Volume 5, Issue 7: March 15, 2015

Table of Contents

- Topics of Interest URLs
- Psychology and the Reviewer
- NSF Funding for Food-Energy-Water 2015-2021
- USDA/NSF Intersections in Food-Energy-Water
- DOE's 2016 Budget: Energy-Water Nexus, etc.
- DoED 2016 Budget Request: Higher Ed and IES
- Research Grant Writing Web Resources
- Educational Grant Writing Web Resources
- Agency Research News
- Agency Reports, Workshops & Roadmaps
- New Funding Opportunities
- About Academic Research Funding Strategies

ARFS Dear Colleague Letter

Winning an NSF CAREER Award

CAREER Workshops by Lucy Deckard

Learn More Here

New CAREER e-book coming soon

***The NSF CAREER Proposal Workbook: A step-by-step guide to developing a competitive NSF CAREER proposal* by Lucy Deckard**

Our Large Team Grant eBook!

Strategies for Planning, Developing, and Writing Large Team Grants **Order Here**

Our New Faculty Guide eBook

New Faculty Guide to Competing for Research Funding Table of Contents

! Ask about our New Faculty Workshop !

Contact Us For: Grant Writing Workshops; Proposal Reviews; Proposal Editing

Research Development & Grant Writing News ©

Published monthly for faculty and research professionals by

Academic Research Funding Strategies, LLC

Mike Cronan & Lucy Deckard, co-Publishers

Copyright 2015. All rights reserved.

Subscribe Online (Hotlink)

Queries: mjcronan@gmail.com

©Please do not post to open websites©

About the co-publishers

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

Lucy Deckard (BS/MS Materials) worked in research development and grant writing at Texas A&M University and across the A&M System for nine years. She directed A&M's ***New Faculty Research Initiative (2004-09)***, helping junior faculty System-wide jumpstart their research careers with federal agency funding. She served as associate director of two research development and grant writing offices. She founded **ARFS** in 2010.

About the editor

Katherine E. Kelly, Ph.D., is a retired English professor from Texas A&M University. She is the author of several books and numerous articles and served as a contributing editor for an academic journal for five years. She provides **editorial services** to ***RD&GW News*** and to **ARFS** clients on proposals, journal articles, and manuscripts.

Dear Colleagues

By Lucy Deckard (Back to Page 1)

It's that time of year again when the thoughts of junior faculty turn to the NSF CAREER (or, at least, they should be thinking about their CAREER proposals by now!). NSF just released their new CAREER solicitation. The only substantive change from last year is that **letters of collaboration are limited to a one-sentence statement specified in the solicitation**.
We have scheduled our annual webinar on how to develop and write a competitive NSF CAREER proposal. We also offer in-person hands-on CAREER workshops and individual assistance. Details and links are provided below.

Academic Research Funding Strategies 2015 Webinar: How to Write a Winning NSF CAREER Proposal

Date: March 24, 2015
Time: 2 pm - 4 pm Eastern Standard Time
Webinar for faculty on how to write a successful proposal to NSF's Faculty Early Career Development Program (CAREER).

- How to decide when and if to apply for a CAREER grant
- How to position yourself and your research to be competitive for a CAREER
- How to structure your proposal
- How to develop an education plan
- Addressing diversity
- Keys to success and common mistakes to avoid
- A step-by-step discussion of each section of the proposal and what it needs to tell the reviewers
- How to analyze reviews and decide whether to revise and resubmit
- Questions and Answers
- A package will be also provided to participants that includes annotated excerpts from successful proposals and helpful resources.
- For more information and to register, go **here**.
- Access to the webinar recording is also available.

Webinar FAQs

In-Person Hands-on CAREER and Young Investigator Proposal Workshops facilitated by Academic Research Funding Strategies

These workshops cover the topics covered in the webinar but in addition focus on hands-on and interactive exercises, including:

- Talking to your Program Officer exercise
- Developing your project objectives
- Diagramming your logical flow
- Outlining your Project Description
- Writing the first three paragraphs

- Participation in a mock review panel

They vary in length from ½ day to 2 days. These workshops are most appropriate for faculty who have a CAREER project in mind. Longer (2-day) workshops are most appropriate for faculty who have already applied and are revising and resubmitting. Individual consultations (typically 45 minutes each) are also offered as part of the workshop. Typical costs range from $4,000 to $6,500 depending on length of the workshop and travel expenses.

Individual CAREER Proposal Assistance

Individual assistance is available for CAREER PIs. Several levels of assistance are offered. For more information and cost, please see our info sheet posted here. Available slots fill up by May, so it's a good idea to contact us early if you're interested in this service.

CBET CAREER Workshop

The Division of Chemical, Bioengineering, Environmental, and Transport Systems (CBET) held a 2-day CAREER proposal webinar last fall. It provided helpful insights to the inner workings of CBET and their expectations for CAREER, particularly in the Q&A sessions. Unfortunately, they don't seem to have posted the webinar slides or recording. (In our last issue, we provided a brief synopsis of interesting CBET-specific information provided.) However, they did post a video of a mock CAREER panel, which you can watch here .

For more information, please see our website at http://www.academicresearchgrants.com or feel free to contact me: Lucy Deckard, *Academic Research Funding Strategies, LLC*
979-693-0825 [LDeckard@academicresearchgrants.com;
http://www.academicresearchgrants.com]

Topics of Interest URLs

(Back to Page 1)

Faculty Early Career Development Program (CAREER) Includes the description of NSF Presidential Early Career Awards for Scientists and Engineers (PECASE)

2015 NSF NRT Solicitation Question and Answer Session

Webinar for EHR Core Research Program Reviewers

New NIFA Website!

Critical Techniques and Technologies for Advancing Foundations and Applications of Big Data Science & Engineering (BIGDATA)

The President's 2016 Budget: Agency Fact Sheets

The FY 2016 R&D Budget: Review and Context

Federal and University R&D Funding in Context

National Alliance for Broader Impacts (N4BI) 3rd annual Broader Impacts Summit April 29-May 1, 2015

Achieving Broader Impacts in the National Science Foundation, Division of Environmental Biology

Broader impacts in NSF's Division of Environmental Biology Leave Hope for Improvement

Social Psychology Network Sources of Research Funding

NASA's Space Technology Roadmaps have been Finalized (January 21, 2015) and are Now Available

NASA Space Technology Roadmaps and Priorities

DARPA-RA-15-23 Young Faculty Award (YFA)

NNH15ZOA001N-15ECF-B1 Early Career Faculty NASA

Gender Differences in STEM Interest, Credits Earned, and NAEP Performance in the 12th Grade

Supporting the Call to Peer Review Service

Reed Elsevier Launches 2015 Environmental Challenge--Advance Access to Safe Water and Sanitation

National Council for Science and the Environment (NCSE)

Women's Economic Empowerment Strategy, The William and Flora Hewlett Foundation

Signs of a Breakthrough: House Science Committee Hearing on NSF Grant Making Policies and Procedures

Help improve the ERIC Thesaurus!

Update on NIH's Implementation of Federal Grant Policies

Interested in Learning More About How NIH Grants Work?

NSF Grants Conference - Tampa, FL

NSF Day at Texas Tech

Tool/Website: HRSA Open Opportunities

Historically Black Colleges and Universities Undergraduate Program (HBCU-UP)

Centers of Research Excellence in Science and Technology (CREST) and HBCU Research Infrastructure for Science and Engineering (RISE)

Characteristics of Potentially Transformative Research

Psychology and the Reviewer

Copyright 2015 Academic Research Funding Strategies. All rights reserved.

By Lucy Deckard, co-publisher

(Back to Page 1)

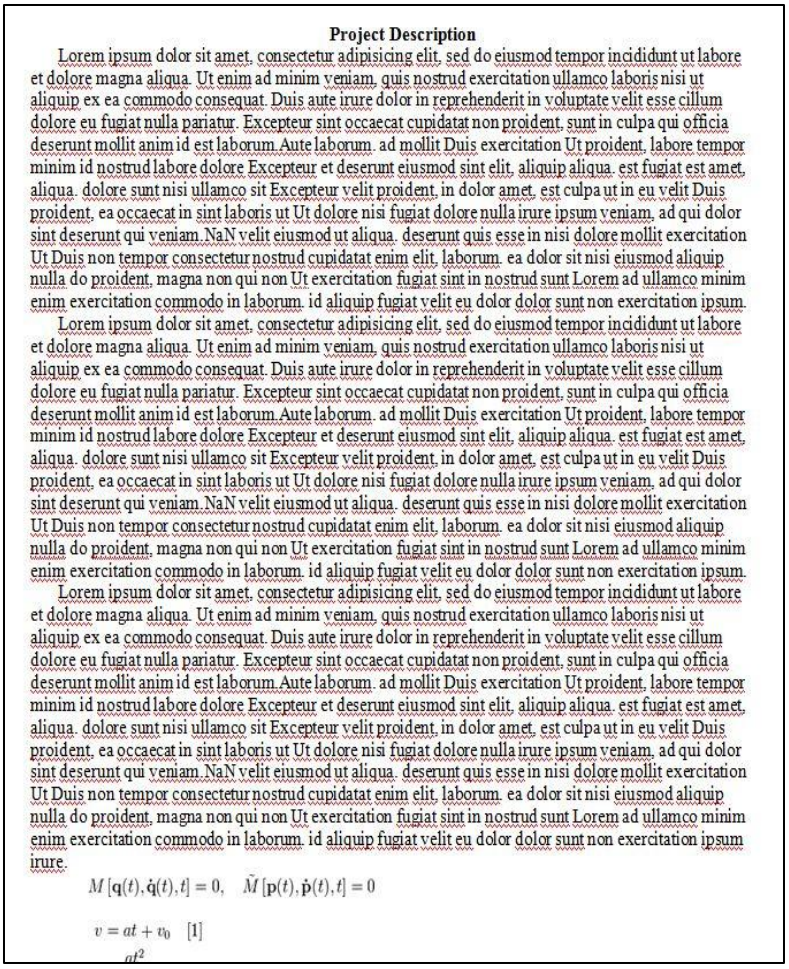
It's hard to think of a more complex set of cognitive processes than those that a reviewer employs when she reads a stack of research grant proposals, rates each according to multiple review criteria, and recommends which to fund. In recent years , psychological research has yielded a number of fascinating discoveries related to how humans understand and process complex concepts, and how they make decisions based on complex and multi-faceted evidence. Many of these studies, reported in the popular press as well as in academic journals, typically focus on decisions such as how people decide which car to buy when given a large number of choices and metrics. However, they can also provide valuable insight into the psychological processes that affect the way a reviewer reads and understands (or fails to understand) complex research proposals and then decides how to rate them. PIs developing a research grant proposal would be wise to take these new findings into account. Below are a few of those insights which can help inform how you structure and write your research proposal.

The Emotional Nature of Complex Decision Making

A number of studies have indicated that as people are required to take into account more variables and criteria, complex decisions become more influenced by "unconscious" factors, especially emotions. So, for example, if a subject is asked to choose from among several different car models and is given a raft of data on each model, the "rational" processes of the brain become overwhelmed, and intuition starts to exert a powerful influence on decisions. There is still a lot of debate over whether decisions made this way are better than those made using conscious, logical processes, but the fact remains that when a reviewer must read and evaluate four proposals in an evening after a full day of teaching and committee meetings, he is unlikely to make a spreadsheet that will allow him to meticulously weigh all factors in each proposal that are relevant to the review criteria. Instead, he's likely to give each proposal a quick read and then use his (hopefully well-informed) "gut" reactions to fill out the review sheet. Even more interesting, the reviewer is often unaware of the various unconscious factors that influenced his decision.

How can these findings inform how you write your proposal?

Think about that poor reviewer who is already tired when he starts reading the stack of proposals he has to get through that evening. When he gets to your proposal and starts reading the first page, he will have an emotional reaction. Does this proposal look exciting and interesting? Am I going to enjoy reading this proposal, or will this be a long, hard slog? Now consider how he will feel if he opens your proposal and the first page looks like this:



Project Description

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.Aute laborum. ad mollit Duis exercitation Ut proident, labore tempor minim id nostrud labore dolore Excepteur et deserunt eiusmod sint elit, aliquip aliqua. est fugiat est amet, aliqua. dolore sunt nisi ullamco sit Excepteur velit proident, in dolor amet, est culpa ut in eu velit Duis proident, ea occaecat in sint laboris ut Ut dolore nisi fugiat dolore nulla irure ipsum veniam, ad qui dolor sint deserunt qui veniam.NaN velit eiusmod ut aliqua. deserunt quis esse in nisi dolore mollit exercitation Ut Duis non tempor consectetur nostrud cupidatat enim elit, laborum. ea dolor sit nisi eiusmod aliquip nulla do proident, magna non qui non Ut exercitation fugiat sint in nostrud sunt Lorem ad ullamco minim enim exercitation commodo in laborum. id aliquip fugiat velit eu dolor dolor sunt non exercitation ipsum.

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.Aute laborum. ad mollit Duis exercitation Ut proident, labore tempor minim id nostrud labore dolore Excepteur et deserunt eiusmod sint elit, aliquip aliqua. est fugiat est amet, aliqua. dolore sunt nisi ullamco sit Excepteur velit proident, in dolor amet, est culpa ut in eu velit Duis proident, ea occaecat in sint laboris ut Ut dolore nisi fugiat dolore nulla irure ipsum veniam, ad qui dolor sint deserunt qui veniam.NaN velit eiusmod ut aliqua. deserunt quis esse in nisi dolore mollit exercitation Ut Duis non tempor consectetur nostrud cupidatat enim elit, laborum. ea dolor sit nisi eiusmod aliquip nulla do proident, magna non qui non Ut exercitation fugiat sint in nostrud sunt Lorem ad ullamco minim enim exercitation commodo in laborum. id aliquip fugiat velit eu dolor dolor sunt non exercitation ipsum.

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.Aute laborum. ad mollit Duis exercitation Ut proident, labore tempor minim id nostrud labore dolore Excepteur et deserunt eiusmod sint elit, aliquip aliqua. est fugiat est amet, aliqua. dolore sunt nisi ullamco sit Excepteur velit proident, in dolor amet, est culpa ut in eu velit Duis proident, ea occaecat in sint laboris ut Ut dolore nisi fugiat dolore nulla irure ipsum veniam, ad qui dolor sint deserunt qui veniam.NaN velit eiusmod ut aliqua. deserunt quis esse in nisi dolore mollit exercitation Ut Duis non tempor consectetur nostrud cupidatat enim elit, laborum. ea dolor sit nisi eiusmod aliquip nulla do proident, magna non qui non Ut exercitation fugiat sint in nostrud sunt Lorem ad ullamco minim enim exercitation commodo in laborum. id aliquip fugiat velit eu dolor dolor sunt non exercitation ipsum irure.

$$M[\mathbf{q}(t), \dot{\mathbf{q}}(t), t] = 0, \quad \tilde{M}[\mathbf{p}(t), \dot{\mathbf{p}}(t), t] = 0$$

$$v = at + v_0 \quad [1]$$

$$at^2$$

The reviewer will likely have an emotional reaction before he even reads one word. That reaction might very likely be summarized as something like, “Ugggggh!” He knows that reading this proposal is probably not going to be any fun. He also may, at least unconsciously, feel that the PI of this proposal does not care about him, the reviewer, and has not made any effort to make his job any easier. He may be already be feeling some resentment toward the PI of this proposal.

So, there your proposal is—the product of countless hours of your hard work. You agonized over how to explain your rationale, made sure to cite all relevant references, included an insightful and thorough discussion of the state of knowledge on your proposal topic, and developed a strong experimental plan, but your reviewer is already developing a budding antipathy toward your proposal before he’s read a single word. This will be a tough hole for you to climb out of. If you are depending on the logical brilliance of your arguments without considering the emotional reaction your reviewer will have to your proposal and how powerfully those emotions will influence the reviewer’s assessment of your proposal (likely without his even being aware of it), you may be out of luck.

What if, instead, the reviewer opened your proposal, and the first page looked like this…

Project Description

INTRODUCTION AND OVERVIEW

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Our **overarching objective** is to excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.Aute laborum. ad mollit Duis exercitation Ut proident, labore tempor minim id nostrud labore dolore Excepteur et deserunt eiusmod sint elit, aliquip aliqua. est fugiat est amet, aliqua. dolore sunt nisi ullamco sit Excepteur velit proident, in dolor amet, est culpa ut in eu velit Duis proident, ea occaecat in sint laboris ut Ut dolore nisi fugiat dolore nulla irure ipsum veniam, ad qui dolor sint deserunt qui veniam.NaN velit eiusmod ut aliqua. deserunt quis esse in nisi dolore mollit exercitation Ut Duis non tempor consectetur nostrud cupidatat enim elit, laborum. ea dolor sit nisi eiusmod aliquip nulla do proident, magna non qui non Ut exercitation fugiat sint in nostrud sunt Lorem ad ullamco minim enim exercitation commodo in laborum. id aliquip fugiat velit eu dolor dolor sunt non exercitation ipsum.

Approach

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.Aute laborum. ad mollit Duis exercitation Ut proident, labore tempor minim id nostrud labore dolore Excepteur et deserunt eiusmod sint elit, aliquip aliqua. est fugiat est amet, aliqua. dolore sunt nisi ullamco sit Excepteur velit proident, in dolor amet, est culpa ut in eu velit Duis proident, ea occaecat in sint laboris ut Ut dolore nisi fugiat dolore nulla irure ipsum veniam, ad qui dolor sint deserunt qui veniam.NaN velit eiusmod ut aliqua. deserunt quis esse in nisi dolore mollit exercitation Ut Duis non tempor consectetur nostrud cupidatat enim elit, laborum. ea dolor sit nisi eiusmod aliquip nulla do proident, magna non qui non Ut exercitation fugiat sint in nostrud sunt Lorem ad ullamco minim enim exercitation commodo in laborum. id aliquip fugiat velit eu dolor dolor sunt non exercitation ipsum.

Figure 1. This figure explains our approach

Innovation

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.

- Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.Aute laborum. ad mollit Duis exercitation
- Ut proident, labore tempor minim id nostrud labore dolore Excepteur et deserunt eiusmod sint elit, aliquip aliqua. est fugiat est amet, aliqua. dolore sunt nisi ullamco sit Excepteur velit proident, in dolor amet, est culpa ut in eu velit
- Duis proident, ea occaecat in sint laboris ut Ut dolore nisi fugiat dolore nulla irure ipsum veniam, ad qui dolor sint deserunt qui veniam.NaN velit eiusmod ut aliqua. deserunt quis esse in nisi dolore mollit exercitation Ut Duis non tempor consectetur nostrud cupidatat enim elit, laborum.

Your reviewer will likely have a much more positive emotional reaction to your proposal. This page looks inviting, the figure provides a quick and aesthetically pleasing overview of the proposed approach, the presence of headings, bullets, and white space indicates that this proposal is likely to be well-organized, easy to follow, and a pleasure to read. Clearly, the reviewer will not have decided to give this proposal a positive review at this point, but he's definitely starting off with a much more pleasant attitude. He's probably thinking, at least unconsciously, that this PI has put a lot of effort into making this proposal easy to read and seems to know what she's doing.

This "first impression" emotional effect can be further magnified by your first several paragraphs, and even your first several sentences. If you start your proposal with a general discussion of the need or the problem you're addressing that could fit into several other proposals in the same stack (for example, the need for biofuels or better ways to detect prostate cancer or more secure computer networks), the reviewer's first experience with your

proposal will be boredom. Again, you'll have dug yourself into an emotional hole with your reviewer that you'll then have to climb out of in subsequent pages (assuming your reviewer continues to read your proposal carefully after the first page). To avoid this trap, start your proposal with the most exciting aspects of your proposal. Don't wait until the third page of the proposal to try to get your reviewer excited; it may very well be too late by then. (We've discussed in more detail how to make the first few pages of your proposal more engaging to reviewers in several previous articles.)

Cognitive Load and Its Impact on Understanding

Cognitive load is defined as the amount of information that a person is trying to process at one time in working memory. One of the conclusions of cognitive load theory is that learning happens best when you don't require a subject to use part of their working memory on non-essential tasks, but instead allow them to keep as much of that memory free to learn the new concepts you're trying to teach. So, for example, it's more effective to include labels in an illustration of a heart, rather than placing numbers in the figure and then forcing the student to look in a separate place to read the text identifying the parts of the heart. The latter approach increases cognitive load on the student, making it more difficult for him to actually learn the parts of the heart.

How does cognitive load theory relate to how you write your proposal?

Think of your reviewer as a student, and you (or more precisely, your proposal) as the teacher. You're trying to clearly and efficiently help the reviewer understand many complex concepts: what your main idea is, how you will execute it, what the likely outcomes are and why they are important, how your idea will further the goals of the funding program, why you are qualified to conduct this research, etc. This is a lot of knowledge that the reviewer must comprehend on a first reading when she may already be tired, so she'll need as much of her working memory as she can get to understand the key concepts of your proposal. However, many PIs inadvertently place unnecessary cognitive loads on their reviewers that make it harder for them to grasp the important aspects of their proposal.

One common cognitive load is the unnecessary use of **acronyms**. While some acronyms are so commonly used in a discipline that it would be distracting not to use them, many are common only to a subfield or even to a particular institution or investigator. In these cases, many PIs define the acronym when it is first used and then use the acronym alone throughout the rest of the proposal. Unless these terms will be used again and again throughout the proposal, it's usually best to go ahead and spell out the term rather than using an acronym. Otherwise, the reviewer either has to devote some part of her working memory to remembering an acronym that was mentioned on page 2 and again on page 7, or she has to go back through the proposal to try to find the definition (which brings us back to the first topic of this article, the influence of emotions, which in this case would be annoyance). So, for example, rather than saying on page 2, "This research will be conducted in Big State University's Institute for Biochemical Innovations (IIBI)," and then referring to the IIBI on page 7 and again on pages 11 and 12, just spell it out each time and let your reviewer use those precious neurons to understand your research methodology.

Overly convoluted and long sentences are the source of another common cognitive load

imposed by PIs on reviewers. If your proposal contains a lot of long sentences with multiple dependent clauses, try breaking the sentences up or simplifying the sentence structure. It's especially important to put the main idea early in the sentence. For example, rather than saying,

> "Due to the scarcity of Unobtainium, requiring that we have samples shipped from Outer Mongolia, and the difficulty of analyzing those samples for purity, which will be done by our collaborators in Nova Scotia, we have developed a novel test method that requires only 0.4 g samples."

you could rewrite the sentence as,

> "We have developed a novel test method that requires very small (0.4 g) samples. This method will allow us to make maximum use of scarce Unobtainium samples, which must be shipped from outer Mongolia. Since less Unobtainium will be required, our collaborators in Nova Scotia will need to conduct fewer purity analyses, which are difficult and expensive to run."

The three simpler sentences employ a straightforward sentence structure with the most important point in the first sentence. Even though they require a little more space, this approach imposes a much lower cognitive load on the reviewer. Remember that a reviewer with a stack of proposals to review is unlikely to re-read a sentence that she finds confusing; instead, she'll just skip it and go on.

Using frameworks, schemata, and stories to communicate complex ideas

Research on learning has found that people learn new bits of information better when they can fit them into a pre-existing mental framework, or schema, for how the world works. See this video for a great example. Similarly, people find stories much easier to learn and remember than they do collections of facts.

How can these learning theories inform how you write your proposal?

Many PIs start their proposals with a background discussion that may focus on the problem, need, or opportunity they are addressing. If the reader is lucky, they also include a brief statement describing their overall project goals. Then the proposal steps through the state of the art and the relevant literature, preliminary data and prior work, the research plan, etc. This approach presents a collection of disparate information spread over the numerous pages of the proposal narrative. The reader is left to stitch together this information into a story (similar to puzzling out what animal is initially shown in Figure 1). As a result, the reviewer can get bogged down in details without understanding the big picture: What is the PI trying to accomplish? What is new and exciting about her approach? How will this research affect the field? PIs can often see the result of this problem in reviews that seem to have completely missed the mark. The PI may puzzle about why the reviewer didn't seem to understand the proposal at all. In these cases, it's likely that the proposal didn't clearly articulate the "story" of the project.

To address this issue, rather than starting your proposal with a background section, make your first section an **overview** that presents the framework, schema, or story of your proposal. This one-to-two-page section should provide a concise high-level overview of the entire project

which will then be filled-in in subsequent sections. This provides the schema or mental framework into which your reviewers will place all the detailed technical discussions you will include in the rest of the proposal (as in Figure 2).

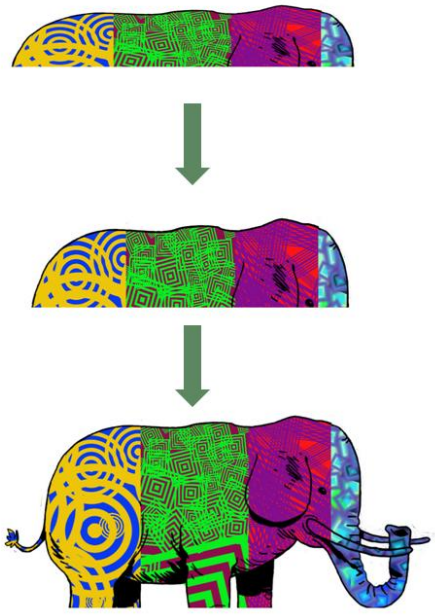


Figure 1. Describing your project without a framework will make it difficult for your reviewer to absorb the new information you present.

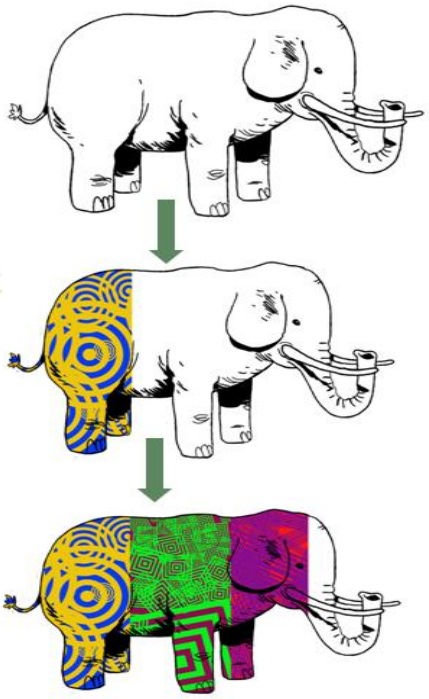


Figure 2. Describing your idea by providing a framework first will orient the reviewer and make it easier for her to understand new information and why it's relevant.

This overview will explain, in no more than two pages, the **story of your project** (Figure 3)**.**

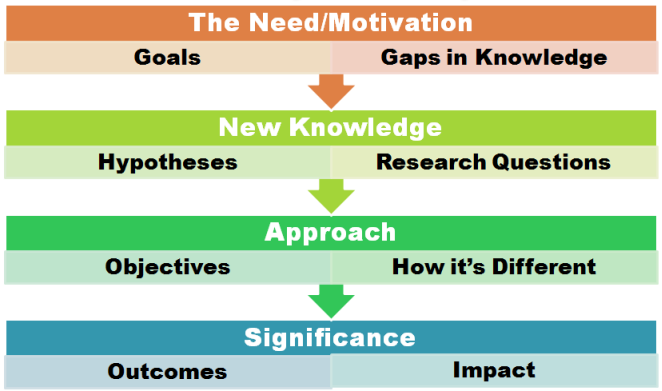


Figure 3. Use the first section to provide a cohesive story of your project.

When your reviewer finishes reading those first one or two pages, she should have a general understanding of your project, and she should be excited by your ideas. Most importantly, she should be enthusiastic about reading the rest of your proposal to find out more.

NSF Funding for Food-Energy-Water 2015-2021

Copyright 2015 Academic Research Funding Strategies. All rights reserved.

By **Mike Cronan**, co-publisher

(Back to Page 1)

Several weeks ago, NSF posted two important notices related to the agency's interests in addressing the "**water security, food security, and energy security *trilemma***" in an integrative fashion over the next six years. This "*trilemma*" is defined by NSF as a "multidimensional, dynamic web among food, energy, and water (FEW) resources." Both of these documents, along with related NSF FEW strategic planning documents, e.g., *Innovations at the Nexus Of Food, Energy, and Water Systems* (INFEWS), included as part of the recent NSF FY2016 budget request to Congress, represent the beginning stages of a major, long-term (2015-2021) funding commitment by the agency for advancing basic research that addresses the *trilemma*.

Based on these NSF INFEW strategic planning documents, now is the time for forward-looking research offices to ***start developing a six-year strategic plan for INFEW funding*** that maps to the NSF INFEWS planning and adapts to it as NSF evolves its thinking on this research direction. For example, the outcomes of INFEW workshops funded in 2015 will play an important role in helping NSF define its six-year INFEW plan. Being proactive rather than reactive in understanding the evolution of the vision, goals, and objectives of the INFEW program at NSF will significantly enhance institutional opportunities for successful funding under this program over the next six years.

The February 2 Dear Colleague Letter: *SEES: Interactions of Food Systems with Water and Energy Systems* (NSF 15-040) was followed by the February 25 *SEES: Interactions of Food Systems with Water and Energy Systems Webinar*. (See the NSF-sponsored *The Consortium of Universities for the Advancement of Hydrologic Science*, Inc. [CUAHSI] for more background on this topic.) Taken together, these two documents offer a fuller understanding of the origins and evolution of this program.

To support this new research direction, NSF indicated in the FEW Webinar that it will make $5.5 million available in 2015 under the FEW (food, energy, and water) program and $75 million available under the *Innovations at the Nexus Of Food, Energy, and Water Systems* (INFEW) program in FY 2016. The FEW program direction grew out of the SEES (Science, Engineering, and Education for Sustainability) NSF initiative started in 2010 and now winding down and largely discontinued, e.g., major program components like Water Sustainability and Climate and Research Coordination Networks are now discontinued, although the Coastal SEES program remains open with a October 2 due date for one final cycle.

However, the importance of understanding the interconnected and interdependent systems involving food, energy, and water (FEW) emerged from SEES. In this context, "*NSF defines the FEW system very broadly, incorporating physical processes (such as new technologies for more efficient resource utilization), natural processes (such as biogeochemical and hydrologic cycles), biological processes (such as **agroecosystem structure and productivity**), social/behavioral processes (such as decision making and governance), and cyber elements.*

Understanding these complex, dynamic coupled systems will require new or enhanced partnerships across many disciplinary research communities."

Pay particular attention to the foregoing, particularly to the last sentence, because it ***implicitly defines a very aggressive interdisciplinarity, hence a team-based approach, that will be required to compete successfully in the INFEW domain over the next six years***. Moreover, given that the past, it is said, is often prologue to the future, someone on a research office INFEW strategic planning group needs to fully understand the evolution of the SEES program 2010-2015, since that program provides insight into the conceptual and programmatic underpinnings of the INFEW program, particularly in its initial few years. Faculty submitting under INFEW programs will benefit from that knowledge in writing the research narrative.

For 2015, NSF will support (1) supplements, to build upon existing NSF-funded research activities, and (2) workshops to "stimulate debate, discussion, visioning and collaboration across research communities, and enable a higher appreciation, visualization and understanding of food systems and their couplings to energy and water systems." The workshop proposals will facilitate interdisciplinary partnerships and are **due March 30**. Workshop funding will be in the range of $50K-$100K.

The workshops are expected to result in white papers submitted to NSF by December 31. These white papers are meant to ***inform NSF on basic research questions and knowledge related to the FEW trilemma.*** **These white papers will** set the conceptual stage for the $75 million INFEW program planned for FY 2016. NSF emphasized two key points in the webinar related to the workshops: (1) ***NSF is <u>not</u> looking for policy-related workshops,*** and (2) the ***basic research must have transferability*** to other INFEW related sites, problems, domains, etc.

NSF's investment in "Innovations at the Nexus of Food, Energy, and Water Systems" (INFEWS) will be supported under solicitations that run from 2016 – 2021, starting with the first awards to be made under the proposed $75 million allocation in FY 2016. These awards will:

- Support integrated experimental research towards creating a comprehensive food-energy-water sociotechnical systems model;
- Advance knowledge and technologies that foster safer, more secure, and more efficient use of resources within the food-energy-water nexus, and;
- Support an integrated approach to building the next-generation INFEWS workforce.

"Supplements to existing NSF active grants may be proposed with prior permission of the appropriate managing Program Officer," according to NSF. "These requests must enhance existing projects by incorporating or exploring the concepts described in the FEW DCL. For example, a project focusing on energy and water might propose to add a component related to food production. In addition, proposed supplements may provide an opportunity to broaden the project's interdisciplinary dimensions to incorporate physical, natural, biological, cyber, and social/behavioral processes of relevance."

Finally, NSF notes, "MPS will also consider EAGERs following specific discussion with the MPS point of contact below. Investigators are encouraged to review the six *bottleneck* areas of research identified in the July of 2014 report of the Mathematical and Physical Sciences Advisory Committee - Subcommittee on Food Systems, *Food, Energy and Water: Transformative Research Opportunities in the Mathematical and Physical Sciences*."

The foregoing documents are just the beginnings of what will likely be put forward by NSF's INFEW program over the next six years. However, understanding these initial documents will provide the critical foundation to your long-term strategy for funding success under INFEW out to 2021.

USDA/NSF Intersections in Food-Energy-Water

Copyright 2015 Academic Research Funding Strategies. All rights reserved.

By **Mike Cronan**, co-publisher

(Back to Page 1)

The recent (February 2015) 140-page USDA Budget Request to Congress presents some interesting research intersections and insights into future complementary basic research between USDA and NSF in the areas of intersection among food, energy, and water. This so-called "*trilemma*" is what NSF refers to as INFEWS (*Innovations at the Nexus Of Food, Energy, and Water Systems*), a six-year (2015-2021) NSF program addressed in a companion article in this month's newsletter.

The initial details on INFEW are presented in a February 2 Dear Colleague Letter wherein NSF aims to "accelerate fundamental understanding and stimulate basic research on systems that extend beyond the interests of the Science, Engineering, and Education for Sustainability (SEES) Water Sustainability and Climate program to include couplings to energy and food systems ***where the NSF already has established presence***." The SEES program, which started in 2010, is scheduled for sunsetting in 2017.

At USDA, the Agriculture and Food Research Initiative (AFRI), a competitive, peer-reviewed research program for fundamental and applied sciences in agriculture, has requested $450 million for FY 2016. A portion of this funding, according to USDA, will support "AFRI research focused on developing solutions for **water management** that could potentially affect health, **food**, climate, **energy**, and the environment."

For researchers and their research support offices who are developing a long-term strategic research funding plan related to the intersection of food, energy and water, it will be important to incorporate in that plan a strategy for developing and exploiting the competitive intersections required for funding success between the NSF INFEW program (2015-2021) and AFRI.

In particular, the AFRI FY 2016 research goals that align with both the USDA Strategic Plan 2014-2018 and the INFEWs program will be a goldmine of competitive intersections to "mine" for developing successful long-term funding strategies in food, energy and water. The AFRI research areas that relate to ***both the USDA strategic plan and the NSF INFEW program*** include the following from page 107 of the USDA 2016 Budget Report:

- **Food Security**. This area includes research, education, and extension efforts for food security that will develop more sustainable, productive, and economically viable plant and production systems at the local, regional, and national levels;
- **Water Resources**. This water and water resources research is intended to prepare for future challenges to irrigated agriculture, including developing alternatives to irrigation, and understanding the impacts of climate change and population growth;
- **Sustainable Bioenergy Production**. A sustainable bioenergy program focuses on reducing dependence on fossil fuels through the development of regional systems for the production of bioenergy and biobased products;
- **Climate Variability and Change**. This research will focus on developing solutions for water management that could potentially impact health, food, climate, energy, and

environment as well as seek to understand the patterns, processes, and consequences of changes in land use, land condition, and land cover resulting from the interaction between climate variability and human activities."

In the USDA structure, NIFA (National Institute for Food and Agriculture) is responsible for administering USDA's primary competitive research grants program, AFRI, which ***supports investigator-initiated research with strong potential to contribute to major breakthroughs in the food, agricultural, natural resource, and human sciences.*** NIFA provides funding for projects conducted in partnership with the State agricultural experiment stations, the State Cooperative Extension System, land grant universities, colleges, and other research and education institutions, as well as individual researchers. The 2016 Budget requests approximately $1.5 billion in discretionary funding for NIFA.

Finally, another important intersection at the nexus of food, energy and water addressed in the 2016 Budget Report may become apparent as USDA advances plans for allocating FY 2016 funding to support two **Innovation Institutes.** These multidisciplinary institutes, according to the Budget Report, "will focus on emerging challenges to agriculture, and will be supported by public-private partnerships at a **USDA investment of $80 million**."

The institutes "will engage industry, leverage funding, and facilitate technology transfer. ***One institute will focus on biomanufacturing*** by building the scientific foundation, processes, and workforce capacity to move **bioenergy** and biobased research from development to deployment and commercialization. ***The second institute will focus on nanocellulosics***. Abundant and underutilized cellulose resources can be turned into a renewable supply of industrial materials, with the potential for large economic value and benefits to society and rural America."

While the plans of both USDA and NSF will remain fluid and preliminary as the 2016 budget process unfolds, it is wise to start thinking now of how best to position for funding success 2015-2021 at the ***intersection of food, energy and water at the intersection of NSF and AFRI***. As hockey great Wayne Gretzky noted, "*success comes not from knowing where the puck is but where the puck will be*." That is sage advice for researchers and research offices who use strategic planning to gain a competitive edge over the competition—and even more important advice for those who do not!

DOE's 2016 Budget: Energy-Water Nexus, etc.

Copyright 2015 Academic Research Funding Strategies. All rights reserved.

By Mike Cronan, co-publisher

(Back to Page 1)

A common catchphrase of investigative journalists, particularly those covering politics, is "*to follow the money*," a strategy for ferreting out the truth from conflicting narratives driven by competing self interests. In a benign way, this is good advice for both researchers and the research offices that support them as they develop a multiyear funding plan attempting to predict the funding horizon.

Each year around this time when federal research agencies present their Budget Request to Congress for the upcoming fiscal year, the future research funding environment comes more in focus. Those who want to increase their competitiveness will ***put planning strategies in place now*** that consider which new research programs may be funded, which existing programs may receive significant funding increases, which programs will see reduced funding, which programs remain unchanged, and which will be eliminated.

This is not to say that agencies will get all they ask for in the Budget Request, but in most cases, the Budget Request represents a reasonable approximation of what the agency will fund and at what level over the next fiscal year. The Request anticipates what, at some point in the coming months, will allow the "**planned**" agency budget to converge on the "**enacted**" agency budget for the new fiscal year, albeit often through a somewhat protracted and messy process.

So what do you get by reading through federal agency budget request documents that can run well over 100 pages? Granted, reading through these documents may seem at first like a painfully dull and numbing exercise, but, as the old prospector saying goes, "*There's gold in them thar hills*." The more clearly you see the future research funding environment, the better you will be able to plan for it, and hence, the better you will be able to compete within it.

For example, learning the new program solicitations planned for the next fiscal year at each of the agencies gives you an enormous competitive advantage over those who first learn of a new program when its solicitation is posted a year or so later on Grants.gov. Moreover, aligned research themes can arise across multiple agencies when reviewing budget request documents. This can be particularly helpful when planning team strategies for creating a matrix of possible future funding opportunities over the coming 12 to 18 months, or longer. For instance, in this month's newsletter, ***the food, energy, and water nexus is a common research theme in the 2016 Budget Requests by NSF, USDA/NIFA/AFRI, and DOE***.

That said, there are some interesting "gold nuggets" of information in the DOE request. For FY 2016, DOE requested $29.9 billion, an increase of $2.5 billion from the FY 2015 Enacted level. ***The Budget Request highlights new investments*** in energy infrastructure technology to, according to DOE, "improve the resilience of the electric grid and to reduce methane emissions from natural gas systems; support state-level energy assurance planning; and fund maintenance of the Strategic Petroleum Reserve and other critical energy infrastructures. These efforts will be further delineated in the Quadrennial Energy Review to be released in early 2015. The Request also strengthens DOE's research in the physical, chemical, biological, environmental, and computational sciences. The FY 2016 Budget Request also ***supports six***

crosscutting research initiatives, acknowledging that multi-disciplinary, cross-program activities are needed to adequately address our energy challenges."

In terms of the latter, the FY 2016 Budget Request, according to DOE, specifically "expands the crosscutting initiatives introduced in the FY 2015 Budget Request designed to advance key technology areas that have multiple energy resource applications. Each crosscut reflects a comprehensive and integrated plan of work to optimize programmatic objectives by efficiently allocating resources. Through deliberate and enterprise-wide planning and coordination of these research efforts, the crosscutting initiatives will help bolster DOE's efforts to institutionalize enhanced program management and coordination across program offices, while accelerating progress on key national priorities."

The programs and budgets within the three mission areas include over ***$1.2 billion in crosscutting R&D across six initiatives focusing on***: "electricity grid technology modernization, subsurface technology and engineering, supercritical carbon dioxide technology, ***energy-water nexus***, exascale computing, and **cybersecurity**." Note DOE's The Water-Energy Nexus: Challenges and Opportunities and the U.S.-China Clean Energy Research Center: Energy and Water solicitation due May 4. This FOA is for a **new technical track** under the U.S.-China Clean Energy Research Center (CERC) that addresses priority R&D areas at the ***energy-water nexus***. The solicitation calls for the formation of a U.S-based consortium to work with Chinese counterparts to bolster collaborative efforts to help ensure energy, water, and environmental security and to combat climate change.

The topics solicited in the FOA build on the contents of *The Water-Energy Nexus: Challenge and Opportunities*, which DOE issued in June 2014. DOE is soliciting applications "from a Consortium to pursue five identified R&D topics at the ***nexus of energy and water***, specifically: (1) Water use reduction at thermoelectric plants; (2) Treatment and management of non-traditional waters; (3) Improving sustainable hydropower design and operation; (4) Climate impact modeling, methods, and scenarios to support improved energy and water systems understanding; and (5) Data and analysis to inform planning, policy, and other decisions." (Moreover, note also the priority placed on **cybersecurity** by NSF in its 2016 Budget request. Such intersections are important inputs to your future funding matrix model.)

Bioenergy Technologies

"The FY 2016 Request emphasizes development of innovative processes to convert cellulosic and algal-based feedstocks to bio-based gasoline, jet, and diesel fuels at a cost of $3.00 per gallon gasoline equivalent (gge). ***In collaboration with the U.S. Departments of Navy and Agriculture, the program will demonstrate commercial-scale biorefineries to produce military specification fuels***. Additionally, the Request will support R&D to advance new technologies from the lab bench to the commercial market."

Advanced Manufacturing

"The FY 2016 Request of $402 million, a **102% increase** over the 2015 enacted budget of $200 million, ***fully supports the deployment of two additional Clean Energy Manufacturing Innovation Institutes***, along with continued support of four existing institutes, as part of the larger interagency National Network of Manufacturing Institutes. The network is aimed at bringing together universities, companies, and the government to jointly invest in solving

industry-relevant problems and improving U.S. manufacturing competitiveness. The Request also supports high-impact R&D ***focused on advanced manufacturing and materials*** that will enable U.S. manufacturers to realize significant gains in energy productivity, environmental performance, product yield, and economic competitiveness."

For example, on February 11, DOE's EERE Advanced Manufacturing Office hosted the **QTR Webinar: Chapter 8 - Industry and Manufacturing** "to obtain input from Leaders in Academia, Industry, and Government on Chapter 8, Industry and Manufacturing, and the associated Technology Assessments." The DOE overview presentation at the webinar is available HERE. Additional documents from the webinar are available for download at the below URLs:

- QTR Chapter 8 Industry and Manufacturing (presentation)
- QTR Chapter 8 Industry and Manufacturing (Webinar Recording Part 1)
- QTR Chapter 8 Industry and Manufacturing (Webinar Recording Part 2)
- QTR Chapter 8 Reviewer Instructions and Comment Form
- AM – Additive Manufacturing
- CHP – Combined Heat and Power
- CRM – Critical Materials
- COMP – Composite Materials
- MFI – Flow of Materials Through Industry (Sustainable Manufacturing)
- MHSC – Materials for Harsh Service Conditions
- PI – Process Intensification
- R2R – Roll-to-Roll Processing
- TE – Thermoelectric Materials, Devices, and Systems
- WHR – Waste Heat Recovery
- WBG – Wide Bandgap Power Electronics
- ASCMP – Advanced Sensors, Controls, Models and Platforms
- PH – Process Heating
- NGM – Next Generation Materials and their Manufacture

ARPA-E 2016 Program Highlights

The FY 2016 Budget requests $325 million for the Advanced Research Projects Agency-Energy (ARPA-E), $45 million above the FY 2015 Enacted level, according to DOE, "to fund additional early-stage innovative programs as well as to exploit the technological opportunities developed in previous ARPA-E programs, leading to transformational energy technologies. ***In FY 2016, ARPA-E expects to release funding opportunity announcements (FOA) for 7 – 10 focused technology programs.*** In FY 2015, ARPA-E released a third open funding opportunity announcement (OPEN 2015); however, in keeping with a multi-year cycle for OPEN solicitations (2009, 2012, and 2015), ***ARPA-E does not anticipate an open solicitation in FY 2016***. In FY 2016, ARPA-E will continue its stand-alone Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) program to provide additional support to small businesses beyond the significant number of awards that go to small businesses via ARPA-E's standard FOA process."

Finally, of particular note to university researchers and research offices, "DOE's Office of Science is the largest federal sponsor of basic research in the physical sciences, supporting 22,000 researchers at 17 National Laboratories and more than 300 universities. The FY 2016 Budget Request, DOE notes, "provides $5.34 billion for Science, $272 million above the FY 2015 Enacted level. This includes $612 million for biological and environmental research, $20 million above the FY 2015 Enacted level. This will support fundamental research and scientific user facilities to achieve a predictive understanding of complex biological, climatic, and environmental systems for a secure and sustainable energy future, including continued funding for three Bioenergy Research Centers (BRCs)."

Reviewing the DOE 2016 Budget Request is a good way to get a more clear understanding of the role DOE plays in research across a spectrum of disciplinary areas of interest to university research offices and how those research programs are structured and organized.

DoED 2016 Budget Request: Higher Ed and IES

Copyright 2015 Academic Research Funding Strategies. All rights reserved.

By Mike Cronan, co-publisher

(Back to Page 1)

FY 2016 Higher Education Programs

ED's 2016 budget request includes **$2.1 billion in discretionary funds** for Higher Education Programs (**HEP**) aimed at increasing the percentage of Americans with postsecondary degrees or credentials. This budget request is summarized in the 79-page FY 2016 Education Budget Summary and Background Information that provides program information and detailed budget tables.

For example, ED notes that the "2016 budget invests in innovation and building evidence of what works in postsecondary education at the institutional level through a $200 million request for the First in the World program (FITW), funded in the Fund for the Improvement of Postsecondary Education (FIPSE). Increased funding in FITW would build on the 2014 and 2015 competitions by ***providing larger grants to support the implementation and rigorous evaluation of promising and evidence-based strategies at scale***. Of the amount requested for FITW, up to 30 percent would be set aside to support the implementation of projects at Minority Serving Institutions."

Moreover, the 2016 HEP request would provide $859.8 million to support college preparation and completion activities for participants in the Federal TRIO Programs. Of this amount, "***up to $20 million would be used to support a new TRIO Demonstration initiative*** designed to give existing grantees the opportunity to compete for increased funding to implement and evaluate additional, ***evidence-based***, college access and success strategies and support dissemination of strategies that prove to be effective at scale to all TRIO grantees. Additionally, the request includes $301.6 million to assist middle and high school students in preparing for college through Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP)."

In addition, the Higher Education request includes $76.2 million, or $4 million more than the 2015 level, for the International Education and Foreign Language Studies programs, which, ED notes, "help meet the Nation's security and economic needs through the development of expertise in foreign languages and area and international studies. The Budget also provides $29.3 million for merit- and need-based scholarships and fellowships to postsecondary students under ***Graduate Assistance in Areas of National Need*** (GAANN) programs. GAANN provides fellowships, through competitive grants to postsecondary institutions, to graduate students with superior ability and high financial need studying in areas of national need. Participating graduate schools must provide assurances that they would seek talented students from traditionally underrepresented backgrounds. ***The 2016 request of $29.3 million would support approximately 609 fellowships***."

Also, note that when considering submitting an application to ED discretionary programs (i.e., merit-based, peer-reviewed) the time from the program announcement on Grants.gov (or in the Federal Register or at the ED website) to the application due date can be very compressed. This has been the case, for example, with the GAANN program in prior years. Therefore, one advantage of tracking the ED budget documents for the next fiscal year is that it

allows you to better anticipate funding for specific programs of interest and begin the planning and development process prior to the actual publication of the program solicitation. Short time lines from the solicitation publication and the application due date have become a more frequent occurrence at ED in recent years.

Another HEP program, the Developing Hispanic-Serving Institutions (HSIs) program, funds competitive grants to expand and enhance the academic quality, institutional management, fiscal stability, and self-sufficiency of colleges and universities that enroll large percentages of Hispanic students. In 2016, ED requests $100.2 million in discretionary funding to "support approximately ***158 new and continuation awards***. In addition, mandatory funds provided would ***support 109 new awards under the HSI Science, Technology, Engineering, and Mathematics (STEM) and Articulation program***."

The longstanding FIPSE program (Fund for Improvement of Post-Secondary Education) awards competitive grants to support projects that are ***models for innovative reform and improvement in postsecondary education***. The 2016 request would provide a ***total of $200 million for the third year of the First in the World*** (FITW) program. ED notes that "FITW is a competitive grant program, modeled after Investing in Innovation (i3), designed to ***identify innovative solutions to persistent and widespread challenges to completion in postsecondary education***, particularly those that affect adult learners, working students, part-time students, students from low-income backgrounds, students of color, and first-generation students."

As ED notes in the budget request, "FITW builds evidence for what works in postsecondary education by supporting the implementation of innovative solutions and rigorous evaluation at increasing levels of scale ***to test the effectiveness of particular strategies***. Increased funding in FITW would build on the 2014 and 2015 competitions ***by providing larger grants to support scaling up of promising and evidence-based strategies***, and rigorous evaluation at scale, to help determine whether these strategies work in varied settings and with a wide range of students. ***ED plans to set aside up to 30 percent of the funds available for the competition to support the implementation of projects at Minority Serving Institutions***."

Keep in mind that many ED programs will complement the Common Guidelines for Education Research and Development designed jointly by NSF and ED/IES (August 2013). The Guidelines seek to provide a broad framework that clarifies research types and provides basic guidance about the purpose, justification, design features, and expected outcomes from various research types. Education research and development programs at NSF are distributed throughout its science and engineering directorates, but are located primarily in its Directorate for Education and Human Resources (EHR). EHR's purview includes K-12 education, postsecondary education, and after-school and informal learning environments, as well as the study of science and engineering innovations that emerge from other directorates. ED's research, development, and evaluation programs are located primarily in the Institute of Education Sciences (IES) but also are represented across other ED programs, or inform those programs.

The TRIO programs (Talent Search, Upward Bound, Veterans Upward Bound, Upward Bound Math-Science, Educational Opportunity Centers, Student Support Services, McNair Post Baccalaureate Achievement) are among the ED's largest investments "aimed at getting more students prepared for, into, and through postsecondary education. The 2016 budget request

would provide a $20 million increase to $859.8 million over the 2015 level and would maintain funding for approximately 2,800 TRIO projects serving middle school, high school, and college students and adults, ***while also supporting a new TRIO Demonstration initiative*** designed to give existing grantees the opportunity to compete for increased funding to implement and evaluate additional, evidence-based, college access and success strategies and support dissemination of strategies that prove to be effective at scale to all TRIO grantees."

Institute of Education Sciences

The Institute of Education Sciences (IES), ED notes in the budget request, "supports sustained programs of research, statistics, and evaluation to inform and provide solutions to the problems and challenges faced by schools, teachers, and learners. Investment in research and statistics activities is critical in order to identify effective instructional and program practices, track student achievement, and measure the impact of educational reform. Through its four centers—the National Center for Education Research, the National Center for Education Statistics (NCES), the National Center for Education Evaluation and Regional Assistance, and the National Center for Special Education Research—IES ensures that ED's investment in education research, statistics, and evaluation is rigorous and relevant to the needs of educators and policymakers."

For 2016, the ED is seeking $675.9 million for IES activities, ***an increase of $101.9 million over the 2015 appropriation***. This request, ED notes, "***would enable IES to award approximately $60 million in new research and development grants*** in early learning, elementary, secondary, postsecondary, and adult education in 2016, including research focused on issues related to students with disabilities. NCES would receive an ***additional $21.7 million*** to support a wide range of activities, including collecting administrative National Postsecondary Student Aid Survey (NPSAS) data every 2 years, re-initiating the Early Childhood Longitudinal Study Birth Cohort (ECLS-B), and developing a study on college loan performance. The National Assessment of Educational Progress (NAEP) would receive an ***additional $20.6 million*** to maintain the current schedule of assessments, transition to digital-based assessments and expand the Trial Urban District Assessment (TUDA) in 2017, and conduct assessments at grades 8 and 12 in U.S. history, civics, and geography in 2018. In addition, the Statewide Longitudinal Data Systems program would receive an ***additional $35.5 million to make new grants*** and support the expansion of existing systems to provide near real-time information to policymakers on the impact of various education strategies."

The request would also provide an increase for the What Works Clearinghouse (WWC) "to expand dissemination efforts to better meet the needs of practitioners and policymakers and to accelerate study reviews to help ensure that State education authorities (SEAs), local educational authorities (LEAs), schools, and practitioners have access to the most up-to-date evidence. In addition, the request would continue the Administration's commitment to supporting the Regional Educational Laboratories and Special Education Studies and Evaluations. In addition, the increase would allow IES to expand What Works Clearinghouse (WWC) activities, including increasing the number and pace of study reviews."

Finally, for Research, Development, and Dissemination, ED notes, "the request includes an ***increase of $22.4 million to $202.3 million over the 2015 level*** to support critical investments in education research, development, dissemination, and evaluation that provide

parents, teachers, schools, and policy-makers with evidence-based information on effective educational practices. **The request would enable IES to launch three new grant competitions**: (1) low-cost, quick-turnaround randomized control trials; (2) research networks focused on critical problems of education practice; and (3) the pathways to education research training program. At the request level, ***IES would be able to support $6 million in new research on early childhood education***. "

ED's statistics program—operated primarily through competitively awarded contracts administered by NCES—provides general statistics about trends in education, collects data to monitor reform and measure educational progress, and informs the IES research agenda. According to ED, "the 2016 request, an increase of $21.7 million to $124 million from 2015, would support the collection, analysis, and dissemination of education-related statistics in response to both legislative requirements and to the particular needs of data providers, data users, and educational researchers."

The foregoing are only a small sample of the ED programmatic and budget information provided in the 2016 budget request specific to ED's HEP and IES divisions. However, all other ED divisions are included in this budget request. If your research and educational interests lie in those divisions, this budget request offers an excellent start to anticipating funding solicitations that will be published in the next fiscal year.

Research Grant Writing Web Resources

(Back to Page 1)

NCER Technical Working Group Meeting Summaries

NCSER convenes technical working groups periodically. A technical working group is an ad hoc group of experts on a particular topic who work together on specific goals. These meetings are often meant to encourage stakeholders to discuss the state of research on a topic and/or to identify gaps in research.

Practitioner Perspectives on Emerging Research Needs and Improving Relevance in Education Research, March 3, 2014 – Capital Place, Washington, D.C.

In March 2014, The National Center for Education Research (NCER) and the National Center for Special Education Research (NCSER), in the Institute of Education Sciences (IES) at the U.S. Department of Education, convened a Technical Working Group (TWG) of practitioners to provide input on research needs in education and how research could be more relevant and useful to the field. Fifteen expert practitioners in the field of education were invited to attend, including individuals working in state education and legislative offices, districts, and schools as well as non-profit organizations and postsecondary institutions. The TWG discussion focused on five broad sessions: (1) making research available through effective dissemination; (2) research needs for elementary, middle, and high school; (3) research needs for early intervention; (4) research needs for post-secondary/career readiness; and (5) researcher-practitioner collaborations. This meeting summary covers all sessions of the technical working group and includes both presentations and discussions among participants. View, download, and print the Technical Working Group Meeting Summary as a PDF file.

Researcher Perspectives on Strengthening IES's Research Grant and Training Programs October 16, 2014 – Capital Place, Washington, D.C.

In October 2014, The National Center for Education Research (NCER) and the National Center for Special Education Research (NCSER), in the Institute of Education Sciences (IES) at the U.S. Department of Education, convened a Technical Working Group (TWG). The purpose of this TWG meeting was to discuss critical education problems and issues on which high-quality research is needed, the development or adaptation of new methodological approaches for addressing these issues, the role of IES research training programs in preparing of the next generation of researchers, and ways to prioritize the use of limited funds to support credible research that impacts policy and practice. The TWG consisted of 17 experts in the field of education research who work in universities and research organizations. The TWG discussion focused on five broad sessions: (1) characteristics of influential research; (2) critical, unaddressed issues in education research; (3) advancing research methods; (4) improving IES's training programs; and (5) targeting resources. This meeting summary covers all sessions of the technical working group and includes both presentations and discussions among participants. View, download, and print the Technical Working Group Meeting Summary as a PDF file.

Make the Match with NIH RePORTER

Since 2008, NIH's Research Portfolio Online Reporting Tools, better known as **RePORT**, has provided easy access to info on NIH funded research. My office continues to look at new ways to enhance your access to important information through robust search tools, data visualization dashboards, and more. I'd like to highlight one of our newer tools today: **Matchmaker.** **Matchmaker** allows you to enter manuscript abstracts, research bios, or other scientific text, and retrieve a list of similar projects from the RePORTER database. After you submit your text (up to 15,000 characters in length), Matchmaker will analyze it for key terms and concepts, then pull up the top 100 most-similar NIH-funded projects, ranked by match score.

You'll notice that it also returns several graphs to allow you to easily visualize the distribution of NIH institutes or centers funding these projects, what activity codes these projects use, and which study section the project was reviewed in. You can also click on these graphs to further refine your results as well. For example, you can click on a specific activity code and see how the study section or funding IC distribution changes. Exploring NIH's research portfolio can help you identify the best ICs to reach out to as you put together an application and where your application is likely to be reviewed. It can also help you identify collaborators, potential labs to move into if you're a trainee, and more. Check out the video below and have fun making your match.

Educational Grant Writing Web Resources

(Back to Page 1)

Broadening Participation in STEM: A Call to Action

"With our nation's position as a global leader in science, technology, engineering, and math (STEM) in peril, this report details the key issues to consider and steps we should take to improve our position in STEM innovation. Six critical policy questions are included:

1. To what extent are women and racial and ethnic minorities underrepresented in STEM?
2. How have minority-serving institutions contributed to STEM degree production over time?
3. What STEM talent development models, mechanisms and practices are most promising for underrepresented groups?
4. What indicators should be used to measure the success of efforts to broaden participation in STEM at the undergraduate level?
5. What role(s) should higher education play to broaden participation in STEM?
6. What role(s) should federal funders play to support higher educations capacity to broaden participation in STEM?

The report also includes an open letter to the nation on broadening perceptions in order to broaden participation."

Broader impacts in NSF's Division of Environmental Biology Leave Hope for Improvement

Since 1997, researchers applying for grant funds from the National Science Foundation (NSF) have been asked to give an account of the broader societal effects of their proposed research. The Broader Impacts Criterion was intended as a supplement to the traditional "intellectual merit" criterion, with the hope of creating an incentive for principal investigators to consider and enhance the further-reaching benefits of their work.

In an article to be published in the April 2015 issue of *BioScience*, conservation ecologist Sean M. Watts, of the University of Washington, and his colleagues describe the results of an investigation into the broader impacts activities outlined in proposals made to the NSF's Division of Environmental Biology (where one of the authors is employed). The authors examined a total of 596 proposals and arrived at three major findings: (1) Publicly available abstracts often failed to reflect the broader impacts activities, so "the public at large might easily conclude that the [criterion] is not being implemented." (2) Past reviewers often failed to comment on the broader impacts activities outlined during the review process. (3) Project reports often lacked sufficient detail to measure the principal investigators' performance against the criterion.

One category of proposed broader impacts activities stood out: Watts and his colleagues discovered that efforts to bolster the participation of members of underrepresented groups were comparatively rare. Perhaps even more worrisome, "the [principal investigators] proposed more than twice the number of underrepresented [activities] than they subsequently reported." In contrast, among the other categories, the number of proposals roughly matched

the number of reported outcomes. According to the authors, this may "provide further evidence that the underrepresented category, in particular, is more fundamentally challenging than were the teaching, infrastructure, and dissemination categories."

Despite these troubling trends, efforts are under way to improve adherence to and the usefulness of the Broader Impacts Criterion. A 2013 revision of the NSF's Proposal Guide discourages principal investigators from treating broader impacts activities as a rote checklist, in part by requiring that they be assessed for their novelty, impact, and feasibility. The authors see cause for hope in the new Proposal Guide: "If its requirements are well-implemented, they will bring much needed recognition to a generation of scientists who have toiled to engage society despite limited incentive from their peers, sponsoring institutions, or the review process."

The Current State of K-12 Computer Science Education in the US

Momentum is growing around expanding computing opportunities for students. Organizations like the National Science Foundation and the non-profit Code.org are working to improve computer science educational opportunities for all students, but especially females and underrepresented minorities in the discipline. Still, despite that work and the work of many others, opportunities for students to learn computer science and what it is are relatively scarce.

This webinar will provide participants with an overview of what is currently happening in K-12 computer science education now and areas for future educational research and development. Researchers from Outlier Research & Evaluation at CEMSE at the University of Chicago will provide examples from their research and evaluation work including a current NSF-funded research project (the BASICS Study) that focuses on identifying key supports for and barriers to implementing introductory computer science in large school districts.

Agency Research News

(Back to Page 1)

2015 NSF NRT Solicitation Question and Answer Session

March 19, 2015 12:00 PM to April 10, 2015 5:30 PM Washington

The NSF Research Traineeship program (NRT) is designed to encourage the development and implementation of bold, new, potentially transformative, and scalable models for STEM graduate education training. Within NRT there are **two tracks**: the **Traineeship Track** and the **Innovations in Graduate Education (IGE) Track**.

- The **Traineeship Track** is dedicated to effective training of STEM graduate students in high priority interdisciplinary research areas, through the use of a comprehensive traineeship model that is innovative, evidence-based, scalable, and aligned with changing workforce and research needs.
- The **Innovations in Graduate Education (IGE) Track** is dedicated solely to piloting, testing, and evaluating novel, innovative, and potentially transformative approaches to graduate education, both disciplinary and interdisciplinary, to generate the knowledge required for their customization, implementation, and broader adoption.

The question and answer sessions will be hosted as live webinars where potential principal investigators, university staff, and other interested entities are encouraged to ask NRT program directors any solicitation or program questions they may have. To join a Q&A session follow the hyperlinked time and track to register. Once registered use the event password to join.

3/19/2015
12 noon - 1 pm NRT Track
1:30 pm - 2:30 pm IGE Track

4/9/2015
1 pm - 2 pm NRT Track
2:30 pm - 3:30 pm IGE Track

4/10/2015
3 pm - 4 pm NRT Track
4:30 pm -5:30 pm IGE Track

Webinar for EHR Core Research Program Reviewers

March 12, 2015 8:00 AM to March 26, 2015 4:00 PM Arlington

This is a webinar with audio for reviewers invited to participate in review panels for NSF's EHR Core Research Program. Please click on the link to view the slides and hear the accompanying audio.

Meeting Type
Webcast

Contacts
Robert Russell, (703) 292-2995, rlrussel@nsf.gov

NSF Related Organizations
Directorate for Education & Human Resources

Public Attachments
Presentation

New NAS Prize for Convergence Research
The National Academy of Sciences announced today the creation of the new Raymond and Beverly Sackler Prize in Convergence Research. A generous gift from the Sacklers and the Raymond and Beverly Sackler Foundation will endow the prize, to be presented annually beginning this year with an inaugural $400,000 award. The prize will recognize significant advances in convergence research -- the integration of two or more of the following disciplines: mathematics, physics, chemistry, biomedicine, biology, astronomy, earth sciences, engineering, and computational science -- for achievements possible only through such integration. This year's prize will be awarded for convergence research that benefits human health. Two-thirds of the prize money will be awarded to the selected researcher(s), and the remaining third will go to support the researcher's work.

Request for Information for DE-FOA-0001237
Alternative fuel vehicles (AFVs) and other advanced vehicles offer a number of important benefits, such as fuel diversification for energy security, environmental benefits, and potential cost savings over the life of the vehicle. However, AFVs higher initial costs compared to conventional vehicles are a deployment barrier. Higher AFV and advanced technology vehicle prices can be attributed not only to manufacturers spreading costs over fewer vehicles, but also to the complexities of marketing and supplying vehicles to meet diverse local requirements and fleet needs. If vehicle fleets or consumers could purchase vehicles in larger quantities, or participate in aggregate purchasing initiatives, manufacturers and consumers could benefit from assured sales, as well as from reduced vehicle costs and lower resulting prices. The purpose of this Request for Information (RFI)is to gather feedback from stakeholders prior to DOE potentially issuing a Funding Opportunity Announcement (FOA). This RFI is not a FOA; therefore, DOE is not accepting applications at this time. All responses to this RFI must be provided as an attachment (in Microsoft Word format) to an email message addressed to DE-FOA-0001237@netl.doe.gov . Responses must be received no later than 5:00 p.m. (ET) on March 13, 2015. The full content of the announcement can be found on the EERE Exchange website at https://eere-exchange.energy.gov .

DE-FOA-0001277 NOI for FOA DE-FOA-0001214: U.S. Wind Manufacturing: Larger Blades To Access Greater Wind Resource
The purpose of this Notice of Intent is to provide potential applicants advance notice that the Office of Energy Efficiency and Renewable Energy (EERE) intends to issue, on behalf of the Wind and Water Power Technologies Office (WWPTO), a Funding Opportunity Announcement (FOA) entitled U.S. Wind Manufacturing: Larger Blades to Access Greater Wind Resources and Lower Costs", Number DE-FOA-0001214. This FOA will support Research and Development (R&D) partnerships leading to innovative designs and processes for the manufacturing and assembly of wind turbine blades in order to facilitate deployment of the next generation of multi-megawatt wind turbines. Supported projects will develop cost-competitive integrated solutions that address the challenges of fabricating, transporting overland and assembling rotor blades

longer than 60m, with design concepts scalable to greater lengths, and installing them at wind turbine hub heights of at least 120m. Multi-organizational teams including at least an original equipment manufacturer (OEM) turbine designer, a blade manufacturer and an installation/logistics firm are expected. The proposed FOA is intended to be forward-looking in addressing U.S. market dynamics and domestic manufacturing opportunities through innovative solutions to constructing and assembling larger blades directly applicable to mitigating U.S. transportation constraints. Awards under the FOA will support partnerships between DOE and research and development (R&D) teams, including manufacturers. The resulting designs must be manufacturable in the U.S. in accordance with the U.S. Manufacturing Plan to be submitted as part of the application. NO APPLICATIONS WILL BE ACCEPTED THROUGH THIS NOTICE. Please do not submit questions or respond to this Notice of Intent. Prospective applicants to the FOA should begin developing partnerships, formulating ideas, and gathering data in anticipation of the issuance of this FOA. The applicant must first register and create an account on the EERE eXCHANGE website. A User Guide for EERE eXCHANGE can be found on the EERE website https://eere-exchange.energy.gov/Manuals.aspx after logging in to the system.

Agency Reports, Workshops & Research Roadmaps

(Back to Page 1)

Amid Challenges Facing Manufacturing Sector, U.S. Must Strengthen Innovation, Productivity, and Workforce Training

Given that globalization, technological advances, and changing business practices are dramatically transforming employment and operations across the board in manufacturing, U.S. companies, government, and educators should partner to strengthen workforce training and improve innovation and productivity to ensure manufacturers are "making value" for customers, says a new report from the National Academy of Engineering. Making value is the process of using ingenuity to convert resources into goods, services, or processes that create solutions, serving the welfare of humanity and the needs of society.

Manufacturing can no longer be considered separate from the value chain, the system of research and development, product design, software development and integration, and lifecycle service activities performed to deliver a product or service to market. Businesses focusing on the entire system help make value for their customers and are less likely to be disrupted by new technologies or increased competition from emerging economies around the world.

While technological advances offer companies new ways to understand customers' needs and in turn increase demand for their products, automation and streamlined operations are likely to supplant an increasing number of workers in a variety of occupations, the report says. By some estimates, almost 50 percent of U.S. jobs are at risk for disruption. For example, due to advances in automation and computer-aided design, engineering, and production, an automobile manufacturing plant can now be run by one-third as many people as in 1965, while the quality, sophistication, and timely delivery of vehicles have dramatically improved. Read more at above URL.

Opportunities for the Gulf Research Program: Community Resilience and Health: Summary of a Workshop

There are many connections between human communities and their surrounding environments that influence community resilience and health in the Gulf of Mexico. The impacts of the Deepwater Horizon oil spill on Gulf communities and ecosystems - coupled with the region's preexisting health challenges and environmental stressors - illustrate the need to better understand these connections. In the future, natural and man-made disasters, climate change impacts, and other environmental stressors will present complex challenges to the physical, mental, and social well-being of communities in the Gulf. Understanding the interrelationships among health, ecological, and economic impacts of disasters and other environmental stressors will be crucial to addressing these challenges.

Opportunities for the Gulf Research Program: Community Resilience and Health summarizes a Gulf Research Program workshop held on September 22-23, 2014, in New Orleans, Louisiana. The workshop examined opportunities to improve the health, well-being, and resilience of communities in the Gulf region through discussions with about 50 participants

with diverse expertise and experience. These discussions identified perceived needs, challenges, and opportunities that align with the Gulf Research Program's mission and goals - particularly its goal to improve understanding of the connections between human health and the environment to support the development of health and resilient Gulf communities. This workshop is expected to lead to the development of additional Program activities and opportunities for the research community.

Frontiers of Engineering: Reports on Leading-Edge Engineering from the 2014 Symposium

This volume presents papers on the topics covered at the National Academy of Engineering's 2014 US Frontiers of Engineering Symposium. Every year the symposium brings together 100 outstanding young leaders in engineering to share their cutting-edge research and innovations in selected areas. The 2014 symposium was held September 11-13 at the National Academies Beckman Center in Irvine California. The topics covered at the 2014 symposium were: co-robotics, battery materials, technologies for the heart, and shale gas and oil. The intent of this book is to convey the excitement of this unique meeting and to highlight innovative developments in engineering research and technical work.

Review of the Edwards Aquifer Habitat Conservation Plan: Report 1

The Edwards Aquifer in south-central Texas is the primary source of water for one of the fastest growing cities in the United States, San Antonio, and it also supplies irrigation water to thousands of farmers and livestock operators. It is also is the source water for several springs and rivers, including the two largest freshwater springs in Texas that form the San Marcos and Comal Rivers. The unique habitat afforded by these spring-fed rivers has led to the development of species that are found in no other locations on Earth. Due to the potential for variations in spring flow caused by both human and natural causes, these species are continuously at risk and have been recognized as endangered under the federal Endangered Species Act (ESA).

In an effort to manage the river systems and the aquifer that controls them, the Edwards Aquifer Authority and stakeholders have developed a Habitat Conservation Plan (HCP). The HCP seeks to effectively manage the river-aquifer system to ensure the viability of the ESA-listed species in the face of drought, population growth, and other threats to the aquifer. The National Research Council was asked to assist in this process by reviewing the activities around implementing the HCP. *Review of the Edwards Aquifer Habitat Conservation Plan: Report 1* is the first stage of a three-stage study.

This report reviews the scientific efforts that are being conducted to help build a better understanding of the river-aquifer system and its relationship to the ESA-listed species. These efforts, which include monitoring and modeling as well as research on key uncertainties in the system, are designed to build a better understanding of how best to manage and protect the system and the endangered species. Thus, the current report is focused specifically on a review of the hydrologic modeling, the ecological modeling, the water quality and biological monitoring, and the Applied Research Program.

The fundamental question that *Review of the Edwards Aquifer Habitat Conservation Plan: Report 1* addresses is whether the scientific initiatives appropriately address uncertainties and fill knowledge gaps in the river-aquifer system and the species of concern. It is hoped that

the successful completion of these scientific initiatives will ultimately lead the Edwards Aquifer Authority to an improved understanding of how to manage the system and protect these species.

FY 2016 Budget Request to Congress for DOE's Office of Science

FY 2016 Budget Request to Congress for NSF

FY 2016 Budget Request to Congress for USDA

FY 2016 Budget Request to Congress for NIH

FY 2016 Budget Request to Congress for NOAA

FY 2016 Budget Request to Congress for NASA

FY 2016 Budget Request to Congress for Department of Education

FY 2016 Budget Request to Congress for NEH

Increases/Decreases: FY 2016 S&T Budget Requests

The President's 2016 Budget: Agency Fact Sheets
Listed in the table below are links to fact sheets for each agency.

- **Corporation for National and Community Service**
- **Department of Agriculture**
- **Department of Commerce**
- **Department of Defense**
- **Department of Education**
- **Department of Energy**
- **Department of Health and Human Services**
- **Department Housing and Urban Development**
- **Department of Homeland Security**
- **Department of the Interior**
- **Department of Justice**
- **Department of Labor**
- **Department of State**
- **Department of Treasury**
- **Department of Transportation**
- **Department of Veteran Affairs**
- **Environmental Protection Agency**
- **National Aeronautics and Space Administration**
- **National Intelligence Programs**
- **National Science Foundation**

- Social Security Administration
- Small Business Administration
- US Army Corps of Engineers

New Funding Opportunities

(Back to Page 1)

Content Order

New Funding Posted Since February 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 typically work as well.]

New Funding Solicitations Posted Since February 15 Newsletter

NNH15ZOA001N-15ECF-B1 EARLY CAREER FACULTY NASA
This solicitation is focused on supporting outstanding faculty researchers early in their careers as they conduct space technology research of high priority to NASA's Mission Directorates and STMD. NASA is seeking proposals that plan to pursue innovative, early-stage space technology research in the topic areas specifically enumerated in the solicitation. Our Nation's universities couple fundamental research with education, encouraging a culture of innovation based on the discovery of knowledge. Universities are, therefore, ideally positioned to both conduct fundamental space technology research and diffuse newly-found knowledge into society at large through graduate students and industrial, government, and other partnerships. STMD investments in space technology research at U.S. academic institutions promote the continued leadership of our universities as an international symbol of the country's scientific innovation, engineering creativity, and technological skill. Only accredited U.S. universities are eligible to submit proposals on behalf of their outstanding new faculty members who intend to develop academic careers related to space technology. The proposed research project must be led by a single, eligible Principal Investigator (PI). The PI must be a recent Ph.D. recipient, defined as having graduated on or after, 2008. **NOI due March 20 and full April 17**.

Specialty Crop Research Initiative (SCRI)
The purpose of the SCRI program is to address the critical needs of the specialty crop industry by awarding grants to support research and extension that address key challenges of national, regional, and multi-state importance in sustaining all components of food and agriculture, including conventional and organic food production systems. Projects must address at least one of five focus areas: Research in plant breeding, genetics, genomics, and other methods to improve crop characteristics; Efforts to identify and address threats from pests and diseases, including threats to specialty crop pollinators; Efforts to improve production efficiency, handling and processing, productivity, and profitability over the long term (including specialty

crop policy and marketing); new innovations and technology, including improved mechanization and technologies that delay or inhibit ripening; and methods to prevent, detect, monitor, control, and respond to potential food safety hazards in the production efficiency, handling and processing of specialty crops. **Pre-Application due March 30; Invited Full Application due July 2.**

DE-FOA-0001190 Small and Large Scale Pilots for Reducing the Cost of CO2 Capture and Compression

This Funding Opportunity Announcement is specifically focused on advancing the development of a suite of post combustion carbon dioxide capture and supersonic compression systems for new and existing coal based electric generating plants. Applications are sought for two different scales of pilot scale testing of post combustion CO2 capture technology systems as well as pilot scale testing of supersonic compression systems. **Due March 30.**

USDA-NIFA-ICGP-004960 Organic Agriculture Research and Extension Initiative

The OREI seeks to solve critical organic agriculture issues, priorities, or problems through the integration of research, education, and extension activities. The purpose of this program is to fund projects that will enhance the ability of producers and processors who have already adopted organic standards to grow and market high quality organic agricultural products. **Priority concerns include biological, physical, and social sciences, including economics**. The OREI is particularly interested in projects that emphasize research, education and outreach that assist farmers and ranchers with whole farm planning by delivering practical research-based information. Projects should plan to deliver applied production information to producers. Fieldwork must be done on certified organic land or on land in transition to organic certification, as appropriate to project goals and objectives. Refer to the USDA National Organic Program (http://www.ams.usda.gov/nop) for organic production standards. **$17.5 million in available funding. LOI due April 1; full due April 30.**

USDA-NIFA-AFRI-004919 Agriculture and Food Research Initiative - Agriculture and Natural Resources Science for Climate Variability and Change Challenge Area

This AFRI Challenge Area focuses on the priority to mitigate and adapt to climate variability and change. It supports activities that reduce greenhouse gas emissions, increase carbon sequestration in agricultural and forest production systems, and prepare the nation's agriculture and forests to adapt to variable climates. The long-term outcome for this program is to reduce the use of energy, nitrogen fertilizer, and water by ten percent and increase carbon sequestration by fifteen percent through resilient agriculture and forest production systems. In order to achieve this outcome, this program will support multi-function Integrated Research, Education, and/or Extension Projects and Food and Agricultural Science Enhancement (FASE) Grants applications that address one of the Program Area Priorities (see Climate Variability and Change RFA for details). **LOI due April 2; full due June 4.**

USDA-NIFA-CPPM-004955 Crop Protection and Pest Management

The purpose of the Crop Protection and Pest Management program is to address high priority issues related to pests and their management using IPM approaches at the state, regional and

national levels. The CPPM program supports projects that will increase food security and respond effectively to other major societal challenges with comprehensive IPM approaches that are economically viable, environmentally sound and will help protect human health. The CPPM program addresses IPM challenges for emerging issues and existing priority pest concerns that can be addressed more effectively with new and emerging technologies. The outcomes of the CPPM program are effective, affordable, and environmentally sound IPM practices and strategies supporting more vital communities. **Due April 7.**

DARPA-RA-15-23 Young Faculty Award (YFA)

This Research Announcement (RA) solicits ground-breaking single-investigator proposals from junior faculty for research and development in the areas of Physical Sciences, Engineering, Mathematics, Medicine, Biology, Information and Social Sciences of interest to DARPA's Defense Sciences Office (DSO), Microsystems Technology Office (MTO), and Biological Technology Office (BTO). See the full DARPA-RA-15-23 document. **Due April 9.**

DARPA-BAA-15-18 Communicating with Computers (CwC)

DARPA is soliciting innovative research proposals in the area of natural communication with computers. This program is a 6.1 basic research effort that aims to accelerate progress toward two-way communication between people and computers in which the machine is more than merely a receiver of commands and in which a full range of natural modes is tapped, including potentially language, gesture and facial or other expressions. For further details see attached PDF, "DARPA-BAA-15-18 CwC" **Due April 9.**

USDA-NIFA-AFRI-004918 Agriculture and Food Research Initiative - Water for Agriculture Challenge Area

NIFA initiates a new challenge area to address critical water resources issues such as drought, excess soil moisture, flooding, quality and others in an agricultural context. Funding will be used to develop management practices, technologies, and tools for farmers, ranchers, forest owners and managers, public decision makers, public and private managers, and citizens to improve water resource quantity and quality. NIFA's approach will link social, economic, and behavioral sciences with traditional biophysical sciences and engineering to address regional-scale issues with shared hydrological processes and meteorological and basin characteristics. **LOI due April 9; full due July 16.**

DARPA-BAA-15-28 Future Arctic Sensing Technologies

DARPA is soliciting innovative research proposals in the area of novel Arctic sensor systems. In particular, DARPA is interested in concepts for low-cost, rapidly-deployable, environmentally friendly, unmanned sensor systems, including deployment and data reach-back from above the Arctic Circle that can detect, track and identify air, surface and subsurface targets. For complete details of the subject DARPA-BAA-15-28, refer to the FedBizOpps web-page at https://www.fbo.gov/spg/ODA/DARPA/CMO/DARPA-BAA-15-28/listing.html. **Due April 14.**

Organic Transitions Program

The overall goal of ORG is to support the development and implementation of research, extension and higher education programs to improve the competitiveness of organic livestock

and crop producers, as well as those who are adopting organic practices. In FY 2015, ORG will continue to prioritize environmental services provided by organic farming systems in the area of soil conservation and climate change mitigation, including greenhouse gases (GHG). Two new priorities have been added to support (1) the development of educational tools for Cooperative Extension personnel and other agricultural professionals who advise producers on organic practices and (2) the development of cultural practices and other allowable alternatives to substances recommended for removal from the National Organic Programs National List of Allowed and Prohibited Substances. Practices and systems to be addressed include those associated with organic crops, organic animal production, and organic systems integrating plant and animal production. **Due April 16, 2015.**

USDA-NIFA-HSI-004977 Hispanic-Serving Institutions (HSI) Education Grants

This competitive grants program (**RFA Here**) is intended to promote and strengthen the ability of Hispanic-Serving Institutions to carry out higher education programs in the food and agricultural sciences. Programs aim to attract outstanding students and produce graduates capable of enhancing the Nation's food and agricultural scientific and professional work force. The purpose of NIFA's HSI Education Grants Program is to support innovative teaching or education proposals with potential to impact Hispanic-Serving Institutions to become models for other institutions that serve underrepresented students, at the regional or national level. While research and extension activities may be included in a funded HSI Education project, the primary focus must be to improve teaching, enrollment, and graduation rates within a degree-granting program. **Due April 16, 21, and 23 depending on program.**

USDA-NIFA-BRAP-004935 Biotechnology Risk Assessment Grants Program

The purpose of the BRAG program is to support the generation of new information that will assist Federal regulatory agencies in making science-based decisions about the effects of introducing into the environment genetically engineered organisms (GE), including plants, microorganisms (including fungi, bacteria, and viruses), arthropods, fish, birds, mammals and other animals excluding humans. Investigations of effects on both managed and natural environments are relevant. The BRAG program accomplishes its purpose by providing Federal regulatory agencies with scientific information relevant to regulatory issues. **Due April 17.**

NOAA-SEC-OED-2015-2004390 National Ocean Sciences Competition for High School Students

The goal of this funding opportunity is to expose high school students in the United States and its territories to the excitement of ocean sciences and related fields as well as careers in those fields through an academic competition and related activities. Projects should be 3-5 years in duration, address at least one of the goals of NOAA's Education Strategic Plan, involve partnerships among academic institutions; other nonprofits, including free-choice learning venues; nongovernmental organizations; state, local and Indian tribal governments in the United States; and have an evaluation that both monitors the quality of the experience for the participants (be they students, teachers, or volunteers) but also the impact of the program on the participants. Partnerships with NOAA Programs and/or Offices and/or involve NOAA scientists or other personnel as a resource are required, and partnerships with other Federal Programs and/or Offices to help support program activities are also encouraged. The impact of

the proposed project on the target audiences must be measurable during the award period. Although it is expected that the project's focal point will be a tiered academic competition with regional and national-level events involving approximately 2000 students annually, it should also provide additional learning experiences for student participants, their peers and their teachers, such as internships and field or laboratory research experiences. The project should also provide opportunities to connect students with scientists who can serve as mentors and introduce them to STEM careers, particularly in the ocean sciences. The project should also demonstrate efforts to engage underserved and/or underrepresented student communities. Proposed projects must be between three and five years in duration and have federal requests of $1,500,000 to $2,100,000 for all years of the project with annual federal requests of no more than $300,000 for Year 1 and $450,000 for all subsequent years. We intend to make one award under this funding announcement and anticipate it will be made by June 30, 2015. Under this scenario, the project funded under this announcement will have a start date no earlier than August 1, 2015. **Due April 21.**

USDA-NIFA-AFRI-004917 Agriculture and Food Research Initiative - Childhood Obesity Prevention Challenge Area

This Challenge Area Focuses on the societal challenge to end obesity among children, the number one nutrition-related problem in the US. Food is an integral part of the process that leads to obesity and USDA has a unique responsibility for the food system in the United States. This program is designed to achieve the long-term outcome of reducing the prevalence of overweight and obesity among children and adolescents 2-19 years. The Childhood Obesity Prevention Program supports Multi-function Integrated Research, Education, and/or Extension Projects and Food and Agricultural Science Enhancement (FASE) Grants. **Due April 23.**

NOAA Sea Grant Aquaculture Extension and Technology Transfer 2015

Depending on availability of funds, NOAA Sea Grant expects to have available about $1,600,000 for each of FY 2015 and FY 2016 for a national competition to fund marine aquaculture extension and technology transfer efforts, as part of the overall plan to support the development of environmentally and economically sustainable ocean, coastal and Great Lakes aquaculture. Aquaculture that occurs in the Great Lakes or its coastal zone is considered marine aquaculture for this competition. This Federal Funding Opportunity includes information on application and criteria for aquaculture extension proposals requesting a maximum of $300,000 in total federal funding for up to a two-year period. Matching funds are required. Proposals are required to include a partnership (e.g., with local community governments, state and Federal agencies, regional management efforts, industry, non-governmental organizations). Awards are anticipated to start no later than September 1, 2015. Additional proposals from this competition may be selected for funding in subsequent fiscal years, subject to the availability of funds. **Due April 27.**

Preservation and Access Education and Training National Endowment for the Humanities

The Preservation and Access Education and Training program is central to NEH's efforts to preserve and establish access to cultural heritage collections. Thousands of libraries, archives, museums, and historical organizations across the country maintain important collections of books and manuscripts, photographs, sound recordings and moving images, archaeological and

ethnographic artifacts, art and material culture collections, electronic records, and digital objects. The challenge of preserving and making accessible such large and diverse holdings is enormous, and the need for knowledgeable staff is significant and ongoing. Preservation and Access Education and Training grants are awarded to organizations that offer national or regional (multistate) education and training programs. Grants aim to help the staff of cultural institutions, large and small, obtain the knowledge and skills needed to serve as effective stewards of humanities collections. Grants also support educational programs that prepare the next generation of conservators and preservation professionals, as well as projects that introduce the staff of cultural institutions to new information and advances in preservation and access practices. **Due May 5.**

NOAA-NOS-OCS-2015-2004393 Joint Hydrographic Center

The purpose of this notice is to solicit proposals (**application pdf**) for a single cooperative agreement between NOAA and an institution of higher learning to operate and maintain a Joint Hydrographic Center as authorized in the Ocean and Coastal Mapping Integration Act and the Hydrographic Services Improvement Act. Proposals submitted in response to this announcement should advance the purposes of the Acts including research and development of hydrographic technologies necessary to ensure safe and efficient navigation; research and development of innovative ocean and coastal mapping technologies, equipment, and data products; mapping of the United States Outer Continental Shelf and other regions; data processing for nontraditional data and uses; advancing the use of remote sensing technologies, for related issues, including mapping and assessment of essential fish habitat and of coral resources, ocean observations, and ocean exploration; and providing graduate education and training in ocean and coastal mapping sciences. The program priorities for this opportunity support NOAA's mission goal of: “Resilient Coastal Communities and Economies” and the objective of “Safe, efficient and environmentally sound marine transportation.” **$31 million for one center. Due May 11.**

USDA-NIFA-AFRI-004916 Agriculture and Food Research Initiative - Food Safety Challenge Area

This AFRI Challenge Area promotes and enhances the scientific discipline of food safety, with an overall aim of protecting consumers from microbial and chemical contaminants that may occur during all stages of the food chain, from production to consumption. This requires an understanding of the interdependencies of human, animal, and ecosystem health as it pertains to foodborne pathogens. The long-term outcome for this program is to reduce foodborne illnesses and deaths by improving the safety of the food supply, which will result in reduced impacts on public health and on our economy. In order to achieve this outcome, this program will support single-function Research Projects and multi-function Integrated Research, Education, and/or Extension Projects, and Food and Agricultural Science Enhancement (FASE) Grants that address one of the Program Area Priorities (see Food Safety RFA for details). **Due May 13 and May 18 depending on program.**

USDA-NIFA-AFRI-004915 Agriculture and Food Research Initiative - Foundational Program

The AFRI Foundational Program is offered to support research 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; Renewable Energy, 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). **See application for various LOI dates. Proposals due September 30.**

URL Links to New & Open Funding Solicitations

Links verified: Saturday, October 04, 2014

- HHS Grants Forecast
- American Cancer Society Index of Grants
- SAMHSA FY 2014 Grant Announcements and Awards
- DARPA Microsystems Technology Office Solicitations
- Open Solicitations from IARPA (Intelligence Advanced Research Projects Activity)
- Bureau of Educational and Cultural Affairs, Open Solicitations, DOS
- ARPA-E Funding Opportunity Exchange
- DOE Funding Opportunity Exchange
- NIAID Funding Opportunities List
- NPS Broad Agency Announcements (BAAs)
- NIJ Current Funding Opportunities
- NIJ Forthcoming Funding Opportunities
- Engineering Information Foundation Grant Program
- Comprehensive List of Collaborative Funding Mechanisms, NORDP
- ARL Funding Opportunities — Open Broad Agency Announcements (BAA)
- HHS Grants Forecast
- American Psychological Association, Scholarships, Grants and Awards
- EPA 2014 Science To Achieve Results (STAR) Research Grants
- NASA Open Solicitations
- Defense Sciences Office Solicitations
- The Mathematics Education Trust
- EPA Open Funding Opportunities
- CDMRP FY 2014 Funding Announcements
- Office of Minority Health
- Department of Justice Open Solicitations
- DOE/EERE Funding Opportunity Exchange
- New Funding Opportunities at NIEHS (NIH)
- National Human Genome Research Institute Funding Opportunities

- Army Research Laboratory Open Broad Agency Announcements (BAA)
- SBIR Gateway to Funding
- Water Research Funding
- Fellowship and Grant Opportunities for Faculty Humanities and Social Sciences
- DARPA Current Solicitations
- Office of Naval Research Currently Active BAAs
- HRSA Health Professions Open Opportunities
- NIH Funding Opportunities Relevant to NIAID
- National Institute of Justice Current Funding Opportunities
- Funding Opportunities by the Department of Education Discretionary Grant Programs
- EPA's Office of Air and Radiation (OAR) Open Solicitations
- NETL Open Solicitations
- DoED List of Currently Open Grant Competitions
- Foundation Center RFP Weekly Funding Bulletin

Solicitations Remaining Open from Prior Issues of the Newsletter

NSF 15-536 Research Experiences for Teachers (RET) in Engineering and Computer Science

The Directorate for Engineering (ENG) and the Directorate for Computer and Information Science and Engineering (CISE), have joined to support the Research Experiences for Teachers (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) teachers and community college and university faculty and students to bring knowledge of engineering or computer and information science and engineering as well as technological innovation to pre-college/community college classrooms. The goal of these partnerships is to enable K-12 STEM teachers and community college faculty to translate their research experiences and new knowledge gained in university settings into their classroom activities. 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, and persons with disabilities. As part of the long-term partnership arrangements, university undergraduate/graduate students will partner with pre-college/community college faculty in their classrooms during the academic year to help teach engineering/computer science concepts. This announcement features two mechanisms for support of in-service and pre-service K-12 STEM teachers and community college faculty: (1) RET supplements to ongoing ENG and CISE awards and (2) new RET Site awards. RET supplements may be included outside this solicitation in proposals for new or renewed NSF Directorate for Engineering (ENG) and Directorate for Computer and Information Science and Engineering (CISE) grants or as supplements to ongoing NSF ENG and CISE funded projects. RET in Engineering and Computer Science Sites, through this solicitation, are based on independent proposals from engineering or computer and/or information science departments, schools or

colleges to initiate and conduct research participation projects for K-12 STEM teachers and/or community college faculty. **Due April 8.**

Dimensions of Biodiversity FY2015

The goal of the Dimensions of Biodiversity campaign is to transform, by 2020, how we describe and understand the scope and role of life on Earth. This campaign promotes novel integrative approaches to fill the most substantial gaps in our understanding of the diversity of life on Earth. It takes a broad view of biodiversity, and focuses on the intersection of genetic, phylogenetic, and functional dimensions of biodiversity. Successful proposals must integrate these three dimensions to understand interactions and feedbacks among them. While this focus complements several core programs in BIO and GEO, it differs by requiring that multiple dimensions of biodiversity be addressed simultaneously, in novel ways, to understand their synergistic roles in critical ecological and evolutionary processes. The Dimensions of Biodiversity program again includes partnerships with the National Natural Science Foundation of China (NSFC) and São Paulo Research Foundation (FAPESP) of Brazil in fiscal year 2015. **Due April 9.**

DE-FOA-0001233 Emerging Technologies for Methane Production via Biological In-Situ Coal Conversion and Low Cost Oxygen Production for Gasification

For Fiscal Year 2015, the Advanced Energy Systems (AES) Program will solicit proposals under this Funding Opportunity Announcement for support of the Gasification Systems technology area. There will be a total of two Areas of Interest. The AES Program is pursuing research and development to (1) accelerate in-situ bio-gasification of coal seams with a goal of creating methane at a lower cost than typical U.S. natural gas recovery systems; and (2) produce oxygen for use in coal gasification processes at a significantly lower cost than that of the commercial state of the art technology. **Due April 13.**

NIJ-2015-3976 NIJ FY 15 Research and Evaluation on Justice Systems

NIJ is seeking proposals for social and behavioral science research on, and evaluation related to, justice systems topics including policing, courts, and institutional and community corrections that bear directly and substantially upon federal, State, local, or tribal criminal and juvenile justice policy and practice. **Due April 15.**

DE-FOA-0001271 Cleantech University Prize (Cleantech UP)

The Office of Energy Efficiency and Renewable Energy (EERE) has issued, on behalf of the Technology-to-Market Team in the Office of Strategic Programs, a Funding Opportunity Announcement (FOA) number DE-FOA-0001271 entitled Cleantech University Prize (Cleantech UP). The full text of the FOA is posted on the EERE eXCHANGE website at https://eere-exchange.energy.gov . The mission of EERE's Technology-to-Market Team is to aid EERE technology offices and American energy innovation stakeholders in addressing the technological and financial barriers to bring new intellectual property to market. To advance this mission, the Technology-to-Market sub-program supports a variety of commercialization and entrepreneurship activities in partnership with U.S. Department of Energy (DOE) national laboratories, universities, businesses, and nonprofit organizations around the country. Existing

activities include the DOE National Clean Energy Business Plan Competition (NCEBPC), National Incubator Initiative for Clean Energy, Lab-Corps, and Small Business Innovation Research/Small Business Technology Transfer Programs (SBIR/STTR); past activities include the Innovation Ecosystem Development Initiative, i6 Green Challenge, Technology Commercialization Fund, Entrepreneurs-in-Residence, and other initiatives. This FOA supports the creation of the Cleantech University Prize (Cleantech UP) program designed to address the significant barriers to creating clean energy technology start-ups, resulting from a dearth of participants entering the energy entrepreneurship pipeline. For the United States to accelerate the rate of clean energy innovation and remain competitive, a strong national infrastructure that spurs and supports high-tech entrepreneurship is critical. **Due April 16.**

NIJ-2015-3990 NIJ FY 15 Building and Enhancing Criminal Justice Researcher-Practitioner Partnerships

NIJ is seeking proposals for criminal justice research and evaluation that includes a researcher-practitioner partnership component. Through researcher-practitioner partnerships, criminal justice practitioners can gain new skills in assessing programs and measuring outcomes. Likewise, criminal justice researchers can better understand the goals and purposes criminal justice practitioners seek to achieve. Ultimately, these partnerships provide criminal justice practitioners with practice- and policy-relevant information while affording researchers the opportunity to contribute to the current body of knowledge. NIJ intends to support criminal justice research in the two following areas related to new and ongoing researcher-practitioner collaborations: Junior Faculty/Research Associate Grant Program to Promote Criminal Justice Researcher-Practitioner Partnerships. Criminal Justice Researcher-Practitioner Fellowship Placement Program. **Due April 20**.

ONR-15-FOA-0003 National Security Science And Engineering Faculty Fellowship

Research Opportunity Description The National Security Science and Engineering Faculty Fellowship (NSSEFF) program is sponsored by the Basic Research Office, Office of Assistant Secretary of Defense for Research and Engineering (ASD (R&E)). NSSEFF supports innovative basic research within academia, as well as education initiatives that seek to create and develop the next generation of scientists and engineers for the defense and national security workforce. The Office of Naval Research (ONR) manages the NSSEFF program for ASD (R&E). To accomplish this task, ONR is soliciting proposals for the NSSEFF program through this Funding Opportunity Announcement. This FOA seeks outstanding and distinguished researchers for the purpose of conducting innovative basic research in areas of interest to the Department of Defense (DoD) and fostering long-term relationships between the NSSEFF Fellows and the DoD. For full description, see full announcement. **Proposal due April 24.**

Basic Research to Enable Agricultural Development (BREAD)

There are two focus areas in FY 2015: Developing High Throughput, Low Cost Phenotyping Tools and Devices (PHENO) and Advancing Basic Research in Crop Plants Relevant to Smallholder Agriculture in Developing Countries (ABRDC). Research in these two areas only will be supported in FY 2015. The Basic Research to Enable Agricultural Development (BREAD) Program was established in 2009 as a National Science Foundation (NSF) program supported in partnership with the Bill & Melinda Gates Foundation (BMGF). The goal of BREAD is to support

innovative basic scientific research designed to address key constraints to smallholder agriculture in the developing world. Proposals submitted to BREAD must make a clear and well-defined connection between the outcomes of the proposed basic research and its direct relevance and potential application to agriculture in the developing world. In FY 2015, activities in two focus areas will be supported: (1) Developing High Throughput, Low Cost Phenotyping Tools and Devices to facilitate assessment of field-based phenotypes, especially for root and tuber crops (PHENO), and (2) Advancing Basic Research in Crop Plants Relevant to Smallholder Agriculture in Developing Countries (ABRDC) to develop critically needed sequence and functional genomics resources to enable basic and applied research in crop plants important for smallholder agriculture. As in past competitions, proposals are expected to address project outcomes in the context of broader societal impacts, and as appropriate to the research proposed, engage international partners in scientific collaborations. **Due April 27.**

Solar Powering America by Recognizing Communities (SPARC)

This funding opportunity announcement (FOA) will establish a prominent national recognition and technical assistance program for local governments that will signal to installers and the public that a community is receptive to solar businesses and has established a supportive solar market environment. This, in turn, will reduce market barriers and lower soft costs, thus contributing to SunShot goals. The program will also assist marginal communities in improving their solar markets. The full FOA is posted on the EERE Exchange website. Applications must be submitted through the EERE Exchange website to be considered for award. For more information, see the full solicitation. **Due April 27.**

DE-FOA-0001269 Topical Collaborations in Nuclear Theory DOE - Office of Science

The Office of Nuclear Physics (NP), Office of Science (SC), U.S. Department of Energy (DOE), hereby announces its interest in receiving proposals for Topical Collaborations in Nuclear Theory. Topical Collaborations are fixed-term, multi-institution collaborations established to investigate a specific topic in nuclear physics of special interest to the community, which is aligned with programmatic NP goals and has not been addressed by a previous Topical Collaboration. Topical Collaborations also provide a mechanism for maintaining a robust community, by encouraging the creation of tenured university appointments and permanent laboratory positions in nuclear theory. A companion Program Announcement to DOE Laboratories (LAB15-1269) will be posted on the SC Grants and Contracts website at http://science.energy.gov/grants . **Due April 30.**

Professional Formation of Engineers (PFE: RIEF) Research Initiation in Engineering Formation

The NSF Engineering (ENG) Directorate has launched a multi-year initiative, the Professional Formation of Engineers, to create and support an innovative and inclusive engineering profession for the 21st Century. Professional Formation of Engineers (PFE) refers to the formal and informal processes and value systems by which people become engineers. It also includes the ethical responsibility of practicing engineers to sustain and grow the profession. The engineering profession must be responsive to national priorities, grand challenges, and dynamic workforce needs; it must be equally open and accessible to all.

Engineering faculty possess both deep technical expertise in their engineering discipline and the primary responsibility for the process of professional formation of future engineers. As such, engineering faculty are in a unique position to help address critical challenges in engineering formation. The Professional Formation of Engineers: Research Initiation in Engineering Formation (PFE: RIEF) program enables engineering faculty who are renowned for teaching, mentoring, or leading educational reform efforts on their campus to initiate collaborations with colleagues in the social and/or learning sciences to address difficult, boundary-spanning problems in the professional formation of engineers. **Due April 30.**

Challenge Grants National Endowment for the Humanities

The mission of the NEH Office of Challenge Grants is to advance knowledge and understanding in the humanities by strengthening the institutional base of humanities teaching, scholarly research, public programming, and other humanities activities. Challenge grants are capacity-building grants, intended to support significant humanities activities of high intellectual quality and to help institutions secure long-term support for their humanities programs. Through these grants many organizations and institutions have been able to increase their humanities capacity and secure the permanent support of an endowment. Grants may be used to establish or enhance endowments or spend-down funds that generate expendable earnings to support and enhance ongoing program activities. Challenge grants may also provide capital directly supporting the procurement of long-lasting objects, such as acquisitions for archives and collections, the purchase of equipment, and the construction or renovation of facilities needed for humanities activities. Funds spent directly must be shown to bring long-term benefits to the institution and to the humanities more broadly. Grantee institutions may also expend up to 10 percent of total grant funds (federal funds plus matching funds) to defray costs of fundraising to meet the NEH challenge. Because of the matching requirement, these NEH grants also strengthen the humanities by encouraging nonfederal sources of support. Applications are welcome from colleges and universities, museums, public libraries, research institutions, historical societies and historic sites, scholarly associations, state humanities councils, and other nonprofit humanities entities. **Due May 5.**

National Science Foundation Research Traineeship (NRT) Program

This solicitation extends and broadens the scope of the NSF Research Traineeship (NRT) program launched in 2014. Proposals are invited in two tracks: the Traineeship Track (maximum 5 years, $3.0 million), dedicated to the education of STEM graduate students through an innovative, evidence-based traineeship approach in high-priority interdisciplinary research areas; and the Innovations in Graduate Education (IGE) Track (2–3 years, up to $300,000–$500,000) dedicated solely to piloting, testing, and evaluating bold, new graduate-education approaches, models, and activities and to generate the knowledge required for their customization, implementation, and scaling. This solicitation is active for two years, and future NRT solicitations are anticipated. A letter of intent is recommended for both tracks. **Due May 6.**

USDA-NIFA-AFRI-004797 AFRI Food, Agriculture, Natural Resources and Human Sciences Education and Literacy Initiative

The AFRI Food, Agriculture, Natural Resources and Human Sciences Education and Literacy Initiative (AFRI ELI) focuses on developing the following: opportunities for undergraduate students at colleges and universities, including those from underrepresented ethnicities and economically disadvantaged groups at minority-serving institutions, community colleges, and other universities to obtain hands-on experience at land-grant and non-land-grant universities and USDA laboratories and obtain training to join the agricultural workforce or pursue graduate studies in food, agriculture, natural resources and the human sciences. technical and functional competence for predoctoral students; and the research independence and teaching credentials of postdoctoral students. **Due May 6.**

20150610-HZ Humanities Open Book Program

NEH and Mellon are soliciting proposals from academic presses, scholarly societies, museums, and other institutions that publish books in the humanities to participate in the Humanities Open Book Program. Applicants will provide a list of previously published humanities books along with brief descriptions of the books and their intellectual significance. Depending on the length and topics of the books, the number to be digitized may vary. However, NEH and Mellon anticipate that applicants may propose to digitize a total that ranges from less than fifty to more than one hundred books. Awards will be given to digitize these books and make them available as Creative Commons-licensed "ebooks" that can be read by the public at no charge on computers, mobile devices, and ebook readers. **Due June 10.**

NOAA-NOS-IOOS-2016-2004378 FY 2016 Implementation of the U.S. Integrated Ocean Observing System (IOOS®)

The U.S. Integrated Ocean Observing System (IOOS®) is a national and regional partnership working to provide observations, data, and new tools and forecasts to improve safety, enhance the economy, and protect our environment. NOAA is requesting proposals for coordinated regional efforts that further the IOOS in two topic areas, 1) sustaining and enhancing comprehensive regional observing systems and 2) verification and validation of observing technologies for studying and monitoring coastal and ocean environments. NOAA invites applicants to submit proposals for one or both of these topic areas, described in detail below, and requests applicants submit separate applications for each topic area. For single topic proposals, clearly identify the topic area and present all required information such that merit reviewers can associate proposal elements (project description, partners, budgets) with the specific topic area. NOAA anticipates making multiple awards, subject to the availability of funds, in amounts ranging from $1,000,000 to $4,000,000 per year, for up to five years. **Due August 31.**

GCC-GRANT-SEP-15-001 Spill Impact Component Planning Grants Gulf Coast Ecosystem Restoration Council

This announcement provides guidance to the Gulf Coast States – defined as any of the States of Alabama, Florida, Louisiana, Mississippi, and Texas – or the Gulf Coast States' administrative agents and the Gulf Consortium of Florida counties to apply for grants to fund planning activities to develop individual State Expenditure Plans (SEP) under the Spill Impact Component of the Resources and Ecosystem Sustainability, Tourist Opportunities, and Revived Economies

of the Gulf Coast States Act of 2012 (RESTORE Act). The eligible entities may apply to the Council for a grant to use the minimum allocation available under the Spill Impact Component of the RESTORE Act for planning purposes. The submission process for this announcement is organized into two phases: (1) the submission of a planning SEP by a Gulf Coast State; and (2) the administrative application process, which includes the submission of all administrative grant application materials by the eligible entities. All planning activities proposed under this announcement are limited to the development of a comprehensive SEP, including conceptual design and feasibility studies related to specific projects. This announcement does not include engineering and environmental studies related to specific projects. It also does not include any pre-award costs incurred prior to August 22, 2014. **December 31, 2015**

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.**

Open Solicitations and BAAs

Research Interests of the Air Force Office of Scientific Research

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

DARPA-BAA-14-25 Innovative Systems for Military Missions

The Tactical Technology Office of the Defense Advanced Research Projects Agency is soliciting executive summaries, white papers and proposals for advanced research and development of Innovative Systems for Military Missions. This solicitation seeks system and subsystem level technologies that enable revolutionary improvements to the efficiency and effectiveness of the military. Novel concepts are sought in the following focus areas: Ground Systems, Maritime Systems, Air Systems, and Space Systems. Proposals may be submitted at any time while this solicitation is open. TTO may publish groups of special topics as modifications to this BAA throughout the year. TTO also welcomes classified submissions. A copy of the Broad Agency Announcement, DARPA-BAA-14-25, has been posted to the Federal Business Opportunities (FedBizOpps.gov) website at https://www.fbo.gov/spg/ODA/DARPA/CMO/DARPA-BAA-14-25/listing.html . **Open to April 24, 2015.**

DARPA-BAA-14-54 Biological Technologies EZ

The Defense Advanced Research Projects Agency (DARPA) is soliciting innovative research proposals of interest to the Biological Technologies Office (BTO). Of particular interest are those proposals from entities (both small and large business) that have never received Government funding, or who do not normally propose to Government solicitations. 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. **Open to July 23, 2015.**

Broad Agency Announcement for Research Initiatives at Naval Postgraduate School

The Naval Postgraduate School (NPS) is interested in receiving proposals for research initiatives that offer potential for advancement and improvement in the NPS core mission of graduate education and research. Readers should note that this is an announcement to declare NPS's solicitation in competitive funding of meritorious research initiatives across a spectrum of science and engineering, business, politics and public/foreign policy, operational and information sciences, and interdisciplinary disciplines that are in line with the NPS' graduate education and research mission. Additional information on the Naval Postgraduate School's graduate education and research mission is available at: General Information: http://www.nps.edu/About/index.html ; NPS Strategic Plan: http://www.nps.edu/About/NPSStratPlan.html ; Academic Programs: http://www.nps.edu/Academics/index.html ; Research Programs: http://www.nps.edu/Research/index.html ; Prior to preparing proposals, potential Offerors are strongly encouraged to contact an NPS point of contact (POC) whose program and research efforts best match the Offeror's field of interest. The academic and research programs links above can be used to locate an appropriate POC by exploring the information provided about the faculty members in NPS' schools, research institutes, and interdisciplinary centers and research groups. **Open to July 31, 2015**.

Small University Grants Open 5-Year Broad Agency Announcement

Open to August 26, 2015

DARPA-BAA-14-48 Strategic Technologies

DARPA is seeking innovative ideas and disruptive technologies that offer the potential for significant capability improvement across the Strategic Technology Office focus areas. This includes technology development related to Battle Management, Command and Control (BMC2), Communications and Networks, Electronic Warfare, Intelligence, Surveillance, and Reconnaissance (ISR), Position, Navigation, and Timing (PNT), Maritime, and Foundational Strategic Technologies and Systems. **BAA Closing Date: September 17, 2015**

ONRBAA15-001 Long Range BAA for Navy and Marine Corps Science and Technology

The Office of Naval Research (ONR) is interested in receiving proposals for Long-Range Science and Technology (S&T) Projects which offer potential for advancement and improvement of Navy and Marine Corps operations. Readers should note that this is an announcement to declare ONR's broad role in competitive funding of meritorious research across a spectrum of science and engineering disciplines. A brief description of the ONR Program Codes and the science and technology thrusts that ONR is pursuing is provided below. Additional information can be found at the ONR website at http://www.onr.navy.mil/Science-Technology/Departments.aspx . Potential Offerors are urged to check the program areas that they are interested in throughout the year for updates to thrust areas and research priorities on the ONR website at http://www.onr.navy.mil. Prior to preparing proposals, potential offerors are strongly encouraged to contact the ONR point of contact (POC). To identify the POC, follow the link for the appropriate code or division listed below and then click on the link to the thrust or topic area. Each thrust or topic area will provide a POC or e-mail address. **BAA Closing Date: September 30, 2015**

DHS-2014-OHA-BIOWATCH BioWatch Program: 2014-2015

The BioWatch Program is a cornerstone of the Department of Homeland Security's (DHS) comprehensive strategy for countering biological terrorism. The BioWatch Program is an early warning system that is designed to detect the intentional release of select aerosolized biological agents. The BioWatch Program's mission is to provide and maintain a continuous bio-terrorism air monitoring system in metropolitan areas and coordinate with state and local public health communities to prepare for and respond to a bioterrorist event. This mission is accomplished by serving as an early warning system which enhances the security of jurisdictions by providing the needed time to execute their comprehensive concept of operations plans to counter biological terrorism. The Biowatch Program is a critical part of an ongoing national effort to build and sustain preparedness which helps the United States to maintain momentum through targeted jurisdictional planning that highlights preventative actions necessary to allow for a proper and timely response and begin the process to recovery from a biological agent release. The BioWatch Evaluation Program (BWEP) will be conducted under the BioWatch Quality Assurance Program effective April 1, 2013. This program will consist of independent external audits (Quality Assurance) by Signature Science and internal audits (Quality Control) by BioWatch Systems Program Office field personnel. This approach will initially be conducted with a focus on adherence to the BioWatch Field Operations Standard Operating Procedure (SOP),

Version 1.3 and will eventually evolve to encompass the Field Operations Quality Assurance Program Plan (QAPP). In order to ensure a robust QA / QC program the jurisdictions may be subject to a QA external audit and a QC internal audit during the same cooperative agreement cycle (year). **Closes September 30, 2015.**

DE-FOA-0001204 FY 2015 Continuation of Solicitation for the Office of Science

The Office of Science of the Department of Energy hereby announces its continuing interest in receiving grant applications for support of work in the following program areas: Advanced Scientific Computing Research, Basic Energy Sciences, Biological and Environmental Research, Fusion Energy Sciences, High Energy Physics, and Nuclear Physics. On September 3, 1992, DOE published in the Federal Register the Office of Energy Research Financial Assistance Program (now called the Office of Science Financial Assistance Program), 10 CFR 605, as a Final Rule, which contained a solicitation for this program. Information about submission of applications, eligibility, limitations, evaluation and selection processes and other policies and procedures are specified in 10 CFR 605. This Funding Opportunity Announcement (FOA), DE-FOA-0001204, is our annual, broad, open solicitation that covers all of the research areas in the Office of Science and is open throughout the Fiscal Year. This FOA will remain open until September 30, 2015, 11:59 PM Eastern Time, or until it is succeeded by another issuance, whichever occurs first. This annual FOA DE-FOA-0001204 succeeds FOA DE-FOA-0000995, which was published October 1, 2013. **Open to September 30, 2015.**

Nuclear Energy University Programs - Fellowship and Scholarship

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

FY2011 – 2016 Basic Research for Combating Weapons of Mass Destruction (C-WMD) Broad Agency Announcement (BAA)

This BAA is focused on soliciting basic research projects that support the DTRA mission to safeguard America and its allies from WMD (e.g***., chemical, biological, radiological, nuclear, and high-yield explosives***) by providing capabilities to reduce, eliminate, and counter the threat and mitigate its effects.

Open Solicitations from IARPA (Intelligence Advanced Research Projects Activity)

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

This Broad Agency Announcement (BAA), which sets forth research areas of interest to the **Army Research Laboratory** (ARL) Directorates and Army Research Office (ARO), is issued under the paragraph 6.102(d)(2) of the Federal Acquisition Regulation (FAR), which provides for the competitive selection of basic research proposals. Proposals submitted in response to this BAA and selected for award are considered to be the result of full and open competition and in full

compliance with the provision of Public Law 98-369, "The Competition in Contracting Act of 1984" and subsequent amendments. **Open June 1, 2012 to March 31, 2017**.

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

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

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.**

AFRL Research Collaboration Program

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

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

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

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.**

Research Interests of the Air Force Office of Scientific Research

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

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**.

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.**

Academic Research Funding Strategies, LLC (Page 1)

http://academicresearchgrants.com/home
ph: 979-693-0825
LDeckard@academicresearchgrants.com
mjcronan@gmail.com

What We Do--

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

- Strategic Planning - Assistance in formulating research development strategies and building institutional infrastructure for research development (including special strategies for Predominantly Undergraduate Institutions and Minority Serving Institutions)
- Training for Faculty - Workshops, seminars and webinars on how to find and compete for research funding from NSF, NIH, DoE and other government agencies as well as foundations. Proposal development retreats for new faculty.
- Large proposals - Assistance in planning and developing institutional and center-level proposals (e.g., NSF ERC, STC, IGERT, STEP, Dept of Ed GAANN, DoD MURI, etc.)
- Assistance for new and junior faculty - help in identifying funding opportunities and developing competitive research proposals, particularly to NSF CAREER, DoD Young Investigator and other junior investigator programs
- Facilities and Instrumentation - Assistance in identifying and competing for grants to fund facilities and instrumentation
- Training for Staff - Professional Development for research office and sponsored projects staff

Workshops by Academic Research Funding Strategies

We offer workshops on research development and grant writing for faculty and research professionals based on all published articles.
(View Index of Articles)

Copyright 2014 Academic Research Funding Strategies. All rights reserved.