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Topics of Interest URLs

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NSF Prospective New Awardee Guide 2016
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The ability to make clarifying distinctions that differentiate one thing from another is important to success in any field, but perhaps no more so than in writing successful research proposals to federal agencies. This is particularly important for faculty new to research grant writing. One of the most important services research offices can offer new faculty is experienced-based observations on what best characterizes a funded and a failed proposal, a critical distinction for long-term success in writing a competitive research narrative.

Faculty new to grant writing must understand that most of what characterizes a successful research proposal is common across academic disciplines and agencies rather than unique to a specific proposal or agency. What distinguishes successful proposals across disciplines and agencies is their adherence to the mission agenda of the funding agency, including how well the research narrative reflects the agency’s mission. But the strategies for writing a successful project description are largely similar.

Success in writing research grants is essentially a learned skill wherein experiences teaches you what you have done right, and, more importantly, what you have done wrong. Niels Bohr made the observation that “An expert is a person who has found out by his own painful experience all the mistakes that one can make in a very narrow field.” That is true in spades in grant writing. But research offices can save new faculty from much of the possible pain resulting from a declined proposal by exposing them early and often to the collective experiences of the research office about what constitutes a successful proposal, whether that be through individual consultations or grant-writing workshops for new faculty.

For example, first and foremost, a well-written proposal is a well-organized proposal free of grammatical errors and convoluted sentence structures. Moreover, the well-written proposal is not something required by one agency but not other agencies — it is a fundamental expectation of all funding agencies. So the first advice to new faculty is: write well. If your writing is challenged, get help from a research office professional experienced in editing and re-writing research narratives. Reviewers and program officers have little patience for poorly written project descriptions that require multiple re-readings in hopes of understanding what the author hopes to convey.

In fact, it is not uncommon for reviewers to call out poorly written proposals, either bluntly by noting it is “poorly written,” or more indirectly, by noting that the proposal is “vague,” “too general,” “lacking in specifics,” “confusing,” “unclear what is actually being proposed,” etc. If reviewers are complaining in the reviews about the quality of the writing, a declined proposal is a foregone conclusion.

Of course, at the heart of every successful proposal are your answers to a series of questions asked in the solicitation by the funding agency that form the framework for a well-organized proposal, or, if specific questions are lacking in the solicitation, then you must make sure your proposal answers some fundamental questions common to all successful proposals, including: what are you going to do, why are you going to do it, how are going to do it, why is it important/significant, what is your research rationale, why do you have the capacity (e.g.,
preliminary data, prior support, publications, patents, etc.) to perform the proposed research, how does your proposed research advance the field or bring value-added benefits to the mission of the funding agency, what is the context of your research in the current state of the field, what does success look like, etc.

These key questions are simple but they are also key to the success of any research proposal, regardless of discipline or agency. Nevertheless, they often remain unanswered in the research narrative of the beginning grant writer, thereby rendering the proposal largely unresponsive to what the funding agency wants to know. However, how well these questions are answered determines the success or failure of all proposals, regardless of disciplinary field or funding agency.

With these questions firmly in mind, the next step on the road to a funded proposal is to understand the mission and research priorities of the funding agency that will allow you to knowledgeably explain in your research narrative how the proposed research will bring value-added benefits to the unique mission of the specific funding agency. This is at the heart of funding success, and it is the agency mission that differentiates one funding agency from another. Understanding the distinctly different missions of the various federal research agencies allows you to take the common characteristics of all successful proposals, such as the key questions noted above, and meld them with an agency’s mission, thereby ensuring long-term success in research funding.

The great service that research offices can offer faculty new to grant writing is to help them jump start their understanding of the common underlying characteristics of the successful proposal narrative and how that is then married to the mission context of the funding agency in the successful project description. These points are very basic, but their absence in the research narrative, in whole or in part, will result in a declined proposal. These simple questions are the small things upon which funding success is built. Conveying them to faculty new to grant writing is critical. Their importance, by analogy, is best noted in the "For Want of a Nail" proverb:

“For want of a nail the shoe was lost.
For want of a shoe the horse was lost.
For want of a horse the rider was lost.
For want of a rider the message was lost.
For want of a message the battle was lost.
For want of a battle the kingdom was lost.
And all for the want of a horseshoe nail.”
The recent 53-page NSF report *The Value of Social, Behavioral, and Economic Sciences to National Priorities* is another useful read for research offices working with faculty seeking research support in these disciplinary areas. This report offers suggestions for demonstrating the value of these fields to the proposed research in a national context, something common to a successful proposal. Moreover, it’s fair to describe the current state of the research funding environment in the SBE disciplines as somewhat uncertain and the longer-term horizon murky as funding agencies adapt to changes in leadership and priorities.

As a complement to this report, two articles from the May and June ARFS newsletter, respectively, *Future Funding Scenarios in the Social and Behavioral Sciences* and a summary overview of the new 92-page National Academies report, *Social and Behavioral Sciences for National Security: Proceedings of a Summit* (2017), downloadable as a free pdf here, address this issue. The report was the result of a 2-year survey by the National Academies of the social and behavioral sciences with the goal of identifying and prioritizing promising social and behavioral sciences (SBS) research opportunities with implications for national security over a 10-year period.

As noted in the Executive Summary of the recent NSF report addressed herein: “Nearly every major challenge the United States faces—from alleviating unemployment to protecting itself from terrorism—requires understanding the causes and consequences of people’s behavior. Even societal challenges that at first glance appear to be issues only of medicine or engineering or computer science have social and behavioral components. Having a fundamental understanding of how people and societies behave, why they respond the way they do, what they find important, what they believe or value, and what and how they think about others is critical for the country’s well-being in today’s shrinking global world. The diverse sciences of the social, behavioral, and economic (SBE) sciences—anthropology, archaeology, demography, economics, geography, linguistics, neuroscience, political science, psychology, sociology, and statistics—all produce fundamental knowledge, methods, and tools that provide a greater understanding of people and how they live.”

So why is this important to research offices? This paragraph gives a nice summary of an NSF and National Academy report that can inform your strategic thinking about how to be successfully funded in the SBE disciplines not only at NSF but across federal mission agencies and foundations. It suggests a line of reasoning about the value-added benefits of SBE disciplines to the broader research community, particularly as it relates to making a compelling case in your research narrative for the significance of the proposed SBE-related research to the field, the agency mission, and the broader societal and national benefits.

It is particularly important for describing the broad scope and role the SBE disciplines can play in the national research enterprise. This is helpful in SBE proposal writing because one of the core common questions asked in most research solicitations, regardless of discipline or
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agency, is that the applicants explain the value of their proposed research in the context of the state of the art in the field today and its longer-term significance. Reading this report will help you better frame those important arguments, better decide how you will address them in a proposal, and will therefore allow you to benefit from an analysis of the role of SBE in the national research enterprise. The report has been developed by a national committee of experts whose thinking will directly impact not only NSF across directorates but also other agencies as the recommendations of the report are adopted in one form or the other.

The report lists key recommendations, for example, that NSF “should undertake a systematic and fully transparent strategic planning process to provide a clear articulation of the most important scientific questions in the social, behavioral, and economic (SBE) sciences that is consistent with NSF’s mission... NSF’s strategic plan should specify the resources and methods required to advance the progress of SBE fields. The plan should reflect broad input from a wide array of stakeholders and put forth priorities for NSF support, while recognizing the need to have a broad and diverse portfolio of innovative projects whose applications may not be immediately apparent but advance the progress of science... NSF should continue to support the development of tools, methods, and research teams that can be used to advance the social, behavioral, and economic sciences; facilitate their interactions with other scientific fields; and help NSF and other agencies and organizations more effectively address important national needs.”

This last quote above from the report signals to the research community where NSF is going in SBE funding and how the agency sees SBE research being integrated into the entire spectrum of technical and scientific support areas at the agency. This ensures that the SBE disciplines are not siloed at the agency but will be given a role in synergizing other research. The subtext in this report is that NSF will advance and deepen the integration and role of SBE across the technical disciplines. This is good news for SBE researchers, signaling that SBE research partnerships with the technical disciplines will fit the NSF vision. It is also a signal to those seeking research funding across the directorates that SBE partnerships are encouraged, particularly where the human and societal dimensions are impacted by the proposed research.

A large portion of the report gives examples of projects that illustrate the report’s recommendations. It is worth a read by research offices to help faculty write more competitive proposals to NSF and other agencies by understanding an evolving national consensus by funding agencies on the role of SBE.
One of the more common errors made on proposals across all dollar and size scales is the overly generalized research narrative that substitutes adjectives, superlatives, and unsubstantiated claims of being novel and cutting edge for actual proof of those claims. In 1899, Missouri Representative Willard D. Vandiver made the iconic observation, "Frothy eloquence neither convinces nor satisfies me. I'm from Missouri. You've got to show me." Wise authors of a research narrative will assume all reviewers and program officers are from Missouri—the “Show Me State.” Those who do not write under this assumption will face frequent disappointment in the form of proposals declined for funding.

Always keep in mind while writing and editing your research narrative that adjectives are not numbers, superlatives are not proof, and claiming something to be true does not make it so. While we all know it is true that a sprinkling of Pixie Dust by Tinker Bell allowed Peter Pan’s friends to fly to Neverland, Peter’s observation that “All the world is made of faith, and trust, and pixie dust” is horrible advice for anyone hoping to write a funded research proposal. Reviewers and program offices are not given to faith and trust in making large dollar awards, nor are they charmed by pixie dust comprised of adjectives, superlatives, and unsubstantiated promises. They are not only not charmed by the “trust me” narrative but most often are annoyed by it because it wastes their time. Remember, superlatives are like awards, it is great when they are used by the review panel ascribing significance to your proposed research, but such self-bestowed praise is unacceptable unless it is accompanied by specific proof on your part.

If you want to be a “rainmaker” in the world of research grant writing, you must substitute “pixie dust” or “gold dust” with narrative tools that equate to the silver iodide, potassium iodide, and dry ice used in artificial rainmaking. You can think of these as the numbers, specific details, results of prior support, and the preliminary data that sufficiently validates for reviewers that the research you propose is worthy of funding.

In this regard, it is helpful to think back to your introductory course in chemistry where you learned to balance equations (reactants and products). To write successful proposals, you must learn to balance the research narrative by linking proof to claim as if they were inseparably connected by an umbilical cord. No claim should be made about the significance of your proposed research without balancing that claim with specific details that demonstrate what you claim is so.

This “show me” proof occurs at all levels in the proposal narrative, but where the “rubber meets the road,” or where the “proof supports the claim” often occurs at the sentence or paragraph level through the use of three key phrases that follow a claim—“for example, for instance, such as”—or following a claim with the use of conjunctions like “because, since, for the reason that.” If you are writing a narrative and a claim(s) about the importance of your research is made at the sentence or paragraph level but is untethered to a validating specific or detail through the use of a phrase or conjunction, reviewers will most likely dismiss it as wishful thinking.
One section of the proposal in which unvalidated claims tend to be made is the critical first section, often called “Introduction and Overview,” where the vision, goals, and objectives of the proposed research project are first laid out for reviewers. In too many cases, for example, the list of project goals never rises above the level of technical slogans, common jargon, and self-praising superlatives.

Consider a large proposal in cybersecurity to a federal agency such as NSF, DoD, DHS, etc., where the following project goals are listed:

- Advance the field of cybersecurity through cutting-edge, novel research;
- Achieve a significantly more secure cyberspace;
- Develop fundamentally new approaches to protect and defend cyberspace against harmful actions by determined adversaries;
- Develop metrics to measure cybersecurity effectiveness;
- Develop innovative approaches for growing a capable, next-generation cyber workforce;
- Accelerate the transition of successful cybersecurity research into practice and useful products.

It is not uncommon for competitions to get over a hundred or often several hundred proposals in response to one solicitation. How many generalized listings of project goals similar to the above can reviewers and program officers read before lapsing into a “generalized proposal-induced coma?” The key here is to seed your proposal narrative, in this case the listing of project goals, with brief phrases that ground your claims in specifics and details in a way that makes them memorable to the reviewers and program officers. Your job in writing a research narrative is to differentiate what you propose and how you propose to accomplish it from other proposal the reviewers will read.

The six above goals can be made memorable to reviewers by seeding in the below phrases or conjunctions that set the stage for presenting the critical brief detail that will validate the importance of your research to reviewers and help them differentiate you from others. If reviewers are starting to nod off by the time they read your proposal, having been made drowsy by reading the overly-generalized proposals of your competition, then You Can Wake Them Up! by demonstrating that you know that adjectives are not numbers, superlatives are not proof, and claiming something to be true does not make it so. So fill in the parenthetical blanks below to ensure your proposal is competitive for funding.

- Advance the field of cybersecurity through cutting edge, novel research, SUCH AS… ;
- Achieve a significantly more secure cyberspace, FOR EXAMPLE, BY… ;
- Develop fundamentally new approaches to protect and defend cyberspace against harmful actions by determined adversaries, INCLUDING… ;
- Develop metrics to measure cybersecurity effectiveness, FOR INSTANCE… ;
- Develop innovative approaches for growing a capable, next-generation cyber workforce, E.G., … ;
- Accelerate the transition of successful cybersecurity research into practice and useful products BY… .
Filling in the above blanks is one of the most important tasks to be performed by the author(s) of a research narrative. Reading a research narrative and flagging places where validating statements are needed represents another important way research offices can help all faculty write more successful proposals.
New Faculty: Meet the Dark Matter of the Funding Universe

It often surprises faculty new to grant writing that a significant portion of federal agency funding comes from unsolicited proposals rather than proposals submitted to a specific program announcement. Moreover, most federal agencies, with the notable exception of USDA/NIFA, publish information on their websites detailing how to submit unsolicited or investigator-initiated proposals, typically called Parent Announcements at NIH and Core Programs at NSF where instructions for preparing the research narrative are explained in the Proposal & Award Policies & Procedures Guide (PAPPG), January 2017.

The process of submitting unsolicited proposals differs by agency, but the most important advice for faculty new to grant writing is not to overlook this considerable source of funding that amounts to billions of dollars in funded research projects annually. This is literally the dark matter of the funding universe. Moreover, the unsolicited process offers several advantages to those faculty new to grant writing, particularly as it relates to learning the process for writing a more competitive proposal, gaining a deeper understanding of the funding agency mission and research priorities, gaining experience interacting with program officers, and exploring funding mechanisms that may be a much better fit for their research than more narrowly defined funding solicitations.

The latter point raised above is important because unsolicited proposals or investigator-initiated proposals are typically characterized as more general in nature than program solicitations, more open to exploring new research ideas within a more general and open-ended research framework, and designed to address research topics not specifically addressed in an agency’s suite of annual program solicitations that tend to be more prescriptive and with more tightly defined research boundaries and agency-defined goals and objectives. Unsolicited proposals are an important avenue for faculty to explore if they believe they have a “great idea” but are unsuccessful in finding a funding solicitation that maps to that idea.

Faculty learning about the investigator-initiated proposal process will want to read agency-specific BAAs (Broad Agency Announcements). These are documents that discuss agency research objectives in a global sense and define the process of submitting a proposal that falls under the purview of an agency, most specifically addressing how to communicate with program officers about an idea, and/or how to write a concept paper or abstract for proposed research that program officers can use to determine whether they want to invite a preliminary proposal or full proposal related to a research idea.

A listing of many currently open BAAs by various federal agencies are included in the “Finding Funding” section of this newsletter. As you can see from the listing, BAAs remain open for periods of a year or more, although it is important to keep reviewing the BAA as posted to grants.gov to make sure you are aware of any modifications to the original BAA, particularly as it relates to shifting agency priorities in regards to the research topics. In many cases, the BAA
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has a link allowing you to sign up for email modifications to the BAA by agency so you are always current.

BAAs offer faculty substantive experience discussing research with program officers, gaining a more nuanced understanding of funding agency mission and culture, and perhaps most importantly, learning how to write a brief concept paper of a few pages designed to sufficiently pique the interest of program officers that they will engage you in a step-wise process leading to a full proposal.

Moreover, learning how to write a convincing concept paper is a critical step in learning how to write a successful proposal. In many cases, the concept paper is very similar to the background and introduction sections of a full proposal and it is the section of the proposal wherein you either win over reviewers or lose their interest.

In this regard, it is helpful to remind faculty submitting a concept paper in response to a BAA or responding in some other abbreviated way to an unsolicited proposal opportunity to the now iconic Heilmeier Catechism noted below by George Heilmeier, director of ARPA (now DARPA) in the 1970s. He developed a standard set of questions he expected every proposal for a new research program to answer, specifically:

1. What is the problem, why is it hard?
2. How is it solved today?
3. What is the new technical idea; why can we succeed now?
4. What is the impact if successful?
5. How will the program be organized?
6. How will intermediate results be generated?
7. How will you measure progress?
8. What will it cost?

Or, consider these common variants on the above questions:
1. What are you trying to do? Articulate your objectives using absolutely no jargon. What is the problem? Why is it hard?
2. How is it done today, and what are the limits of current practice?
3. What's new in your approach and why do you think it will be successful?
4. Who cares?
5. If you're successful, what difference will it make? What impact will success have? How will it be measured?
6. What are the risks and the payoffs?
7. How much will it cost?
8. How long will it take?
9. What are the midterm and final "exams" to check for success? How will progress be measured?

Finally, writing successful research proposals is a learned skill gained from experience. Writing concept papers and talking to program officers about your research ideas and presenting them to an agency in hopes of an invitation to submit a full proposal is an invaluable skill. This is an
area where research offices can use their experience to help faculty explore often neglected funding opportunities.
DoD Funding: Proposer's Days  
and How They Can Help You  

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By Lucy Deckard, co-publisher  
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As we’ve discussed in previous articles (see Feb. 2011, April 2014 and May 2014 issues), funding success at the Department of Defense (DoD) depends on doing your homework, talking to the Program Officer, developing the right collaborations, and understanding the agency’s needs and goals for a particular funding opportunity. DARPA and other DoD agencies are increasingly using Proposers Days and similar events to help potential applicants for specific funding opportunities do these things. For that reason, if you plan to pursue research funding from the DoD, be sure you take advantage of these events. A primer on Proposers’ Days is given below.

What are Proposers Days?

Proposers Days and similar events have become popular among DoD agencies (and some other funders) as a way to inform the research community about either the general research interests of a DoD organization or the goals and priorities for a specific funding announcement. From the funder’s point of view, Proposers Days are a way to gather information about who is likely to apply to a solicitation, efficiently answer questions, inform the community about what types of proposals the funder would like to see, and facilitate the development of strong teams, thus resulting in higher quality proposals.

An example of a Proposers Day focused on general research interests is the DARPA Defense Sciences Office (2-day) Proposers Day, held June 22 -23, 2016 in conjunction with the release of a new DSO Office-wide Broad Agency Announcement (BAA). As we’ve discussed in previous articles, office-wide or long-range BAAs from DoD agencies typically list and describe the research areas that the agency plans to support. These long-range BAAs provide guidance for researchers who plan to submit investigator-initiated proposals, including priority topics and technical points of contact for specific research areas.

An example of a Proposers Day focused on a specific funding opportunity is the DARPA Dispersed Computing Proposers Day. The objective of this Proposers Day was to provide information and background on the Dispersed Computing program, whose BAA had not yet been released. In addition to helping proposers better understand what the funder is looking for, Proposers Days also provide opportunities for potential proposers to look for collaborators and build teams, as well as to get a feel for who their competition might be.

In addition to in-person Proposers Days, DARPA is increasingly holding online Proposers Days. Although they don’t provide the same opportunities for networking, they are much more convenient and economical to attend, and recordings of the web presentations may be available after the event. An example of a web-based Proposers Day is the up-coming Young Faculty Award YFA Proposers Day webcast.

Funders may hold similar events under other names, for example, “Workshops.” While some of these workshops may be topic-oriented (for example, the Army’s Future of Munitions Batteries Workshop) and may not officially be tied to an upcoming funding opportunity, they
are often an early step in the funder’s process of developing a new solicitation. Those who attend these workshops may have the opportunity not only to develop a deeper understanding of the agency’s goals and priorities, but also to shape the solicitation through technical discussions that take place at the workshop. For that reason, it’s important to attend these events if at all possible.

**How do I find out about Proposers Days and Similar Events?**

Of course, if you have a good relationship with your Program Officer, you may find out about an upcoming Proposers Day from him or her. Most funders also announce Proposers Days, Workshops, Webinars, and similar events on their websites, but it may be a bit difficult to find. Here are links to those webpages for a number of agencies.

- Defense Advanced Research Projects Administration (DARPA) Events
- Intelligence Advanced Research Projects Administration (IARPA) Proposers Days
- Air Force Office of Sponsored Research Reviews (open to government contractors and employees)
- Office of Naval Research Events
- Army Research Office (ARO) Website – enter “workshop” in the search window
- ARPA-E Events & Workshops
- NSF Events
Performing an Autopsy on Declined Proposals

A declined proposal should be considered a crime scene. A forensic autopsy needs to be performed to determine its cause of death. If this step is not taken, the cause of death will never be clearly known, thereby exposing a resubmission or other future proposals to a similar unfortunate demise. Proposal death can frequently be attributed to a “communicable disease” that may infect other proposals in the future. For example, poor writing, one of most common communicable proposal diseases, is highly infectious, making robust ideas seem sickly, and leaving a trail of declined proposals in its wake.

Therefore, it will be important to make that determination and put in place the appropriate quarantine protocols to prevent the viral spread of narrative errors from one proposal to another. Regardless, the “body in evidence,” in this case the declined proposal, and the evidentiary documents, e.g., the solicitation, reviewers’ and program officer comments, and any observations made by program officers, are all part of the autopsy. **So when you get a declined proposal, put a toe tag on it and start the process of identifying the cause of death to help ensure future proposals do not meet a similar fate.**

The forensic autopsy of a declined proposal needs to consider all factors, from an accumulation of small contributing weaknesses, none of which in and of themselves caused the demise of the proposal but in aggregate proved fatal, to the catastrophic failure of one or more major proposal components, such as the failure of the research vision and goals to excite the reviewers and convince them the research is significant and fundable. The statement of research vision and goals functions as the heart of the proposal. A failure here is always fatal. If this turns out to be the cause of a proposal’s death, then some major lifestyle changes are going to have to be put in place before a resubmittal.

Any proposal autopsy will look to identify the usual causes of proposal death, for example: the research ideas did not impress the reviewers as advancing the field or agency mission in an important way; the research plan was overly ambitious, disorganized, and unrealistic; the research team did not present sufficient preliminary data or describe a history of research collaboration (e.g., funding, papers, patents); the research narrative was poorly written and poorly organized; the rationale for the research was not convincing; the management plan failed to gain the reviewers’ confidence that the research goals would be achieved; the research narrative read like a collection of loosely associated rather than interdependent research objectives—silos rather than synergy, etc.

Unlike in crime procedurals, such as those portrayed by Ducky the pathologist on NCIS, you will have some help conducting an autopsy on a declined proposal--the reviewers and program manager will have conducted their own preliminary autopsy during the review process, or at the very least provide you with some “eye witness” testimony as to what caused the demise of your proposal. How helpful this information proves to be in determining your proposal’s cause of death can vary greatly. It is not uncommon to review the reviewers in this process to help you make a judgment of the value of their comments to a resubmission or to a new proposal in the future. Moreover, many failings in one proposal may well be generic to
any proposal you write. So keep this in mind and be on the lookout for review comments that go beyond the particular proposal and signal flaws you might make in any proposal.

Moreover, some reviewers do an excellent job, some do a good job, and some do a poor job. But typically, with several or more reviewers, you will be provided with some solid information that will help you determine your proposal’s cause of death. Keep in mind that, on a declined proposal, a conscientious fair review that is thoughtful, detailed, and specific is much more helpful than an unexplained excellent review.

In many ways, the forensic autopsy of a declined proposal is similar to the red teaming process you may have used in analyzing the solicitation and in reviewing the proposal just prior to the due date. If a red team was used in writing the proposal, then those red team members should play a role in the autopsy, particularly on proposals for which a resubmission is planned.

The real issue, however, is that too often no strategic plan exists for conducting a forensic autopsy of a declined proposal. In many cases, reviews are distributed to the team members as pdf files that may or may not be examined in any great detail, or only given a cursory review by some but not all of the research team, and are largely forgotten by the time of a resubmittal.

However, a team-based forensic autopsy of proposal reviews is of great value, particularly when the process includes as a team member someone from a research office who has helped analyze and decode reviews for many faculty for many programs across many agencies over many years. In the case of smaller, individual PI grants, particularly those such as the NSF CAREER, it is enormously helpful to conduct a forensic autopsy of the reviews with a CAREER-funded colleague or someone from a research office who has assisted many young faculty with those awards.

Of course, the forensic autopsy of a declined large-team grant is critical to going forward with a resubmittal or developing other team grants with the core research group in the future. It is often said that elite professional athletes, for example Tom Brady and Payton Manning, spend countless hours watching game films to, in part, understand the flaws and mistakes made in both execution and strategy. In many ways, large team grants characterized by interdisciplinarity and complex research challenges are the elite and most institutionally prestigious grants to obtain. **Putting in place a process to conduct a forensic autopsy to determine the flaws and mistakes in the research narrative of a declined proposal is the first step in a successful resubmission.**
FY 2018 Research Funding Webinars

IES Research Funding Opportunities On-Demand Webinars

The Institute of Education Sciences has developed this series of on-demand webinars for those interested in FY 2018 funding opportunities. The webinars are presented by staff from the National Center for Special Education Research (NCSER) and the National Center for Education Research (NCER) and resources include presentations, transcripts, and closed-caption video recordings. After watching a webinar, users can submit questions to IES.Webinar.Questions@ed.gov. Questions should be submitted on or before July 31 and answers to frequently asked questions will be posted on this website. We also encourage you to e-mail the program officer questions that are specific to your project. For more information on specific programs, visit the IES funding opportunities website.

General Overviews

- **IES Application Process**
  During this Application Process webinar, IES staff provide information regarding the grant submission process. Topics focus on the application instructions, including content, registration and submission through Grants.gov, and application forms.
  Download PPT | View html version | View Video of On-Demand Webinar
  View, download, and print the transcript as a PDF file (119 KB)

- **IES Basic Overview of Research Grants**
  In this IES Basic Overview webinar, IES staff provide general information about the funding opportunities in NCER and NCSER, the IES goal structure, and the peer review process.
  Download PPT | View html version | View Video of On-Demand Webinar
  View, download, and print the transcript as a PDF file (194 KB)

- **IES Grant Writing Workshop**
  This Grant Writing Workshop webinar will focus on more in-depth information about requests for applications and the IES goal structure.
  Download PPT | View html version | View Video of On-Demand Webinar
  View, download, and print the transcript as a PDF file (279 KB)

- **New Applicants to IES**
  IES staff provide a general overview of grant funding at IES and tips for first time applicants during this New Applicants webinar. If you have not applied to IES before, or you are considering applying to IES, this webinar provides a broad overview of our grant funding and some considerations to help you decide whether to submit an application.
  Download PPT | View html version | View Video of On-Demand Webinar
  View, download, and print the transcript as a PDF file (238 KB)
### Public Access and Data Sharing

In this Public Access and Data Sharing Webinar, IES staff provide an overview of the IES Public Access Policy and the requirements for funded researchers to provide access via ERIC to peer-reviewed scholarly publications and access to data generated from all IES-funded studies that support causal inference. IES staff provide information about what needs to be included in your application to demonstrate your ability to meet these requirements. **COMING SOON**

### Funding Opportunities for Minority Serving Institutions

During this webinar, IES staff provide a general overview of funding opportunities at IES for applicants from Minority Serving Institutions (MSIs). This webinar is tailored to researchers and sponsored programs officers from MSIs that are new to IES, as well as those who are resubmitting applications from prior competitions. **COMING SOON**

#### Fiscal Year 2018 Funding Opportunities

- **Low-Cost, Short-Duration Evaluation of Education and Special Education Interventions**
  This webinar will focus on an overview of two new grant competitions focused on Low-Cost, Short-Duration Evaluations of **Education Interventions (84.305L)** and **Special Education Interventions (84.324L)**. This webinar covers the general requirements related to student outcomes, education settings, interventions that can be studied, evaluation designs, partnerships between researchers and education agencies, and products to be disseminated. The application deadlines for these two competitions are August 3, 2017 and March 1, 2018.

  [Download PPT] [View html version] [View Video of On-Demand Webinar]
  View, download, and print the transcript as a PDF file (356 KB)

- **NCSER Research Training Programs in Special Education: Postdoctoral Research Training in Special Education and Early Intervention**
  In this webinar, NCSER staff review the Postdoctoral Research Training grants topic within **NCSER Research Training Programs in Special Education (84.324B)**. This competition funds programs at doctoral-granting institutions to further prepare researchers who have obtained their doctorate to become researchers capable of conducting high-quality, independent special education or early intervention research that advances knowledge within the field and addresses issues important to education leaders and practitioners. The application deadline for this competition is August 17, 2017.

  [Download PPT] [View html version] [View Video of On-Demand Webinar]
  View, download, and print the transcript as a PDF file (118 KB)

- **NCSER Research Training Programs in Special Education: Early Career Development and Mentoring**
  During this webinar, NCSER staff review the Early Career grants topic within **NCSER Research Training Programs in Special Education (84.324B)**. This program provides support for an integrated research and career development plan for investigators in the
Research Development & Grant Writing News

early stages of their academic careers who have established an interest in special education research. The ultimate aim of this program is to help launch independent research careers focused on infants, toddlers, children, and youth with or at risk for disabilities. The award will provide support for research (including salary for protected time to conduct research) and career development that includes training under the guidance of an experienced mentor or mentors. The application deadline for this competition is August 17, 2017.

Download PPT | View html version | View Video of On-Demand Webinar View, download, and print the transcript as a PDF file (190 KB)

- **Researcher-Practitioner Partnerships in Education Research**
  This webinar will focus on information on applying for research grants within the [Partnerships and Collaborations Focused on Problems of Practice or Policy (84.305H) program](#) specific to Researcher-Practitioner Partnerships in Education. This program supports partnerships composed of research institutions and state or local education agencies that have identified an education issue or problem of high priority for the education agency that has important implications for improving student education outcomes. The application deadline for this competition is August 17, 2017.
  Download PPT | View html version | View Video of On-Demand Webinar View, download, and print the transcript as a PDF file (160 KB)

- **Evaluation of State and Local Education Programs and Policies**
  In this webinar, IES staff provide information on applying for research grants within the [Partnerships and Collaborations Focused on Problems of Practice or Policy (84.305H) program](#) specific to the Evaluation of State and Local Education Programs and Policies. This program supports the evaluation of fully developed programs and policies implemented by state educational agencies to determine whether they produce a beneficial impact on student education outcomes. The application deadline for this competition is August 17, 2017.
  Download PPT | View html version | View Video of On-Demand Webinar View, download, and print the transcript as a PDF file (184 KB)

- **Research Networks Focused on Critical Problems of Policy and Practice in Special Education: Multi-Tiered Systems of Support**
  During this webinar, IES staff provide an overview of NCSER's new grant program, [Research Networks Focused on Critical Problems of Policy and Practice (84.324N) focused on Multi-Tiered Systems of Support (MTSS)](#). MTSS are frameworks that provide multiple levels of support through coordinated, evidence-based practices, strategies, and structures to meet the academic, social, emotional, and behavioral needs of all learners. For this topic, MTSS must occur at the elementary school level, integrate both academic and behavioral supports, and address the needs of children with or at risk for disabilities. The application deadline for this competition is September 21, 2017. **COMING SOON**
Research Development & Grant Writing News

- **National Research and Development Centers: Improving Rural Education**
  IES staff provide an overview of this R&D Center through the Education Research and Development Center Program (84.305C) during this webinar. This center will examine how to build the capacity of rural schools to use high-quality, scientific research to improve student education outcomes. The application deadline for this competition is September 21, 2017. COMING SOON

- **National Research and Development Centers: Improving Education Outcomes for Disadvantaged Students in Choice Schools**
  In this webinar, IES staff provide an overview of this R&D Center through the Education Research and Development Center Program (84.305C). This center will examine how states and school districts can implement school choice programs and policies in ways that improve education outcomes for disadvantaged students. The application deadline for this competition is September 21, 2017. COMING SOON

- **National Research and Development Centers: Writing in Secondary Schools**
  During this webinar, IES staff provide an overview of this R&D Center through the Education Research and Development Center Program (84.305C). This center will conduct research on how students develop writing skills across secondary school and how best to support or measure writing skills in this population. The application deadline for this competition is September 21, 2017. COMING SOON

- **National Research and Development Centers: Exploring Science Teaching in Elementary School Classrooms**
  IES staff provide an overview of this R&D Center through the Education Research and Development Center Program (84.305C) during this webinar. This center will examine specific observable teaching actions during science instruction and explore the relationship between these teaching actions and student science learning in early elementary school classrooms. The application deadline for this competition is September 21, 2017. COMING SOON
New WWC Instructional Tips Resource Can Help Teachers Improve Mathematical Problem Solving

The What Works Clearinghouse (WWC) today (July 25) is launching Instructional Tips, a new resource designed to help educators implement the evidence-based recommendations from its Educator’s Practice Guides. The first Instructional Tips publication accompanies the practice guide, *Improving Mathematical Problem Solving in Grades 4 Through 8*. This practice guide provides five recommendations for improving students' mathematical problem solving skills. The publications released today are:

- **Instructional Tips Based on the Educator’s Practice Guide**: This eight-page set of instructional tips translates practice guide recommendations into actions and approaches that educators can use in their classrooms.
- **Summary of Evidence for Instructional Tips Based on the Educator’s Practice Guide**: This summary describes the research evidence that supports the classroom approaches included in the Instructional Tips.

Visit [whatworks.ed.gov](http://whatworks.ed.gov) today to download these supplemental resources along with the full *Improving Mathematical Problem Solving* practice guide and see more WWC math reports. For the latest WWC news, follow the WWC on Twitter and Facebook. And to learn more about WWC Instructional Tips, read this new IES blog post.

**Developing an Integrative STEM Curriculum for Robotics Education Through Educational Design Research**

This paper presents an integrative standards-based STEM curriculum that uses robots to develop students' computational thinking. The need for the project is rooted in both the overall lack of existing materials as well as the need for materials that directly address specific STEM standards in an integrative fashion. The paper details the first mesocycle of an educational design research project (EDR) in which a robust theoretical framework was created to support the development of a 2-week series of robotics lessons. Analysis of evaluation data from 5 fifth-grade teachers and their students revealed that the integrative curriculum supported student problem solving and teacher practices that supported cognitive demand. Implications for research, design, and instruction are discussed.

**Exploring Physics, The Curriculum App**

*Exploring Physics* is a curriculum app is an interactive inquiry- and modeling-based conceptual physics curriculum for high school Conceptual Physics, Physics First and Physical Science courses. It combines hands-on activities with a discussion-based pedagogy where students construct mental models of scientific concepts. The app is constructed so that students input their ideas into the app in text, drawings, and graphs - so the app works as a combined workbook, lab book and textbook. Eight units of content are available, in both student and teacher versions. The App works on iPad, Mac, PC and Chromebook platforms. The app is fully functional offline;
internet connection is needed for app updates and assignment submission. The curriculum is aligned to NGSS High School Physical Science Performance Expectations.
The Institute of Education Sciences (IES) is seeking input on its education and special education research programs, specifically around two of its five research goals—Efficacy and Replication (Goal 3) and Effectiveness (Goal 4). More information can be found by reading the Invitation for Public Comment issued by the National Center for Education Research and National Center for Special Education Research. IES is requesting feedback on whether these goals, as currently configured, are meeting the needs of the field, or whether changes should be considered to incentivize and support more replication and effectiveness studies. This request comes after IES convened a group of experts to discuss what should follow an efficacy study. This Technical Working Group (TWG) met last fall and made suggestions on actions IES could take to increase the visibility and support of replication studies. The TWG also discussed strategies to further understanding of program implementation, underlying causal mechanisms, and variability in impacts. Some of the findings and suggestions were shared in a blog post earlier this year and in a summary of the working group’s discussion on the IES website (PDF). Those wishing to respond may send comments by email to Comments.Research@ed.gov by Monday, October 2, 2017. Invitation for Public Comment

National Academies Event Highlights Recent SBE Report; Rep. Lipinski Adds his Support
On July 19, the National Academies of Science, Engineering and Medicine hosted a public discussion on a recently released consensus report requested by the National Science Foundation (NSF). The report, The Value of Social, Behavioral, and Economic Sciences to National Priorities, discussed the overwhelming consensus that the social, behavioral, and economic sciences (SBE) significantly contribute to the advancement of NSF’s missions, the missions of other agencies, as well as the missions of businesses and industries. For a more detailed summary of the report, refer to COSSA’s summary. The public discussion of the report was comprised of an overview of the report, commentary, and roundtable discussion on implementing the report’s recommendations, as well as an opportunity for questions from the audience. Read on for more details.

Dear Colleague Letter: NSF/NSFC Joint Research on Environmental Sustainability Challenges
The NSF Engineering and Geosciences Directorates (ENG and GEO) and the National Natural Science Foundation of China (NSFC) Department of Engineering and Material Sciences (DEMS) and Department of Geosciences are partnering to encourage joint research by U.S.-China teams collaborating on fundamental research that addresses critical environmental sustainability challenges.

Among nations, the U.S. and China have the two largest economies on Earth and also have important engineering, technology, business and trade relationships with each other. Both nations face significant environmental sustainability challenges, for example in the food-energy-water (FEW) nexus, urban sustainability, global change, and manufacturing. Fundamental research is needed to provide the foundational knowledge for addressing these challenges.
This call is for research proposals from joint U.S.-China teams in the environmental sustainability themes of:

"Innovations at the Nexus of Food, Energy, and Water Systems (INFEWS: U.S.-China)"

1. Quantitative and computational modeling of a FEW system
2. Innovative human and technological solutions to critical FEW systems problems.

Every proposal must include the participation of researchers from at least one U.S. institution and at least one institution in China. Proposals that do not comply with this requirement will be returned without review. The proposal submitted to NSF must conform to NSF proposal requirements as specified in NSF’s posted Proposal and Award Policies and Procedures Guide (PAPPG) (NSF 17-1), and the matching proposal submitted to NSFC must conform to requirements posted by NSFC. NSF will fund the U.S. researchers of winning teams (up to a total of $500K for 4 years for each winning proposal), while NSFC will fund the China researchers of winning teams (up to a total of 3 million yuan for 4 years for each winning proposal). In total, no more than 7 joint NSF-NSFC project grants are expected to be funded. Each proposal must include a management plan that clearly specifies the role of team researchers from both the U.S. and China, and the mechanisms through which close collaboration will be assured. The management plan is not to exceed 3 pages and is to be included in the supplementary document file of the electronic submission.

Solicitation of Input From Stakeholders Regarding the Higher Education MSP and the NNF Grants Program: Stakeholder and Public Listening Session

A Federal Register Notice entitled "Solicitation of Input From Stakeholders Regarding the Higher Education Multicultural Scholars Program (MSP) and the National Needs Graduate and Postgraduate Fellowship (NNF) Grants Program: Stakeholder and Public Listening Session" was published in the Federal Register on August 2, 2017. As part of the National Institute of Food and Agriculture's (NIFA) strategy to successfully meet the needs of its stakeholders, NIFA will host a virtual listening session. The focus of the listening session is to gather stakeholder input for the Higher Education Multicultural Scholars Program (MSP) and the National Needs Graduate and Postgraduate Fellowship (NNF) Grants Program Request for Applications (RFA) in Fiscal Year (FY) 2018. NIFA is particularly interested in achieving the most impact and identifying suggested priorities in these workforce development programs. The listening session will be held on Thursday, August 24, 2017 from 1:30 p.m. to 3:30 p.m., Eastern Daylight Time (EDT). Anyone interested may submit written comments. All written comments must be submitted by 5 p.m. EDT on August 24, 2017. The comment period closes on August 24, 2017.

Dear Colleague Letter: Removal of Deadlines for the Process Separations Program in the Division of Chemical, Biological, Environmental, and Transport Systems in the Directorate for Engineering

The Process Separations Program in the Division of Chemical, Biological, Environmental, and Transport Systems (CBET) has, as of June 2017, eliminated target dates and will accept proposals for consideration at any time. To allow time to adapt to the "open submission - no deadline" guidelines, new proposals will be considered for review after July 20, 2017. The Process Separations Program will continue to maintain a high-quality merit review system using ad hoc mail reviews and panels, as appropriate. For those unfamiliar with the no-
submission deadline process, FAQs and other relevant information will be provided on the CBET webpage.

By accepting proposals at any time, investigators will have greater opportunities to prepare proposals, build strong collaborations, and think more creatively resulting in more complex, interdisciplinary projects that have the potential to dramatically advance science. We anticipate that the elimination of deadlines will increase proposal success rate and reduce the burden on institutions and the community by expanding the submission period over the course of the year, as opposed to the previous 20-day window in October.

With this change, the Process Separations Program will implement new guidelines, in which a declined proposal (or reasonable facsimile of that proposal/topic by the same investigator) is ineligible for resubmission until a minimum of one year has passed from the date of its initial submission. This moratorium will allow investigators the time required to digest the results of the merit review and revise/restructure the declined proposal accordingly. Any proposal the Program considers too similar to a previous proposal that is under the moratorium period will be returned without review. Likewise, any proposals submitted to CBET or similar programs in the Foundation, that the Program decides have not been substantially revised will be returned without review, as outlined in the NSF Proposal and Award Policies and Procedures Guide (PAPPG).

Only proposals submitted to the Process Separations Program in the Division of Chemical, Biological, Environmental, and Transport Systems (CBET) are affected by this change. All other submissions to other programs or other funding opportunities within the division will continue to follow the deadlines outlined in their respective solicitations and webpages. This includes proposals submitted to this program under the CAREER solicitation, which will adhere to the CAREER deadlines as noted in the solicitation.
Foundational Cybersecurity Research: Improving Science, Engineering, and Institutions
Attaining meaningful cybersecurity presents a broad societal challenge. Its complexity and the range of systems and sectors in which it is needed mean that successful approaches are necessarily multifaceted. Moreover, cybersecurity is a dynamic process involving human attackers who continue to adapt. Despite considerable investments of resources and intellect, cybersecurity continues to poses serious challenges to national security, business performance, and public well-being. Modern developments in computation, storage and connectivity to the Internet have brought into even sharper focus the need for a better understanding of the overall security of the systems we depend on. Foundational Cybersecurity Research focuses on foundational research strategies for organizing people, technologies, and governance. These strategies seek to ensure the sustained support needed to create an agile, effective research community, with collaborative links across disciplines and between research and practice. This report is aimed primarily at the cybersecurity research community, but takes a broad view that efforts to improve foundational cybersecurity research will need to include many disciplines working together to achieve common goals.

A Review of the Environmental Protection Agency's Science to Achieve Results Research Program
Environmental research has driven landmark improvements that led to the protection of human and ecosystem health. Recognizing the value of knowledge generated by environmental research and the ingenuity within academic and nonprofit institutions, the US Environmental Protection Agency (EPA) created a program known as Science to Achieve Results, or STAR, in 1995. STAR is EPA’s primary competitive extramural grants program. A Review of the Environmental Protection Agency’s Science to Achieve Results Research Program assesses the program’s scientific merit, public benefits, and overall contributions in the context of other relevant research and recommends ways to enhance those aspects of the program. This report also considers the conclusions and recommendations of a prior National Research Council review of the STAR program (2003), the STAR program’s research priorities in light of the nation’s environmental challenges, and the effects of recent STAR funding trends on obtaining scientific information needed to protect public health and the environment.

Enhancing the Resilience of the Nation’s Electricity System
Americans’ safety, productivity, comfort, and convenience depend on the reliable supply of electric power. The electric power system is a complex “cyber-physical” system composed of a network of millions of components spread out across the continent. These components are owned, operated, and regulated by thousands of different entities. Power system operators work hard to assure safe and reliable service, but large outages occasionally happen. Given the nature of the system, there is simply no way that outages can be completely avoided, no matter how much time and money is devoted to such an effort. The system’s reliability and resilience can be improved but never made perfect. Thus, system owners, operators, and regulators must
prioritize their investments based on potential benefits. Enhancing the Resilience of the Nation’s Electricity System focuses on identifying, developing, and implementing strategies to increase the power system’s resilience in the face of events that can cause large-area, long-duration outages: blackouts that extend over multiple service areas and last several days or longer. Resilience is not just about lessening the likelihood that these outages will occur. It is also about limiting the scope and impact of outages when they do occur, restoring power rapidly afterwards, and learning from these experiences to better deal with events in the future.
New Funding Opportunities

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

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

New Funding Solicitations Posted Since July 15 Newsletter

USDA-NIFA-EXCA-006385 Military REACH
NIFA requests applications for the REACH for fiscal year (FY) 2017 to provide high-quality resources for the U.S. Department of Defense (DoD) in the form of research and professional development tools across the spectrum of family support, resilience, and readiness. Due September 5.

ARPA-E Innovative Natural-gas Technologies for Efficiency Gain in Reliable, Affordable Thermochemical Electricity-generation INTEGRATE - concept paper
The objective of the INTEGRATE Program is to reduce the cost and increase the primary energy efficiency associated with the provision of electric power to commercial and industrial end users. In this program, ARPA-E seeks to develop natural gas-fueled distributed electric generation systems that offer fuel to electric power conversion efficiencies in excess of 70%. The INTEGRATE program will focus on hybrid system designs that integrate a fuel cell with a heat or reactive engine for ultra-high efficiency at competitive costs. This FOA seeks to encourage the development of the enabling technologies that will make these hybrid systems a reality, and a successful INTEGRATE program will provide highly flexible distributed energy technology options with unprecedented efficiency and lower emissions than today's fossil-fuel generated electricity. Furthermore, the technologies that this program seeks to develop are also expected to have broad electric-power-generation and transportation market applications. Concept Paper Due September 11.

Fellowships at the National Humanities Center
Portal opens July 10, 2017. Fellowship applicants are asked to complete the online application form and to upload the following documents: 1,000-word project proposal, short bibliography, curriculum vitae, and a one-page tentative outline of the structure of the project (if the project is a book, provide an outline of chapters; otherwise, give an outline of the components of the
Research Development & Grant Writing News

project and their progress to date). Applicants will also be asked to provide names and contact information for three references. References will receive a prompt inviting them to upload a letter on behalf of the applicant. Applicants are encouraged to contact their references separately to alert them to expect to receive the prompt. Applications and supporting materials, including reference letters, must be submitted by midnight EDT, October 18, 2017.

Innovations in Graduate Education (IGE) Program
The Innovations in Graduate Education (IGE) program is designed to encourage the development and implementation of bold, new, and potentially transformative approaches to STEM graduate education training. The program seeks proposals that explore ways for graduate students in research-based masters and doctoral degree programs to develop the skills, knowledge, and competencies needed to pursue a range of STEM careers. IGE focuses on projects aimed at piloting, testing, and validating innovative and potentially transformative approaches to graduate education. IGE projects are intended to generate the knowledge required for their customization, implementation, and broader adoption. The program supports testing of novel models or activities with high potential to enrich and extend the knowledge base on effective graduate education approaches. The program addresses both workforce development, emphasizing broad participation, and institutional capacity building needs in graduate education. Strategic collaborations with the private sector, non-governmental organizations (NGOs), government agencies, national laboratories, field stations, teaching and learning centers, informal science centers, and academic partners are encouraged. Due October 25.

Getty/ACLS Postdoctoral Fellowships in the History of Art
ACLS invites applications for Getty/ACLS Postdoctoral Fellowships in the History of Art, made possible by the generous support of the Getty Foundation. These fellowships are intended to support an academic year of research and/or writing by early career scholars for a project that will make a substantial and original contribution to the understanding of art and its history. The ultimate goal of the project should be a major piece of scholarly work by the applicant. ACLS does not fund creative work (e.g., novels or films), textbooks, straightforward translation, or pedagogical projects. ACLS will award 10 fellowships, each with a salary-replacement stipend of $60,000, plus $5,000 for research and travel during the award period. The fellowships are portable and are tenable at the fellow's home institution, abroad, or at another appropriate site for the work proposed. Awards also will include a one-week residence at the Getty Research Institute following the fellowship period. Due October 25.

Discovery Research PreK-12
The Discovery Research PreK-12 program (DRK-12) seeks to significantly enhance the learning and teaching of science, technology, engineering, mathematics and computer science (STEM) by preK-12 students and teachers, through research and development of STEM education innovations and approaches. Projects in the DRK-12 program build on fundamental research in STEM education and prior research and development efforts that provide theoretical and empirical justification for proposed projects. Projects should result in research-informed and field-tested outcomes and products that inform teaching and learning. Teachers and students
who participate in DRK-12 studies are expected to enhance their understanding and use of STEM content, practices and skills. The DRK-12 program invites proposals that address immediate challenges that are facing preK-12 STEM education as well as those that anticipate radically different structures and functions of preK-12 teaching and learning. The DRK-12 program has three major research and development strands: (1) Assessment; (2) Learning; and (3) Teaching. The program recognizes the synergy among the three strands and that there is some overlap and interdependence among them. However, proposals should identify a clear focus of the proposed research efforts (i.e., assessment, learning, or teaching) consistent with the proposals main objectives and research questions. The program supports five types of projects: (1) Exploratory, (2) Design and Development, (3) Impact, (4) Implementation and Improvement, and (5) Conferences and Syntheses. All five types of projects apply to each of the three DRK-12 program strands. **Due November 14.**

**NEA Literature Fellowships: Translation Projects, FY2019**
An individual may submit only one application for FY 2019 funding. You may not apply for both a Translation Project under this deadline (December 5, 2017) and a Literature Fellowship (in prose or poetry) under the 2018 deadline (when fellowships in prose are offered). The Arts Endowment’s support of a project may begin any time between November 1, 2018, and November 1, 2019, and extend for up to two years. Program Description Through fellowships to published translators, the National Endowment for the Arts supports projects for the translation of specific works of prose, poetry, or drama from other languages into English. We encourage translations of writers and of work that are not well represented in English translation. All proposed projects must be for creative translations of literary material into English. The work to be translated should be of interest for its literary excellence and value. Priority will be given to projects that involve work that has not previously been translated into English. Competition for fellowships is rigorous. Potential applicants should consider carefully whether their work will be competitive at the national level. **Due December 5.**

**Ford Foundation Fellowship Programs**
Awards will be made for study in research-based Ph.D. or Sc.D. programs; practice oriented degree programs are not eligible for support (see eligible fields). Prospective applicants should read carefully the eligibility requirements, the terms of the fellowship awards, application instructions and other information pertaining to the individual fellowship (Predoctoral, Dissertation, or Postdoctoral) for which they are applying. In addition to the fellowship award, Ford Fellows are eligible to attend the Conference of Ford Fellows, a unique national conference of a select group of high-achieving scholars committed to diversifying the professoriate and using diversity as a resource for enriching the education of all students. **Due Date of Dec. 7, 14 and January 9.**

**URL Links to New & Open Funding Solicitations**
Links verified Tuesday, May 23, 2017

- [SAMHSA FY 2017 Grant Announcements and Awards](#)
Sollicitations Remaining Open from Prior Issues of the Newsletter

N00014-17-S-F014 FY2018 Office of Naval Research (ONR) 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, have begun their first appointment on or after 31 December 2012, 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 (hereafter also called "universities") to the Department of the Navy's Science and Technology (S&T) research program, to support their research, and to encourage their teaching and research careers. Proposals addressing research areas (as described in the ONR Science and Technology Department section of ONR's website at www.onr.navy.mil) which are of interest to ONR program officers will be considered. Contact information for each division (a subgroup of an S&T Department) is also listed within the S&T section of the website. Applicants are STRONGLY ENCOURAGED to contact the appropriate Program Officer who is the point of contact for a specific technical area to discuss their research ideas. A list of most Program
Officers and their contact information can be found at: http://www.onr.navy.mil/en/Science-Technology/Contacts.aspx. Brief informal pre-proposals may be submitted to facilitate these discussions but are not required. Such discussions can clarify the content and breadth of the priority research areas and enhance the match between a subsequent proposal and Department of the Navy research needs. Please allow adequate time for such discussions with the ONR Program Officer. An individual wishing to apply for a Young Investigator award must submit a research proposal and at least one letter of support through the appropriate university officials. Refer to Section V “Evaluation Criteria” regarding the importance of the letter(s) of support in the overall evaluation criteria and Section IV “Application and Submission Information” regarding its content. Applications received without at least one letter of support will be considered incomplete and will not be considered for award. The research proposal should follow the format described in FOA Section IV entitled, “Application and Submission Information.” Applicants may request up to $170,000 per year for three (3) years. These funds may be budgeted against any reasonable costs related to conducting the proposed research, for example, salary for the Young Investigator, graduate student support, supplies, and applicable indirect cost. 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. Requesting funds for capital equipment will not decrease the probability of receiving an award. Additional support for equipment will be decided separately from award selections and will depend upon availability of funds. Applicants awarded grants under the ONR Young Investigator Program have the opportunity to supplement the basic $170,000 per year award through a "matching funds" enhancement available only to those receiving an ONR award. Due September 15.

Big Data Regional Innovation Hubs: Establishing Spokes to Advance Big Data Applications (BD Spokes)

This solicitation calls for new BD Spoke proposals to be awarded in FY 2018. Collaborating with BD Hubs, each BD Spoke will focus on a particular topic that requires Big Data approaches and solutions. The set of activities managed by a BD Spoke will promote progress towards solutions in the chosen topic area. The regional BD Hub Steering Committee will provide general guidance to each BD Spoke and will assist the BD Spoke in coordinating with the national BD Hub network, with other BD Spokes, and with the broader innovation ecosystem. Due September 18.

DE-FOA-0001637: Fiscal Year 2017 BIOMASS RESEARCH AND DEVELOPMENT INITIATIVE (BRDI)

The U.S. Department of Agriculture (USDA), in collaboration with the U.S. Department of Energy (DOE), announce that up to $9 million in funding will be made available through the Biomass Research and Development Initiative (BRDI) to increase the nation’s energy independence by supporting the development of bioenergy feedstocks, biofuels, and biobased products. The projects funded through BRDI—a joint USDA and DOE program—will help develop economically and environmentally sustainable sources of renewable biomass, increase the availability of renewable fuels and biobased products, and diversify our energy portfolio. Both DOE and USDA have been given statutory authorities to support the development of a biomass-based industry
in the United States, under the Food, Conservation, and Energy Act of 2008 (FCEA) and the Energy Policy Act of 2005. USDA and DOE will make up to $9 million available through BRDI in Fiscal Year (FY) 2017. Applicants will be permitted to address any or all of the following three legislatively mandated technical areas: (A) feedstocks development, (B) biofuels and biobased products development, and (C) biofuels development analysis. In support of these goals, USDA and DOE are soliciting applications from all interested parties, including for-profit entities, universities, nonprofits, and national laboratories. For FY 2017, DOE anticipates funding 1 to 6 awards, and USDA anticipates funding 3 to 14 awards. Awards are anticipated to range from $500,000 to $2 million per award. All DOE funding is subject to the availability of annual congressional appropriations. The full Funding Opportunity Announcement (FOA) is posted on the EERE eXCHANGE website at https://eere-exchange.energy.gov. Applications must be submitted through the EERE eXCHANGE website to be considered for award. The applicant must first register and create an account on the EERE eXCHANGE website. A User Guide for the EERE eXCHANGE can be found on the EERE website https://eere-exchange.energy.gov/Manuals.aspx after logging in to the system. Information on where to submit questions regarding the content of the announcement and where to submit questions regarding submission of applications is found in the full FOA posted on the EERE eXCHANGE website. Due September 22.

**Research Education: Bridges to the Doctorate (R25)**
Funding Opportunity PAR-17-209 from the NIH Guide for Grants and Contracts. The NIH Research Education Program (R25) supports research education activities in the mission areas of the NIH. The over-arching goal of this National Institute of General Medical Sciences (NIGMS) R25 program is to support educational activities that enhance the diversity of the biomedical research workforce. To accomplish the stated over-arching goal, this FOA will support creative educational activities with a primary focus on Courses for Skills Development and Research Experiences. Due September 25.

**Bridges to the Baccalaureate Program (R25)**
Funding Opportunity PAR-17-210 from the NIH Guide for Grants and Contracts. The NIH Research Education Program (R25) supports research education activities in the mission areas of the NIH. The over-arching goal of this National Institute of General Medical Sciences (NIGMS) R25 program is to support educational activities that enhance the diversity of the biomedical research workforce. To accomplish the stated over-arching goal, this FOA will support creative educational activities with a primary focus on Courses for Skills Development, Research Experiences, and Curriculum or Methods Development. A program application must include each activity, and describe how they will be synergized to make a comprehensive program. Due September 25.

**Sustainable Agriculture Research and Education (SARE) Regional Host Institution**
The purpose of the Sustainable Agriculture Research and Education program is to encourage research and outreach designed to increase knowledge concerning agricultural production systems that:
1. maintain and enhance the quality and productivity of the soil;
2. conserve soil, water, energy, natural resources, and fish and wildlife habitat;
3. maintain and enhance the quality of surface and ground water;
4. protect the health and safety of persons involved in the food and farm system;
5. promote the well-being of animals; and
6. increase employment opportunities in agriculture (7 U.S.C. 5801 and 5811).

Who is eligible to apply:

Other or Additional Information (See below)

More Information on Eligibility:
The SARE legislation requires USDA to carry out the program through agreements entered into with land-grant colleges or universities, other universities, state agricultural experiment stations, the state cooperative extension services, nonprofit organizations with demonstrable expertise, or federal or state governmental entities. Applications may only be submitted by these types of organizations. Failure to meet an eligibility criterion by the application deadline may result in the application being excluded from consideration or, even though an application may be reviewed, will preclude NIFA from making an award.

Request for Applications
Apply for Grant
Closing Date: Thursday, September 28, 2017

**USDA-NIFA-AFRI-006351 Agriculture and Food Research Initiative - Foundational Program**
The AFRI Foundational Program is offered to support grants in the six AFRI priority areas to continue building a foundation of knowledge critical for solving current and future societal challenges. The six priority areas are: Plant Health and Production and Plant Products; Animal Health and Production and Animal Products; Food Safety, Nutrition, and Health; Bioenergy, Natural Resources, and Environment; Agriculture Systems and Technology; and Agriculture Economics and Rural Communities. Single-function Research Projects, multi-function Integrated Projects, and Food and Agricultural Science Enhancement (FASE) Grants are expected to address one of the Program Area Priorities (see Foundational Program RFA for details). **Due September 30.**

**USDA-NIFA-SBIR-006365 Small Business Innovation Research Program - Phase I**
Proposed Phase I projects should prove the scientific or technical feasibility of the approach or concept. Projects dealing with agriculturally related manufacturing and alternative and renewable energy technologies are encouraged across all SBIR topic areas. USDA SBIR’s flexible research areas ensure innovative projects consistent with USDA’s vision of a healthy and productive nation in harmony with the land, air, and water. USDA SBIR Program has awarded over 2000 research and development projects since 1983, allowing hundreds of small businesses to explore their technological potential, and providing an incentive to profit from the commercialization of innovative ideas. **Due October 5.**

**Research Experiences for Teachers (RET) in Engineering and Computer Science**
NSF’s Directorate for Engineering (ENG) and the Directorate for Computer and Information Science and Engineering (CISE) have joined to support the Research Experiences for Teachers
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(RET) in Engineering and Computer Science program. This program supports active long-term collaborative partnerships between K-12 Science, Technology, Engineering, Computer and Information Science, and Mathematics (STEM) in-service and pre-service teachers, full-time community college faculty, and university faculty and students to enhance the scientific disciplinary knowledge and capacity of the STEM teachers and/or community college faculty through participation in authentic summer research experiences with engineering and computer science faculty researchers. The research projects and experiences all revolve around a focused research area related to engineering and/or computer science that will provide a common cohort experience to the participating educators. The K-12 STEM teachers and/or full-time community college faculty also translate their research experiences and new scientific knowledge into their classroom activities and curricula. The university team will include faculty, graduate and undergraduate students as well as industrial advisors. Involvement of graduate students in support of academic-year classroom activities is particularly encouraged. Partnerships with inner city, rural or other high needs schools are especially encouraged, as is participation by underrepresented minorities, women, veterans, and persons with disabilities. 

**Due October 10.**

**Advancing Informal STEM Learning**
The Advancing Informal STEM Learning (AISL) program seeks to advance new approaches to and evidence-based understanding of the design and development of STEM learning opportunities for the public in informal environments; provide multiple pathways for broadening access to and engagement in STEM learning experiences; advance innovative research on and assessment of STEM learning in informal environments; and engage the public of all ages in learning STEM in informal environments. The AISL program supports six types of projects: (1) Pilots and Feasibility Studies, (2) Research in Service to Practice, (3) Innovations in Development, (4) Broad Implementation, (5) Literature Reviews, Syntheses, or Meta-Analyses, and (6) Conferences. 

**Due November 6.**

**DE-FOA-0001725 Technology Development to Ensure Environmentally Sustainable CO2 Injection Operations**
This FOA seeks applications on research to develop techniques, tools, and methodologies that improve detection and assessment of CO2 stored in the target reservoir. Research products developed under this FOA are expected to include monitoring tools and techniques, as well as validation of models and modeling techniques. Successful technologies developed under this FOA will decrease the operator’s financial burden associated with long-term monitoring by providing them the capability to assess the position of the CO2 plume in the target reservoir with greater certainty throughout the life cycle of the project (i.e., active- and post-injection). 

**Due November 14.**

Open Solicitations and BAAs
[BAA’s remain open for one or more years. During the open period, agency research priorities may change or other modifications are made to a published BAA. If you are submitting a proposal in response to an open solicitation, as below, check for modifications to the BAA at Grants.gov or by utilizing Modified Opportunities by Agency to receive a Grants.gov notification of recently modified opportunities by agency name.]

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

**Long Range Broad Agency Announcement (BAA) for Navy and Marine Corps Science and Technology Department of Defense**

All responsible sources from academia and industry may submit proposals under this BAA. Historically Black Colleges and Universities (HBCUs) and Minority Institutions (MIs) are encouraged to submit proposals and join others in submitting proposals. However, no portion of this BAA will be set aside for Small Business or other socio-economic participation. All businesses both small and large are encouraged to submit proposals and compete for funding consideration. B. Federally Funded Research & Development Centers (FFRDCs), including Department of Energy National Laboratories, are not eligible to receive awards under this BAA. However, teaming arrangements between FFRDCs and eligible principal Offerors are allowed so long as such arrangements are permitted under the sponsoring agreement between the Government and the specific FFRDC. C. Navy laboratories, military universities, and warfare centers as well as other Department of Defense and civilian agency laboratories are also not eligible to receive awards under this BAA and should not directly submit either white papers or full proposals in response to this BAA. If any such organization is interested in one or more of the programs described herein, the organization should contact an appropriate ONR Technical POC to discuss its area of interest. The various scientific divisions of ONR are identified at http://www.onr.navy.mil/. As with FFRDCs, these types of federal organizations may team with other eligible sources from academia and industry that are submitting proposals under this BAA. D. University Affiliated Research Centers (UARCs) are eligible to submit proposals under this BAA unless precluded from doing so by their Department of Defense UARC contract. E. Teams are also encouraged and may submit proposals in any and all areas. However, Offerors must be willing to cooperate and exchange software, data and other information in an integrated program with other contractors, as well as with system integrators, selected by ONR. Open to September 30, 1917.

**HM0210-14-BAA-0001 National Geospatial-Intelligence Agency Academic Research Program**

NGA welcomes all innovative ideas for path-breaking research that may advance the GEOINT mission. The NGA mission is to provide timely, relevant, and accurate geospatial intelligence (GEOINT) in support of national security objectives. GEOINT is the exploitation and analysis of imagery and geospatial information to describe, assess, and visually depict physical features and geographically referenced activities on the Earth. GEOINT consists of imagery, imagery intelligence, and geospatial information. NGA offers a variety of critical GEOINT products in support of U.S. national security objectives and Federal disaster relief, including aeronautical,
geodesy, hydrographic, imagery, geospatial and topographical information. The NGA Academic Research Program (NARP) is focused on innovative, far-reaching basic and applied research in science, technology, engineering and mathematics having the potential to advance the GEOINT mission. The objective of the NARP is to support innovative, high-payoff research that provides the basis for revolutionary progress in areas of science and technology affecting the needs and mission of NGA. This research also supports the National System for Geospatial Intelligence (NSG), which is the combination of technology, systems and organizations that gather, produce, distribute and consume geospatial data and information. This research is aimed at advancing GEOINT capabilities by improving analytical methods, enhancing and expanding systems capabilities, and leveraging resources for common NSG goals. The NARP also seeks to improve education in scientific, mathematics, and engineering skills necessary to advance GEOINT capabilities. It is NGA’s intent to solicit fundamental research under this BAA. Fundamental research means basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from Industrial development, design, production, and product utilization, the results of which ordinarily are restricted for proprietary or national security reason. (National Security Decision Directive (NSDD) 189, National Policy on the Transfer of Scientific, Technical, and Engineering Information). NGA seeks proposals from eligible U.S. institutions for path-breaking GEOINT research in areas of potential interest to NGA, the DoD, and the Intelligence Community (IC). Open to September 30, 2017.

NOAA-NFA-NFAPO-2016-2004791 FY2016 to FY2017 NOAA Broad Agency Announcement
This notice is not a mechanism to fund existing NOAA awards. 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. Funding for activities described in this notice is contingent upon the availability of Fiscal Year 2016 and Fiscal Year 2017 appropriations. Applicants are hereby given notice that funds have not yet been appropriated for any activities described in this notice. Publication of this announcement does not oblige NOAA to review an application beyond an initial administrative review, or to award any specific project, or to obligate any available funds. Open to September 30, 2017.

NOAA-OAR-SG-2016-2004772 National Sea Grant College Program 2016-17 Special Projects
The purpose of this notice is to request proposals for special projects associated with the National Sea Grant College Program’s (Sea Grant) strategic focus areas, and to provide the general public with information and guidelines on how Sea Grant will select proposals and administer Federal assistance under this announcement. This announcement is a mechanism to encourage research or other projects that are not normally funded through Sea Grant national competitions. This opportunity is open only to Sea Grant Programs. Section III of this announcement describes eligibility requirements in more detail. Funding has not yet been made available to support applications submitted to this Federal Funding Opportunity (FFO),
but such funding may become available during the year. Section II.A. below describes individual competition announcements that will be used to announce when funding is available; any restrictions or requirements on such funding, such as matching funds; and other funding details. Awards will be made under this FFO only if funds have been announced as provided in this FFO. **Open to September 30, 2017.**

**BAA-16-100-SOL-00002 Broad Agency Announcement (BAA) for the Advanced Development of Medical Countermeasures for Pandemic Influenza- BARDA**

BARDA ([full announcement](http://www.phe.gov/Preparedness/mcm/phemce/Documents/2014-phemce-sip.pdf)) encourages the advanced research, development and acquisition of medical countermeasures such as vaccines, therapeutics, and diagnostics, as well as innovative approaches to meet the threat of Pandemic Influenza in support of the preparedness mission and priorities of the HHS Public Health Emergency Medical Countermeasures Enterprise (PHEMCE) articulated in the 2014 PHEMCE Implementation Plan. The Implementation Plan is located on the ASPR website: [http://www.phe.gov/Preparedness/mcm/phemce/Documents/2014-phemce-sip.pdf](http://www.phe.gov/Preparedness/mcm/phemce/Documents/2014-phemce-sip.pdf) The Pandemic and All Hazard Preparedness Act Pub. L. No. 109-417, 42 U.S.C. § 241 et seq. (PAHPA; [http://www.gpo.gov/fdsys/pkg/PLAW-109publ417/pdf/PLAW-109publ417.pdf](http://www.gpo.gov/fdsys/pkg/PLAW-109publ417/pdf/PLAW-109publ417.pdf)) and The Pandemic and All Hazard Preparedness Reauthorization Act Pub. L. No. 113-5, (PAHPRA: [http://www.gpo.gov/fdsys/pkg/PLAW-113publ5/pdf/PLAW-113publ5.pdf](http://www.gpo.gov/fdsys/pkg/PLAW-113publ5/pdf/PLAW-113publ5.pdf)) authorizes BARDA to (i) conduct ongoing searches for, and support calls for, potential qualified countermeasures and qualified pandemic or epidemic products; (ii) direct and coordinate the countermeasure and product advanced research and development activities of the Department of Health and Human Services; (iii) establish strategic initiatives to accelerate countermeasure and product advanced research and development (which may include advanced research and development for purposes of fulfilling requirements under the Federal Food, Drug, and Cosmetic Act or section 351 of this Act) and innovation in such areas as the Secretary may identify as priority unmet need areas; and (iv) award contracts, grants, cooperative agreements, and enter into other transactions, for countermeasure and product advanced research and development.

**Development Area of Interest:** The purpose of this BAA is to solicit proposals that focus on one or more of the following area of interest as listed below: Development Area of Interest; Personal Protective Equipment (Mask and Respirators) for Influenza Infection for All-Hazards; Full-Featured Continuous Ventilators for Influenza and All-Hazards; Influenza Test Systems and Diagnostic Tools; Influenza Therapeutics; Influenza Vaccines BARDA anticipates that research and development activities awarded from this Broad Agency Announcement (BAA) will serve to advance the knowledge and scientific understanding of candidates' to protect the civilian population of the United States against pandemic influenza and serve to advance candidate medical countermeasures towards licensure or approval by the Food and Drug Administration (FDA). **Open to Oct. 24, 2017.**

**AFRL Research Collaboration Program**

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

**FY17 Funding Opportunity Announcement for Navy and Marine Corps Science, Technology, Engineering & Mathematics Education, Outreach and Workforce Program**

The ONR seeks a broad range of proposals for augmenting existing or developing innovative solutions that directly maintain, or cultivate a diverse, world-class STEM workforce in order to maintain the U.S. Navy and Marine Corps’ technological superiority. The goal of any proposed effort must provide solutions that will establish and maintain pathways of diverse U.S. citizens who are interested in uniformed or civilian DoN (or Navy and Marine Corps) STEM workforce opportunities. As the capacity of the DoN Science and Technology (S&T) workforce is interconnected with the basic research enterprise and STEM education system, ONR recognizes the necessity to support efforts that can jointly improve STEM student outcomes and align with Naval S&T current and future workforce needs. This announcement explicitly encourages projects that improve the capacity of education systems and communities to create impactful STEM educational experiences for students including active learning approaches and incorporating 21st century skills. Projects must aim to increase student engagement in STEM and persistence of students in STEM degrees, while improving student technical capacity. ONR encourages proposals to utilize current STEM educational research for informing project design and advancing our understanding of how and why students choose STEM careers and opportunities of naval relevance. While this announcement is relevant for any stage of the STEM educational system, funding efforts will be targeted primarily toward the future and current DoN (naval) STEM workforce in High School, all categories of Post-Secondary institutions, the STEM research enterprise, and efforts that enhance the current naval STEM workforce and its mission readiness. Open to December 31, 2017.

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

Announcement for Basic, Applied, and Advanced Scientific Research. This Broad Agency Announcement (BAA), which sets forth research areas of interest to the United States Army Research Institute for the Behavioral and Social Sciences, is issued under the provisions of paragraph 6.102(d)(2) of the Federal Acquisition Regulation (FAR), which provides for the competitive selection of proposals. Proposals submitted in response to this BAA and selected for award are considered to be the result of full and open competition and in full compliance with the provisions of Public Law 98-369 (The Competition in Contracting Act of 1984) and subsequent amendments. The US Army Research Institute for the Behavioral and Social Sciences is the Army’s lead agency for the conduct of research, development, and analyses for the improvement of Army readiness and performance via research advances and applications of the behavioral and social sciences that address personnel, organization, training, and leader development issues. Programs funded under this BAA include basic research, applied research, and advanced technology development that can improve human performance and Army readiness. The funding opportunity is divided into two sections: (1) Basic Research and (2) Applied Research and Advanced Technology Development. The four major topic areas of research interest include the following: (1) Training; (2) Leader Development; (3) Team and
Inter-Organizational Performance in Complex Environments; and (4) Soldier/Personnel Issues. Funding of research and development (R&D) within ARI areas of interest will be determined by funding constraints and priorities set during each budget cycle. **Open to February 5, 2018.**

**BAA-HPW-RHX-2014-0001 Human-Centered Intelligence, Surveillance Air Force Research Lab**

This effort is an open-ended BAA soliciting innovative research concepts for the overall mission of the Human-Centered Intelligence, Surveillance, & Reconnaissance (ISR) Division (711 HPW/RHX). It is intended to generate research concepts not already defined and planned by RHX as part of its core S&T portfolio. The core RHX mission is to develop human-centered S&T that (1) enables the Air Force to better identify, locate and track humans within the ISR environment and (2) enhance the performance of ISR analysts. To accomplish this mission, the RHX core S&T portfolio is structured into three major research areas: (1) Human Signatures - develop technologies to sense and exploit human bio-signatures at the molecular and macro (anthropometric) level, (2) Human Trust and Interaction – develop technologies to improve human-to-human interactions as well as human-to-machine interactions, and (3) Human Analyst Augmentation – develop technologies to enhance ISR analyst performance and to test the efficacy of newly developed ISR technologies within a simulated operational environment. The RHX mission also includes research carried over from the Airman Biosciences and Performance Program. While not directly linked to the core S&T strategic plan, there exists a unique capability resident within RHX to address critical Air Force operational and sustainment needs resulting from chemical and biological hazards. Research areas include contamination detection, hazard assessment and management, individual and collective protection, and restoration and reconstitution of operational capability. **Open to Feb. 12, 2018.**

**Strategic Technologies Department of Defense DARPA - Strategic Technology Office**

Current Closing Date for Applications: Mar 21, 2018

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

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

**DARPA Biological Technologies Office Open BAA, Department of Defense**

The Defense Advanced Research Projects Agency (DARPA) is soliciting innovative research proposals of interest to the Biological Technologies Office (BTO). Proposed research should investigate leading edge approaches that enable revolutionary advances in science, technologies, or systems at the intersection of biology with engineering and the physical and computer sciences. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of the art. BTO seeks unconventional approaches that are outside the mainstream, challenge assumptions, and have the potential to radically change established practice, lead to extraordinary outcomes, and create entirely new fields. The mission of BTO is to foster, demonstrate, and transition breakthrough fundamental research, discoveries, and applications that integrate biology, engineering, computer science, mathematics, and the physical sciences. BTO’s investment portfolio goes far beyond life sciences applications in medicine to include areas of research such as human-machine interfaces, microbes as production platforms, and deep exploration of the impact of evolving ecologies and environments on U.S. readiness and capabilities. BTO’s programs operate across a wide range of scales, from individual cells to the warfighter to global ecosystems. BTO responds to the urgent and long-term needs of the Department of Defense (DoD) and addresses national security priorities. A listing of priority areas includes but is not limited to below:

- Developing and leveraging new technologies that can be applied to agricultural ecosystems for production stabilization, by improving quality or reducing losses from pathogens or pests.
- Developing and leveraging new insights into non-human biology across and between populations of microbes, insects, plants, marine life, and other non-human biologic entities.
- Developing new technologies and approaches that ensure biosafety, biosecurity, and protection of the bioeconomy.
- Understanding emerging threats to global food and water supplies and developing countermeasures that could be implemented on regional or global scales.
- Developing new technologies to treat, prevent, and predict the emergence and spread of infectious diseases that have the potential to cause significant health, economic, and social burden.

**Proposal Abstracts and Full Proposals will be submitted on a rolling basis until April 26, 2018, 4:00pm ET**

**HR00117S0040 Defense Sciences Office (DSO) Office-wide DARPA**

The mission of the Defense Advanced Research Projects Agency (DARPA) Defense Sciences Office (DSO) is to identify and pursue high-risk, high-payoff research initiatives across a broad spectrum of science and engineering disciplines and to transform these initiatives into
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disruptive technologies for U.S. national security. In support of this mission, the DSO Office-wide BAA invites proposers to submit innovative basic or applied research concepts that explore Physical and Natural Systems, Human-Machine and Social Systems, and/or Math and Computational Systems through the lens of one or more of the following technical domains: Complexity Engineering, Science of Design, Noosphere, Fundamental Limits, and New Foundations. Proposals must investigate innovative approaches that enable revolutionary advances. DSO is explicitly not interested in approaches or technologies that primarily result in evolutionary improvements to the existing state of practice. Open to July 2018.

PAR-16-242 Bioengineering Research Grants (BRG) (R01) Department of Health and Human Services National Institutes of Health
The purpose of this funding opportunity announcement is to encourage collaborations between the life and physical sciences that: 1) apply a multidisciplinary bioengineering approach to the solution of a biomedical problem; and 2) integrate, optimize, validate, translate or otherwise accelerate the adoption of promising tools, methods and techniques for a specific research or clinical problem in basic, translational, or clinical science and practice. An application may propose design-directed, developmental, discovery-driven, or hypothesis-driven research and is appropriate for small teams applying an integrative approach to increase our understanding of and solve problems in biological, clinical or translational science. Open to May 9, 2019.

BAA-RQKD-2014-0001 Open Innovation and Collaboration Department of Defense Air Force -- Research Lab
Open innovation is a methodology to capitalize on diverse, often non-traditional talents and insights, wherever they reside, to solve problems. Commercial industry has proven open innovation to be an effective and efficient mechanism to overcome seemingly impossible technology and/or new product barriers. AFRL has actively and successfully participated in collaborative open innovation efforts. While these experiences have demonstrated the power of open innovation in the research world, existing mechanisms do not allow AFRL to rapidly enter into contractual relationships to further refine or develop solutions that were identified. This BAA will capitalize on commercial industry experience in open innovation and the benefits already achieved by AFRL using this approach. This BAA will provide AFRL an acquisition tool with the flexibility to rapidly solicit proposals through Calls for Proposals and make awards to deliver innovative technical solutions to meet present and future compelling Air Force needs as ever-changing operational issues become known. The requirements, terms and specific deliverables of each Call for Proposals will vary depending on the nature of the challenge being addressed. It is anticipated that Call(s) for Proposals will address challenges in (or the intersection between) such as the following technology areas: Materials: - Exploiting material properties to meet unique needs - Material analysis, concept / prototype development, and scale up Manufacturing Processes that enable affordable design, production and sustainment operations Aerospace systems: - Vehicle design, control, and coordinated autonomous and/or manned operations - Power and propulsion to enable next generation systems Human Effectiveness: - Methods and techniques to enhance human performance and resiliency in challenging environments - Man – Machine teaming and coordinated activities Sensors and
Sensing Systems: - Sensor and sensing system concept development, design, integration and prototyping - Data integration and exploitation. Open to July 12, 2019.

**HDTRA1-14-24-FRCWMD-BAA Fundamental Research to Counter Weapons of Mass Destruction**
**Fundamental Research BAA posted on 20 March 2015.** Potential applicants are strongly encouraged to review the BAA in its entirety. **Please note that ALL general correspondence for this BAA must be sent to HDTRA1-FRCWMD-A@dtra.mil. Thrust Area-specific correspondence must be sent to the applicable Thrust Area e-mail address listed in Section 7: Agency Contacts.** Open to Sept. 30, 2019.

**BAA-RQKH-2015-0001 Methods and Technologies for Personalized Learning, Modeling and Assessment Air Force -- Research Lab**
The Air Force Research Laboratories and 711th Human Performance Wing are soliciting white papers (and later technical and cost proposals) on the following research effort. This is an open ended BAA. The closing date for submission of White Papers is 17 Nov 2019. This program deals with science and technology development, experimentation, and demonstration in the areas of improving and personalizing individual, team, and larger group instructional training methods for airmen. The approaches relate to competency definition and requirements analysis, training and rehearsal strategies, and models and environments that support learning and proficiency achievement and sustainment during non-practice of under novel contexts. This effort focuses on measuring, diagnosing, and modeling airman expertise and performance, rapid development of models of airman cognition and specifying and validating, both empirically and practically, new classes of synthetic, computer-generated agents and teammates. An Industry Day was held in November 2014. Presentation materials from the Industry Day and Q&A's are attached. If you would like a list of Industry Day attendees, send an email request to helen.williams@us.af.mil Open until November 17, 2019.

**BAA-AFRL-RQKMA-2016-0007 Air Force Research Laboratory, Materials & Manufacturing Directorate, Functional Materials and Applications (AFRL/RXA) Two-Step Open BAA**
Air Force Research Laboratory, Materials & Manufacturing Directorate is soliciting White Papers and potentially technical and cost proposals under this two-step Broad Agency Announcement (BAA) that is open for a period of five (5) years. Functional Materials technologies that are of interest to the Air Force range from materials and scientific discovery through technology development and transition, and support the needs of the Functional Materials and Applications mission. Descriptors of Materials and Manufacturing Directorate technology interests are presented in the context of functional materials core technical competencies and applications. Applicable NAICS codes are 541711 and 541712. Open to April 20, 2021.

**Army Research Office Broad Agency Announcement for Basic and Applied Scientific Research**
This BAA sets forth research areas of interest to the ARO. This BAA is issued under FAR 6.102(d)(2), which provides for the competitive selection of basic and applied research proposals, and 10 U.S.C. 2358, 10 U.S.C. 2371, and 10 U.S.C. 2371b, which provide the authorities for issuing awards under this announcement for basic and applied research. The
definitions of basic and applied research may be found at 32 CFR 22.105. Proposals submitted in response to this BAA and selected for award are considered to be the result of full and open competition and in full compliance with the provision of Public Law 98-369, "The Competition in Contracting Act of 1984" and subsequent amendments. Open to April 30, 2022.
What We Do--

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

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

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