Public Law 112-81 (SBIR/STTR Reauthorization Act of 2011). Required LOI January 8; full February 6.

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.**

**SPIE Education Outreach Grants Program Supporting Optics And Photonics Related Education And Outreach Projects**
As part of its education outreach mission, SPIE provides support for optics and photonics related education outreach projects. The award process is competitive; applications are judged on their potential to impact students and increase optics awareness. The key criterion in evaluation and ranking applications is the potential to impact students and to increase optics and photonics awareness. Qualifying not-for-profit organizations such as universities, optics centers, science centers, primary and secondary schools, youth clubs, industry associations and international optical societies are eligible for project support. **Due January 13, 2013.**

**Coastal SEES (Coastal SEES) Science, Engineering and Education for Sustainability**
Coastal SEES is focused on the sustainability of coastal systems. For this solicitation we define coastal systems as the swath of land closely connected to the sea, including barrier islands, wetlands, mudflats, beaches, estuaries, cities, towns, recreational areas, and maritime facilities; the continental seas and shelves; and the overlying atmosphere. These systems are subject to complex and dynamic interactions among natural and human-driven processes. Coastal systems are crucial to regional and national economies, hosting valued human-built infrastructure and providing ecosystem services that sustain human well-being. More than half of the world's human population lived in coastal areas in 2000, and this proportion is predicted to increase to 75 percent by 2025. **Due January 13.**

**Cyber-Physical Systems (CPS)**
Cyber-physical systems are engineered systems that are built from and depend upon the synergy of computational and physical components. Emerging CPS will be coordinated, distributed, and connected, and must be robust and responsive. The CPS of tomorrow will need to far exceed the systems of today in capability, adaptability, resiliency, safety, security, and usability. Examples of the many CPS application areas include the smart electric grid, smart transportation, smart buildings, smart medical technologies, next-generation air traffic management, and advanced manufacturing. CPS will transform the way people interact with engineered systems, just as the Internet transformed the way people interact with information. However, these goals cannot be achieved without rigorous systems engineering. **Due January 14.**

**NEA FY 2013 Our Town**
Organizations may apply for creative placemaking projects that contribute to the livability of communities and place the arts at their core. An organization may request a grant amount from $25,000 to $200,000. **Due January 14.**

**Ocean Sciences Research Initiation Grants (OCE-RIG), Broadening Participation**
The Division of Ocean Sciences (OCE) offers Research Initiation Grants in an effort to increase the participation of under-represented groups in the ocean sciences. Research Initiation Grants provide start up funding for researchers who have been recently appointed to tenure track (or equivalent) positions, with the twin goals of enhancing the development of their research careers and broadening the participation of under-represented groups in ocean sciences. In this solicitation, the term under-represented groups will refer to and include the following: women, persons with disabilities, African Americans, Hispanics, Native Americans, Alaska Natives, and Pacific Islanders. Replaces Document: NSF 11-578 Due January 14.

**Ocean Sciences Postdoctoral Research Fellowships (OCE-PRF) Broadening Participation**
The Division of Ocean Sciences (OCE) offers Postdoctoral Research Fellowships to increase the participation of under-represented groups in the ocean sciences. Awards are intended to support the individual fellows' research and increase the diversity of the U.S. ocean sciences research community. In this solicitation, the term under-represented groups will refer to and include the following: women, persons with disabilities, African Americans, Hispanics, Native Americans, Alaska Natives, and Pacific Islanders. Fellowships are awards to individuals, not organizations, and are administered by the fellows. **Due January 14.**

**Museum Grants for African American History and Culture**
Museum Grants for African American History and Culture are intended to enhance institutional capacity and sustainability through professional training, technical assistance, internships, outside expertise, and other tools. Successful proposals will focus on one or more of the following three goals: (1) developing or strengthening knowledge, skills, and other expertise of current staff at African American museums; (2) attracting and retaining professionals with the skills needed to strengthen African American museums; and (3) attracting new staff to African American museum practice and providing them with the expertise needed to sustain them in the museum field. **Due January 15.**

**Autonomous Diagnostics to Enable Prevention and Therapeutics: Prophylactic Options to Environmental and Contagious Threats (ADEPT-PROTECT)**
DARPA is soliciting proposals for the development of nucleic acid platforms capable of in vivo host production of a transient immune prophylaxis for adults as a component of the Autonomous Diagnostics to Enable Prevention and Therapeutics (ADEPT) program. **Due January 15.**

**Centers for Water Research on National Priorities Related to a Systems View of Nutrient Management**
This Request for Applications (RFA) is soliciting proposals that take a systems view of nutrient management. A systems view of nutrient management considers every potential link in the breadth of possibilities that may influence water quality. These involve societal and technological considerations and may include, but are not limited to: local resources, prevailing land uses, watershed health, manure management, energy costs, municipal wastewater treatment, in-building water reuse, or nutrient resource recovery. A systems view would also consider valuation of monetized and non-monitized possible co-benefits and consequences (e.g., decreased sediment runoff, improved recreational value) which may be part of a nutrient management program. Proposed research areas should include:

- Science to achieve sustainable and cost effective health and environmental outcomes as part of water management.
- Demonstration projects to support efficacy of water management systems with and beyond current technology and information at appropriate scales.
- Community involvement in the design, acceptance and implementation of nutrient management systems.

Due January 15.

**Special Program Announcement for the Office of Naval Research**

The selected topics in this special notice are designed to address research and technology gaps in the area of nanoscience and nanotechnology in ONR’s current program portfolio. The program will pursue fundamental research in several specific topics that complement and enhance existing programs in related areas. The Office of Naval Research (ONR) is interested in receiving proposals on the following research topics:

- **Topic #1** - Graphene Photonics in the Infrared and Terahertz Regime
- **Topic #2** - Novel Nanomaterial Approaches to Processing of Ultra-High Temperature Materials
- **Topic #3** - Nanoscale Non-Line-of-Sight Conformal Coatings with Controlled Electronic Properties.

Due January 17.

**National Digital Newspaper Program**

NEH is soliciting proposals from institutions to participate in the National Digital Newspaper Program (NDNP). NDNP is creating a national digital resource of historically significant newspapers published between 1836 and 1922, from all the states and U.S. territories. Due January 17.

**Interdisciplinary Behavioral and Social Science Research (IBSS)**

The Interdisciplinary Behavioral and Social Science Research competition promotes the conduct of interdisciplinary research by teams of investigators in the social and behavioral sciences. Emphasis is placed on support for research that involves researchers from multiple disciplinary fields, that integrates scientific theoretical approaches and methodologies from multiple disciplinary fields, and that is likely to yield generalizable insights and information that will advance basic knowledge and capabilities across multiple disciplinary fields. Due January 23.

**Digital Humanities Implementation Grants**

This program is designed to fund the implementation of innovative digital-humanities projects that have successfully completed a start-up phase and demonstrated their value to the field.
Research Development & Grant Writing News

Such projects might enhance our understanding of central problems in the humanities, raise new questions in the humanities, or develop new digital applications and approaches for use in the humanities. The program can support innovative digital-humanities projects that address multiple audiences, including scholars, teachers, librarians, and the public. Applications from recipients of NEH’s Digital Humanities Start-Up Grants are welcome. Due January 23.

The Bill and Rita Clements Research Fellowships for the Study of Southwestern America
Fellowships are normally for a full academic year but we also welcome applications from scholars interested in a half-year fellowship. Competition is open to individuals in any field in the humanities or social sciences doing research on Southwestern America or the U.S.-Mexico borderlands. The fellowships are designed to provide time for senior or junior scholars to bring book-length manuscripts to completion. One of the fellowships, funded by the generosity of the Summerlee Foundation, supports work on Texas history. Due January 25.

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.

EPSCoR Research Infrastructure Improvement Program: Track-2
The Experimental Program to Stimulate Competitive Research (EPSCoR) is a program designed to fulfill the National Science Foundation’s (NSF) mandate to promote scientific progress nationwide. The EPSCoR program is directed at jurisdictions that have historically received lesser amounts of NSF Research and Development (R&D) funding. Thirty-one jurisdictions including twenty-eight states, the Commonwealth of Puerto Rico, the U. S. Virgin Islands, and Guam currently are eligible to participate. Through this program, NSF establishes partnerships with government, higher education, and industry that are designed to effect lasting improvements in a state's or region's research infrastructure, R&D capacity and hence, its national R&D competitiveness. Due January 30.

GDA APS 2012 - Addendum Mexico
Through this Addendum to the FY 2012 Global Development Alliance (GDA) Annual Program Statement (APS) No. APS-OAA-12-000003 (the GDA APS), USAID/Mexico is making a special call for the submission of concept papers related to the USG development pillars of private sector competitiveness, environment and education for work in Mexico. The objectives supported under this addendum are to: 1) help mitigate the effects of global climate change, with a focus on the energy and forestry sectors; 2) improve the availability, relevance and quality of youth leadership and workforce development programs in communities most affected by crime and
violence; and 3) support Mexico’s implementation of a new criminal justice system. Open to January 31, 2013.

**AHRQ Conference Grant Program (R13)**
The Agency for Healthcare Research and Quality (AHRQ), announces its interest in supporting conferences through the AHRQ Conference Grant Program. AHRQ seeks to support conferences that help to further its mission to improve the quality, safety, efficiency, and effectiveness of health care for all Americans. The types of conferences eligible for support include here. Due February 1.

**The Lewis and Clark Fund for Exploration and Field Research**
The Lewis and Clark Fund (initially supported by the Stanford Ascherman/Baruch Blumberg Fund for Basic Science, established by a benefaction from the late Stanford Ascherman, MD, of San Francisco) encourages exploratory field studies for the collection of specimens and data and to provide the imaginative stimulus that accompanies direct observation. Applications are invited from disciplines with a large dependence on field studies, such as archeology, anthropology, biology, ecology, geography, geology, linguistics, paleontology, and population genetics, but grants will not be restricted to these fields. Graduate students and postdoctoral and junior scientists wishing to pursue projects in astrobiological field studies should consult the program description and application forms for the Lewis and Clark Fund in Exploration and Field Research in Astrobiology. Due by February 1.

**Interdisciplinary Research in Hazards and Disasters (Hazards SEES)**
The overarching goal of Hazards SEES is to catalyze well-integrated interdisciplinary research efforts in hazards-related science and engineering in order to improve the understanding of natural hazards and technological hazards linked to natural phenomena, mitigate their effects, and to better prepare for, respond to, and recover from disasters. The goal is to effectively prevent hazards from becoming disasters. Hazards SEES aims to make investments in strongly interdisciplinary research that will reduce the impact of such hazards, enhance the safety of society, and contribute to sustainability. The Hazards SEES program is a multi-directorate program that seeks to: (1) advance understanding of the fundamental processes associated with specific natural hazards and technological hazards linked to natural phenomena, and their interactions; (2) better understand the causes, interdependences, impacts and cumulative effects of these hazards on individuals, the natural and built environment, and society as a whole; and (3) improve capabilities for forecasting or predicting hazards, mitigating their effects, and enhancing the capacity to respond to and recover from resultant disasters. Due February 4.

**Higher Education Challenge Grants Program**
Projects supported by the Higher Education Challenge Grants Program will: (1) address a State, regional, national, or international educational need; (2) involve a creative or non-traditional approach toward addressing that need that can serve as a model to others; (3) encourage and facilitate better working relationships in the university science and education community, as
well as between universities and the private sector, to enhance program quality and supplement available resources; and (4) result in benefits that will likely transcend the project duration and USDA support. **Due February 8.**

**Camille Dreyfus Teacher-Scholar Awards Program**
The Camille Dreyfus Teacher-Scholar Awards Program supports the research and teaching careers of talented young faculty in the chemical sciences. Based on institutional nominations, the program provides discretionary funding to faculty at an early stage in their careers. Criteria for selection include an independent body of scholarship attained within the first five years of their appointment as independent researchers, and a demonstrated commitment to education, signaling the promise of continuing outstanding contributions to both research and teaching. The Camille Dreyfus Teacher-Scholar Awards Program provides an unrestricted research grant of $75,000. **Due February 10.**

**Robert Wood Johnson Foundation Nurse Faculty Scholars**
The goal of the **Robert Wood Johnson Foundation Nurse Faculty Scholars** (NFS) program is to develop the next generation of national leaders in academic nursing through career development awards for outstanding junior nursing faculty. The program aims to strengthen the academic productivity and overall excellence of nursing schools by providing mentorship, leadership training, and salary and research support to young faculty. Up to 12 awards of up to $350,000 each over three years will be available in this round of funding. **Due February 12.**

**Hispanic-Serving Institutions (HSI) Education Grants Program**
This competitive grants program is intended to promote and strengthen the ability of Hispanic-Serving Institutions to carry out higher education programs in the food and agricultural sciences. Programs aim to attract outstanding students and produce graduates capable of enhancing the Nation's food and agricultural scientific and professional work force. **Due February 18.**

**Challenge Grants for Two-year Colleges**
The National Endowment for the Humanities invites two-year colleges to apply in a special Challenge Grant competition to strengthen their long-term humanities programs and resources. Two-year colleges are major educational assets that have too often been overlooked, even though over half of students in post-secondary education attend two-year institutions. The humanities can and should play a vital role in community colleges. The perspectives of history, philosophy, and literature can enrich the educational experience of students attending two-year colleges, deepening their understanding of questions related to differences among cultures, as manifested in diverse understandings of citizenship, politics, and ethics. NEH seeks to encourage two-year colleges to develop models of excellence that enhance the role of the humanities on their campuses. **Due February 22.**

**Fiscal year 2013 NMFS-Sea Grant Fellowships in Marine Resource Economics**
The Graduate Fellowship Program generally awards two new PhD fellowships each year to students who are interested in careers related to the development and implementation of quantitative methods for assessing the economics of the conservation and management of living marine resources. Fellows will work on thesis problems of public interest and relevance to NMFS under the guidance of NMFS mentors at participating NMFS Science Centers or Laboratories. The NMFS-Sea Grant Fellowships in Marine Resource Economics meets NOAA's Mission goal of "Protect, Restore and Manage the Use of Coastal and Ocean Resources Through Ecosystem-Based Management". **Due February 22.**

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

**Initiative for Conservation in the Andean Amazon Phase II**
The United States Agency for International Development (USAID) is seeking concept papers and later, applications, from Non-Governmental Organizations (NGOs), education institutions, partnerships and consortia to implement activities to support the Initiative for Conservation in the Andean Amazon (ICAA) with Landscape-based programs. Please note, at this time we are not accepting full applications or proposals. Only concept papers will be reviewed. Instructions on how to prepare a concept paper are provided within this APS. **Open to May 2, 2013.**

**Agriculture and Food Research Initiative: Foundational Program**
The U.S. Department of Agriculture (USDA) established the Agriculture and Food Research Initiative (AFRI) under which the Secretary of Agriculture may make competitive grants for fundamental and applied research, education, and extension to address food and agricultural sciences (as defined under section 1404 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA) (7 U.S.C. 3103)), as amended, in six priority areas. The six priority areas include: 1) plant health and production and plant products; 2) animal health and production and animal products; 3) food safety, nutrition, and health; 4) renewable energy, natural resources, and environment; 5) agriculture systems and technology; and 6) agriculture economics and rural communities. **Due May 22, 2013.**

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

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

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

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

**FY 2013 Continuation of Solicitation for the Office of Science Financial Assistance Program**
The Office of Science of the Department of Energy hereby announces its continuing interest in receiving grant applications for support of work in the following program areas: Advanced Scientific Computing Research, Basic Energy Sciences, Biological and Environmental Research, Fusion Energy Sciences, High Energy Physics, Nuclear Physics, and Workforce Development for Teachers and Scientists. This annual FOA DE-FOA-0000768 succeeds FOA DE-FOA-0000600, which was published September 30, 2011. **Open to September 30, 2013.**

**U.S. Army Medical Research and Materiel Command Broad Agency Announcement for Extramural Medical Research**
The U.S. Army Medical Research and Materiel Command's (USAMRMC) mission is to provide solutions to medical problems of importance to the American Warfighter at home and abroad. The scope of this effort and the priorities attached to specific projects are influenced by changes in military and civilian medical science and technology, operational requirements, military threat assessments, and national defense strategies. The extramural research and development program plays a vital role in the fulfillment of the objectives established by the USAMRMC. General information on USAMRMC can be obtained at:
Research Development & Grant Writing News

(https://mrmc.detrick.army.mil/). This Broad Agency Announcement (BAA) is intended to solicit extramural research and development ideas, and is issued under the provisions of the Competition in Contracting Act of 1984 (Public Law 98-369), as implemented in Federal Acquisition Regulation 6.102(d)(2) and 35.016. This announcement provides a general description of USAMRMC’s research programs, including research areas of interest; general information; proposal/application preparation instructions; and the evaluation and selection criteria. This fiscal year’s BAA contains several changes from previous USAMRMC BAAs. Read each section carefully. Open to September 30, 2013.

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

FAA Center of Excellence for Environment and Energy
The FAA is forming a Center of Excellence for Environment and Energy during FY-13. The COE will be a consortium of the FAA, university partners, and private industry affiliates selected by the FAA Administrator to work collectively on business and operational issues of mutual interest and concern. Due October 4, 2013.

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

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

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

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

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

**FY2011 – 2016 Basic Research for Combating Weapons of Mass Destruction (C-WMD) Broad Agency Announcement (BAA)**
This BAA is focused on soliciting basic research projects that support the DTRA mission to safeguard America and its allies from WMD (e.g., chemical, biological, radiological, nuclear, and high-yield explosives) by providing capabilities to reduce, eliminate, and counter the threat and mitigate its effects. **Open June 1, 2012 to March 31, 2017.**

**Army Research Laboratory Broad Agency Announcement for Basic and Applied Scientific Research**
This Broad Agency Announcement (BAA), which sets forth research areas of interest to the Army Research Laboratory (ARL) Directorates and Army Research Office (ARO), is issued under the paragraph 6.102(d)(2) of the Federal Acquisition Regulation (FAR), which provides for the competitive selection of basic research proposals. Proposals submitted in response to this BAA and selected for award are considered to be the result of full and open competition and in full compliance with the provision of Public Law 98-369, "The Competition in Contracting Act of 1984" and subsequent amendments. **Open June 1, 2012 to March 31, 2017.**

**ARL Core Broad Agency Announcement for Basic and Applied Scientific Research for Fiscal Years 2012 through 2017**
Air Force Research Laboratory, Directed Energy Directorate

University Small Grants Broad Agency Announcement

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

We provide consulting for colleges and universities on a wide range of topics related to research development and grant writing, including:

- **Strategic Planning** - Assistance in formulating research development strategies and building institutional infrastructure for research development (including special strategies for Predominantly Undergraduate Institutions and Minority Serving Institutions)

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

- **Large proposals** - Assistance in planning and developing institutional and center-level proposals (e.g., NSF ERC, STC, IGERT, STEP, Dept of Ed GAANN, DoD MURI, etc.)

- **Assistance for new and junior faculty** - help in identifying funding opportunities and developing competitive research proposals, particularly to NSF CAREER, DoD Young Investigator and other junior investigator programs

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

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

**Workshops by Academic Research Funding Strategies**

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

(View Index of Articles)

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