Research Development & Grant Writing News

Volume 5, Issue 3: November 15, 2014

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! Workshop on Large Team Grants !

Our interactive workshop gives an overview of the successful strategies needed to transition to large team grants such as the NSF STC. Now scheduling for the spring semester. Learn More Here

Our Large Team Grant eBook!

Strategies for Planning, Developing, and Writing Large Team Grants

is a step by step "how-to" guide for faculty and research professionals facing the challenges of transitioning to center-level grants.

Order Here

Our New Faculty Guide eBook

New Faculty Guide to Competing for Research Funding is an invaluable tool for **faculty** writing research grants and the research offices assisting them. **Table of Contents**

! Ask about our New Faculty Workshop !

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Research Development & Grant Writing News ©

Published monthly for faculty and research professionals by

Academic Research Funding Strategies, LLC

Mike Cronan & Lucy Deckard, co-Publishers

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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.

Workshop

Strategies for Planning, Developing and Writing Large Team Grants

An interactive workshop presented by Mike Cronan
mjcronan@gmail.com
Academic Research Funding Strategies, LLC
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ABOUT THE WORKSHOP: This interactive workshop offers a step-by-step "how to" guide to faculty and research offices to help them better meet the unique challenges of successfully writing large team grants (LTG) such as the newly announced NSF Science and Technology Center. ***LTGs differ from smaller grants in many ways that make them more challenging to plan, develop and write***. LTGs involve more disciplines, components, and moving parts (i.e., complexity); more team members and team dynamics; more partnered institutions; more time needed to plan, develop, and write; more interdisciplinarity; a clear vision for the synergy required to demonstrate the value-added benefits of team research and center structures; and more development challenges for PIs.

The workshop addresses key LTG topics (below), including, how best to communicate a compelling research vision; demonstrate major value-added benefits to the team structure; achieve research synthesis, integration, and synergy; address multiple program components that build on the research core; offer a management plan that enables the research vision to succeed; propose a convincing research strategic plan over a multi-year performance period; convince program officers and reviewers the proposed research is transformational and not merely incremental; and navigate multiple review gates to funding success.

4-HOUR WORKSHOP SCHEDULE OF TOPICS

- Introduction to Team Grants (30 minutes)
- Interactive Discussion: *Characteristics of a Successful* ***Research Vision*** (15 minutes)
- Strategic Planning (30 minutes)
- Interactive Discussion: *Characteristics of* ***Research Synergy*** (15 minutes)
- Proposal Planning and Production (30 minutes)
- Writing the Project Description (30 minutes)
- Writing Key Narrative Sections (30 minutes)
- Characteristics of Successful Narratives (30 minutes)
- Red Teaming and Writing for Reviewers (30 minutes)

SAME DAY POST WORKSHOP INCLUDED CONSULTATIONS: Individual or group consultations with faculty and/or research office staff on workshop topics (e.g., 8 consultations @30 minutes each).

WORKSHOP COSTS: Cost of the 4-hour interactive workshop and 4-hours of individual consultations with faculty and/or research office staff on presentation topics: **$2,950 plus travel costs**. A second day of consultations is available at a rate of $100/hr (4 hour minimum). Please contact Mike Cronan (**mjcronan@gmail.com; 979-229-8009**) for a full cost quote that will include travel costs. Final workshop cost will be invoiced as one lump sum.

WORKSHOP LOGISTICS: Workshops may be scheduled any day **Monday through Saturday, February 16 to May 22, 2015**. **CLIENT PROVIDES** all facilities, handouts, and IT set-up support, including presentation room, projector, and computer with compatible version of Microsoft PowerPoint. **PRESENTER PROVIDES** all workshop materials to the client in electronic form for loading on the presentation computer and producing hard copy handouts three days prior to the workshop.

ABOUT THE PRESENTER

Mike Cronan is a research development and grant writing consultant with Academic Research Funding Strategies, LLC. He is the principal co-publisher of the nationally distributed newsletter *Research Development and Grant Writing News*, co-author of the book *New Faculty Guide to Competing for Research Funding*, and author of the book *Strategies for Planning, Developing and Writing Large Team Grants*. He has 23 years of experience developing and writing successful proposals at Texas A&M University (1987-2010). 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 research agencies, 1990-2000. He developed, staffed, and directed two research and proposal development offices at Texas A&M, one for the 15-division, statewide Texas Engineering Experiment Station (1994-2004), and the second for the Vice President for Research (2004-09). Mike Cronan has undergraduate degrees in **civil engineering** (University of Michigan), **political science** (Michigan State University), and an MFA in **English** (University of California-Irvine). He is a registered professional engineer in Texas (inactive).

Topics of Interest URLs

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BAA-EBOLA-2014 The USAID Fighting Ebola BAA

Dear Colleague Letter: Computing About Ebola Virus

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

National and Transnational Security Implications of Big Data in the Life Sciences

The Federal Budget Process 101 by AAAS

NSF EHR Core Research (ECR) Program Funding Webinars

NSF New and Updated Resource on STEM Education, Workforce

Report Proposes Broad Changes to Undergraduate STEM Education

U.S. Knowledge-Intensive Services Industries Employ 18 Million and Pay High Wages

NOAA Technology Partnerships Office

Retention Rates for First-Time R01 Awardees

Philanthropy News Digest Publishes RFPs

Federal Science & Engineering Support to Universities, Colleges, and Nonprofits: FYs 2010 and 2011

Furthering America's Research Enterprise

ARL Broad Agency Announcements

Getting to Know the Program Evaluation Standards (3rd Edition)

Program Evaluation Standards (Slides)

The State of Education for Latino Students

The State of Education for African American Students

New Special Report Highlights Transformative Potential Of Cyber-Physical Systems

National Strategy on Combating Antibiotic-Resistant Bacteria

Global Alliance for Climate Smart Agriculture

Did you know the NIH funds its own investigators? Here's how it works, and how it's different…

Battle between NSF and House science committee escalates: How did it get this bad?

Spurring Innovation in Food & Agriculture: USDA Agriculture & Food Research Initiative Program (2014)

Opportunities for the Gulf Research Program: Middle-Skilled Workforce Needs

New Video Tutorials Can Help You Navigate eRA Commons

Big Data in Materials Research and Development: Summary of a Workshop

Training Students to Extract Value from Big Data: Summary of a Workshop

Future Directions for NSF Advanced Computing Infrastructure to Support U.S. Science and Engineering

Department of Defense FY 2014 Climate Change Adaptation Roadmap

Defining the Dual Role of Graduate Students and Postdocs Supported by Research Grants

NSF FY 14 Strategic Sustainability Performance Plan

Center for Scientific Review (CSR)

A Roadmap for Including Culture in Health Research

Business R&D Performance in the United States Tops $300 Billion in 2012

For Female Physicists, Peer Mentoring Can Combat Isolation

Broader impacts: Improving society

Findings of Research Misconduct ; Findings of Research Misconduct ; Findings of Research Misconduct

Planning for Funding Success

By **Mike Cronan**, co-publisher

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It is not clear whether Benjamin Franklin's famous 1752 kite experiment to determine the nature of lightning and electricity was funded by a successful grant, and it seems certain that involving his son in the experiment today as he did then would likely not get IRB approval. Nonetheless, Franklin's observation that "*By failing to prepare, you are preparing to fail*" remains good advice for grant writing today, particularly in three interrelated areas of grant planning: (1) research funding planning, (2) strategic grant planning, and (3) grant production planning.

While research offices typically support faculty in many areas of research development and grant writing, support for these three key areas is the most critical. This is particularly the case for new faculty who typically enter tenure-track positions with little or no familiarity with research grant writing. In fact, many new faculty are overwhelmed by the requirement of having to develop and write successful research proposals to ensure tenure and promotion and often have no clue about how to start the process in a planned, orderly, and thoughtful way. That said, the following descriptions of these three grant planning processes offer an approach to this task that can make grant writing success more a certainty than a unplanned roll of the funding dice.

Research Funding Planning

Research funding planning is particularly important for new faculty, but it is also important for midcareer faculty who want to transition to larger center-level grants. Those in midcareer can benefit from a strategic funding plan for developing successful "building block" grants that include many of the components constituting a competitive center submittal two to three years in the future. In this latter case, the strategic funding plan would be used to determine the component pieces of a center-level opportunity of interest to a PI, such as the currently open NSF STC solicitation, and plan for a submittal in the next grant cycle, typically in the case of STCs and ERCs three years in the future, e.g., STCs were solicited in 2011 and 2014. These cycles will differ at other agencies such as NIH, DOE, DOD, etc., but the research funding planning will be essentially the same.

So a team preparing now to submit an STC in 2017 would reverse engineer the current solicitation and use that process to identify the likely components of an STC in the next grant cycle. In this case, you would certainly start writing smaller research grants that anticipate what a 2017 STC solicitation will look like. These might include, for example, grants that require a vision statement for a grand challenge research area, grants that fund research and education integration activities, grants that address innovation, commercialization, and technology transfer, etc., all of which compose the "building blocks" of a competitive center that will generate a track record managing interdisciplinary initiatives.

In the case of new faculty, research offices can have a significant impact on their future research success by giving them the grant-funding tools needed to match their career goals and jump start the funding process. Most new faculty are very uncertain about how to find a "funding home" at one or more federal agencies. A thirty-minute consultation session with someone in a research office that helps new faculty learn to pack their own funding chute is invaluable. This would include some hands-on, web-based instruction on how to navigate Grants.gov, sign up for email funding alerts and RSS feeds from federal agencies, particularly electronic alerts from program areas with an agency, and how to identify places at the agency where new solicitations are always posted.

Faculty that learn to pack their own funding chute gain two important advantages. First, they do not spend time sifting through long lists of funding opportunities that are mostly of no use to them, either generated by a subscription service or internally. After all, the individual faculty member is the only one who can decide whether or not a funding opportunity is relevant to him or her. Most importantly, faculty that pack their own funding chute and use email alerts and RSS feeds gain an enormous time advantage over those who do not. Proactive faculty can use the entire period of time from the announcement of a funding opportunity until its due date to develop and write a proposal. Others will learn of an opportunity weeks after its posting—the typical timeframe for subscription-based or other funding services. The bottom line? The best service a research office can offer new faculty is to help them learn how to become self-sufficient at identifying funding opportunities.

Moreover, new faculty are, by and large, unaware of the unsolicited or investigator-initiated process for research funding. Research offices can open up a whole new universe of research funding by helping new faculty understand the role of Parent Announcements at NIH and Core Program at NSF (representing ~80% and ~50%, respectively, of proposals funded at those agencies), both of which accept investigator initiated (unsolicited) proposals. In addition, new faculty should be made aware of the process for submitting unsolicited proposals at the other federal research agencies or through BAAs. Most federal agencies post information on their agency websites instructing applicants how to submit unsolicited proposals to the agency. Helping new faculty explore the unsolicited grant process at agencies of interest is a very valuable and easily accomplished service. In fact, a simple matrix of the unsolicited process that includes important URLs at each federal agency is an easily developed file that you can email faculty. Bottom line: unsolicited proposals represent the dark matter of the funding universe, particularly for new faculty.

Research funding planning in both instances above is a matrix-based process (funding milestone chart) defining the funding landscape for one or two years in the future and a configuring potential research opportunities that might be considered for developing a full proposal. All it requires is to identify possible funding opportunities, URLs, and due dates and keep those as a list, spreadsheet matrix, or simple funding milestone chart that is consistently refreshed to represent possible future funding directions. This plan is easy enough to accomplish but it benefits the applicant by clarifying and organizing potential future research funding directions.

Strategic Grant Planning

Strategic grant planning is important for everyone, but particularly for new faculty hired with the expectation of success in research funding. In many ways, the process of strategic grant planning is a subset of the information gathering typically asked of new faculty by NSF CAREER awards and other similar grants from the defense agencies and NIH. The NSF CAREER award instructs applicants as follows: "*the Project Description section should contain a well-argued and specific proposal for activities that will, over a 5-year period, build a firm foundation for a lifetime of contributions to research and education in the context of the PI's organization*." This is often requested in the form of a milestone chart along with a narrative explanation. But however the information is conveyed, it represents on a more global scale what faculty would include in a strategic grant-planning process requesting a self-assessment of research interests, capacities, expertise, and departmental expectations for research funding. The applicant then uses this self-assessment to explore the future landscape of funding opportunities several years in the future.

At that point, the plan becomes simply a matching or mapping of research interests to possible funding sources that allow for a multiyear strategic funding plan to be put in place. This plan will guide the decision making process designed to establish a successful track record of funded research proposals during an early career period. However, key to this is the strategic process whereby the applicant makes thoughtful selections of core funding opportunities with the potential for synergy rather than unrelated opportunities pursued without a guiding strategic process or research relatedness.

Grant Production Planning

All faculty, particularly new faculty, should be encouraged to use two key grant production planning documents. One is the funding solicitation that should serve as a template for the first draft of the proposal narrative to ensure (1) that each sponsor question is answered in the order addressed in the solicitation, and (2) that the narrative fully addresses each of the review criteria listed in the solicitation, To accomplish this, copy and paste key parts of the solicitation into a draft document that becomes the first narrative draft--goals and objectives of the sponsor, all questions asked by the sponsor, review criteria, key referenced documents, etc. Through multiple draft iterations, the narrative template evolves into the final proposal.

The second document is a proposal schedule and task assignment table that lists all the steps needed to produce the proposal (who does what and by when) from the date the production schedule is drafted up to a day or two before the proposal is due. It may be a Sisyphean task, but successful proposals go through multiple draft iterations and some time should be reserved prior to the due date for fine tuning and crafting the research narrative to make sure it is as close to perfect as possible when the proposal is finally submitted.

Planning to Write as a Team

By **Mike Cronan**, co-publisher

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Mark Twain once famously observed that "*Everybody talks about the weather, but nobody does anything about it*." The same might be said about writing proposals as a team—everyone talks about the importance of writing an integrative, synergistic research narrative that reads as if written by one author, but too often little is done to realize that goal. For this to happen, it is important that a plan be in place for writing a team proposal using a process that "*bakes into the cake*," so to speak, the desired narrative integration. The final proposal must read as a unified document rather than a collection of loosely allied narrative sections.

Too often in practice, individual team members contribute individual narrative statements featuring their prior and proposed research ***but with little or no recognition of how that research integrates with other team members' contributions to the proposed project.*** These "stand-alone" statements fail to describe how each research strand complements every other strand, adding up to an integrated set of contributions to the project's vision, goals, and objectives. These individual narrative contributions often fail to address the overarching questions that motivate the research, nor do they describe each of the multiple research strands in a context that clearly demonstrates their relationship to the motivating questions or hypotheses that will drive the research.

For example, descriptions of research activities or capacities improperly sequenced and explained within the overarching context of a research vision, goals, and objectives ***turn the narrative into something of a mystery for readers and reviewers.*** You don't want reviewers noting to themselves and other review panel members after reading the research narrative that "*it is not at all clear why all these descriptions about various research capacities are important and what exactly this research team intends to do*." However, this will be the result if the research narrative evolves, to use the current vernacular, as a collection of "***stove-piped" or "siloed" contributions by multiple authors.***

After all, in practice, one of the core requirements of agencies that fund team proposals is that the ***proposer clearly address why and how the team structure benefits the proposed research***. This is not a trivial task. For example, it is safe to say that as you read this article, as many as 300 teams from universities nationally are currently writing an eight-page preliminary proposal to NSF due December 11 in hopes of being among the perhaps 40 preliminary proposals invited to submit a full Science and Technology Center (STC) proposal June 16.

In this case, those STC applicants who do not have a plan for writing as a team will be at a competitive disadvantage to those who do have such a plan, particularly when it comes to "*presenting an integrated vision for the center, grand research challenges addressed, (and)* ***how the center team is appropriate and necessary*** *to achieve grand challenge breakthroughs*." Moreover, up to two pages of the eight-page preliminary proposal must "*include a description of the team members and why each is essential to the project plan*." Clearly, these two pages cannot be merely a linear presentation of abbreviated biosketches edited down to fit the page

limits, but must explain the synergy achieved by the proposed team structure. This is not a trivial task, but the example here serves as an analog to writing any team grant.

Moreover, it is often the case that the ***research team members attempt to do too many important tasks simultaneously but in isolation from each other,*** somewhat like the work farm warden's famous quote to Paul Newman in *Cool Hand Luke--"What we've got here is failure to communicate.*" In these cases, finding time to draft text is often difficult enough let alone adding the requirement of reading and considering others' contributions. This difficulty can be compounded by electronic communications among team members that fluctuate between periods of silence and cascades of electronic messages, often including drafts of graphics, figures, and multiple track-edited versions of an evolving project description that can quickly become a rainbow of track-edit colors.

Admittedly, writing team grants and team narratives takes more time and more planning than simpler projects do, but keep in mind UCLA basketball coachi John Wooden's observation, "*If you don't have time to do it right, when will you have time to do it over*?" This is excellent advice to ponder for those writing team proposals who likely have an enormous investment in time and resources and institutional support committed to the effort. So you want to do it right the first time.

It may at first seem like a daunting task to plan for writing as a team, but it actually is not. The goal, of course, is for everyone to be on the same page and "*singing the same song*," so to speak, rather than singing like "*a drunk in a midnight choir*."

When it comes to planning to write a team grant, the first step is to recognize how important that process is to achieving success. While there are no hard and fast protocols for planning how to write a team grant, there are some well-proven processes that that can be considered as a checklist, including—

- Analyze the funding solicitation as a team in a team meeting in great detail until a common understanding of the solicitation is arrived at ***by the entire team***, particularly those responsible for writing sections of the research narrative. This is often referred to as *red teaming the solicitation*, or, for those in the humanities, an *explication of text*, or, in religious studies, as *hermeneutics* or *exegesis* of text. Whatever the term used to describe it, it is a very finely grained reading of the solicitation so that anyone making a narrative contribution understands how their contribution fits "*hand in glove*" with other contributions.
- Use the solicitation to start a template for the first draft of the research narrative and meet as a team to address every question and requirement. This should include the sponsor's review criteria, and a team discussion of how to frame the research vision, goals, objectives, rationale, significance, and outcomes. This discussion will ensure an integrated narrative from the start and it will strengthen all contributing authors' understanding of the interrelatedness of their narrative contributions.
- Produce as a team a visual diagram, logic model, or milestone chart that represents the integrative nature of the project and complements the discussion of the research narrative.

- Meet as a team to discuss the integrative expectations for the first draft of the research narrative and meet periodically as the narrative develops to make sure it is integrative in nature and reads that way.
- Have someone unconnected with the project or from a research office read and critique drafts of the narrative as it develops with the express focus of commenting on the inter-relatedness of the narrative parts—i.e., ensuring the text is synergistic and not siloed.
- Finish the research narrative two days prior to the due date to allow a final red team review of the research narrative.

Update on Funding for Social, Behavioral, and Economic Sciences at NSF

By Lucy Deckard, co-publisher

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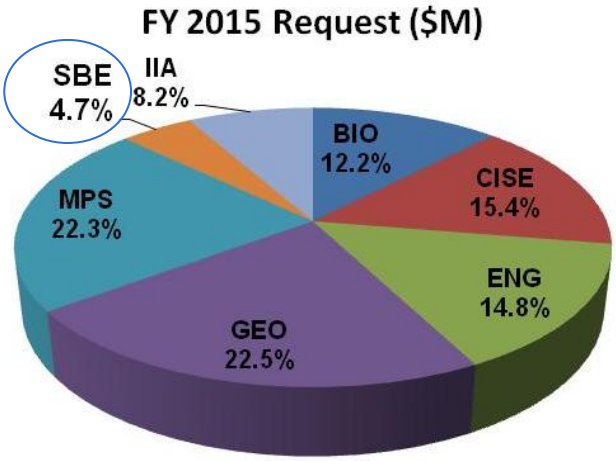
Many may not realize that the National Science Foundation is the largest funder of academic research in the social sciences in the nation. While it's true that funding for the Social, Behavioral, and Economic Sciences (SBE) Directorate at NSF is much smaller than funding for some of the other NSF directorates, SBE sciences are gaining increasing prominence at NSF. In our April 2014 issue, we discussed new interdisciplinary funding opportunities at NSF for social science funding. In this article, we'll focus on recent funding developments in NSF's SBE Directorate.

Budget and Priorities

Researchers interested in research grants from SBE might be excused for being discouraged when they discover that the SBE Directorate has the smallest budget of all the directorates (Figure 1); however, it's important to remember that SBE projects, in general, require smaller budgets than most engineering or geoscience projects. Looking at the number of grants awarded by SBE, in FY 2014, SBE funded about 600 grants for individual and small group research projects out of approximately 3,000 proposals. Based on NSF's FY 2015 budget request, SBE's average funding amount was about $143K and the median amount was about $104K, with an average award duration of 2.6 years. In FY 2014, the overall funding rate was 19% for each of the two research divisions within SBE: the Division for Behavioral and Cognitive Sciences (BCS), and the Division of Social and Economic Sciences (SES), which is higher than it is for many divisions in the Engineering Directorate.



Directorate	FY 2015 Request ($M)
BIO	708.52
CISE	893.35
ENG	858.17
GEO	1304.39
MPS	1295.56
SBE	272.2
IIA	473.86

Research and Related Activities FY 2015 Budget Request by Directorate

However, as with any funder, if you plan to submit to an SBE program for funding, it's important to understand the program's priorities and culture. A 2011 NSF report, Rebuilding the Mosaic, which presents the findings of a year-long study on future programmatic priorities for SBE, provides some insight into SBE's priorities and where they want to go. Many of the new funding opportunities released by SBE in recent years can be understood through the lens of those priorities, which include the support

and promotion of **"data-intensive, multidisciplinary, collaborative, and frequently problem-oriented"** SBE research, "frequently to address global challenges," as well as a focus on specific topics within the various SBE disciplines. The report also recommends a focus on developing new tools and methods, for example, capitalizing on enhanced computational technologies. Four important **crosscutting themes** were identified:

- **Population Change** – the report notes that demographic research has previously been funded primarily by NIH, but that they now see many issues raised by a changing population to fall within the purview of NSF/SBE.
- **Disparities in Experience and Access to Resources** – focus here is on the sources of inequality in multiple aspects, including economic, environmental, health, and education.
- **Communication, Language and Linguistics** – this theme, which includes connections between communication and neuroscience, has been further enhanced by the White House BRAIN Initiative.
- **The Study of Science and Technology** – this includes the study of the impacts of new technologies and underlying assumptions.

The report also outlined three broad decadal goals and strategies:

- Support ***new approaches*** to fundamental questions, including ***interdisciplinary research*** within the SBE sciences and across traditional divisions to reach out to biology, ecology, computer science, and engineering (among others).
- Help scientists form ***collaborative teams*** and find ways to enable continuing training in new techniques and methods.
- Provide the ***infrastructure of data, services, and programs*** to enable computationally intensive, data-rich investigations, scenario- and model-building, and integrated multidisciplinary investigations.

In addition to the above priorities and goals, a big influence on funding out of the Division of Behavioral and Cognitive Sciences is the White House BRAIN Initiative (discussed in detail in last month's issue) and the programs NSF has initiated in response to that initiative. Most of those funding opportunities are cross-cutting (meaning they are supported by multiple directorates), but many researchers in fields such as cognitive neuroscience, developmental and learning sciences, and linguistics (all of which are supported out of BCS), clearly are well-positioned to pursue this funding.

It is probably clear from the discussion above that NSF is interested in supporting particular types of SBE research. Furthermore, each program within SBE also has its own cultural preferences regarding the types of projects it supports, and it's important for any PI who is planning to submit a proposal to one of those programs to understand those preferences. For example, the Sociology program prefers research that is grounded in a strong theoretical model. The Program Directors and reviewers feel very strongly about that issue, so a PI who neglects to place her proposed research in a theoretical context is very unlikely to be funded.

As we've discussed before, the best way to understand NSF programs, including those within SBE, is to look at the synopses on their program pages, scroll to the bottom of the page and click on the "What Has Been Funded" link in order to read the project summaries for projects funded out of the program, talk to colleagues who have been well-funded by (and probably have reviewed for) the program, read supporting documentation if available (see the "related URLs" link at the bottom of the program webpage for a start), and when you have a specific project idea, talk to the Program Director (PD), who

are named at the top of the program page. The PDs in SBE vary in how they like to be contacted. Some prefer that you develop a 2-page white paper and send that to them, while others are open to scheduling a phone conversation after you email them a short description of your project idea.

Recently Released SBE Funding Opportunities and Dear Colleague Letters

Integrative Strategies for Understanding Neural and Cognitive Systems (Cross-cutting) – two research themes for 2015: Neuroengineering and Brain-Inspired Concepts and Designs, and Individuality and Variation. Webinar scheduled for Dec. 3, 2014. Letter of Intent due Dec. 10, 2014.

Science, Technology, and Society – This is a core program, but it has recently added a separate ***Scholars Awards*** category that provides full-time release for an academic year and a summer to conduct research.

Dear Colleague Letter: Intent to support an Ideas Lab on multiscale integration of brain activity and structure with brain function using predictive theoretical models and innovative experimental methodology.

SBE Postdoctoral Research Fellowships: Renewal of previous solicitation, with broader eligibility requirements

FAQs for the Science, Technology, and Society Program

Interdisciplinary Research in Hazards and Disasters (renewal of previous solicitation)

Documenting Endangered Languages (DEL) – data infrastructure and computational methods (renewal of previous solicitation with changes for DEL Doctoral Dissertation Research Improvement Grants)

Dear Colleague Letter: International Collaboration Opportunities related to the NSF Investments in Understanding the Brain

Dear Colleague Letter: Submission of I/UCRC Proposals in Response to NSF 13-594 in Areas Related to Understanding the Brain's Structure and Function

Cultivating Cultures for Ethical STEM – revamp of previous Ethics Education and Enginering program

Dear Colleague Letter – Youth Violence: Opportunity for Breakthroughs in Fundamental Basic Research

Dear Colleague Letter: International Collaboration Opportunities related to the NSF Investments in Understanding the Brain

SBE Core Programs and other Funding Opportunities

(Note: Be aware that the SBE webpages list some programs that are no longer accepting proposals.)

Social and Economic Sciences

Decision, Risk and Management Sciences (DRMS)

Economics

Interdisciplinary Behavioral and Social Science Research (IBSS)

Law & Social Sciences (LSS)

Methodology, Measurement, and Statistics (MMS)

Political Science

Science of Organizations (SoO)

Science, Technology, and Society (STS)

Sociology

Science of Science and Innovation Policy (SciSIP) (out of SBE Office of Multidisciplinary Activities)

Behavioral and Cognitive Sciences

Anthropological Sciences Cluster

Archaeology and Archaeometry

Archaeology Program - Doctoral Dissertation Research Improvement Awards (Arch-DDRI)

Biological Anthropology

Cultural Anthropology

High-Risk Research in Biological Anthropology and Archaeology (HRRBAA)

Geography and Environmental Sciences Cluster

Dynamics of Coupled Natural and Human Systems (CNH)

Geography and Spatial Sciences Program (GSS)

Long-Term Ecological Research (LTER) - cross cutting

Psychological and Language Sciences Cluster

Cognitive Neuroscience

Developmental and Learning Sciences (DLS)

Documenting Endangered Languages (DEL) – cross cutting

Linguistics

Perception, Action & Cognition (PAC)

Social Psychology

Additional Opportunities

Cultural Anthropology Scholars Awards

Interdisciplinary Behavioral and Social Science Research (IBSS) - see 2012 Dear Colleague Letter

Secure and Trustworthy Cyberspace (SaTC) – cross cutting

Doctoral Dissertation Improvement Grants (DDRI)

Note that SBE has a global DDRI announcement, but then most programs have more specific instructions in separate announcements

Global SBE Doctoral Dissertation Research Improvement Grants solicitation

Archaeology Program – Doctoral Dissertation Research Improvement Awards – more specific instructions for Arch-DDRI

Linguistics Program – Doctoral Dissertation Research Improvement Awards – more specific instructions for Ling-DDRI

Biological Anthropology Program - Doctoral Dissertation Research Improvement Grants (BA-DDRIG)

Geography and Spatial Sciences Program - Doctoral Dissertation Research Improvement Awards (GSS-DDRI)

Cultural Anthropology Program - Doctoral Dissertation Research Improvement Grants (CA-DDRIG)

Science of Science and Innovation Policy Doctoral Dissertation Research Improvement Grants (SciSIP-DDRIG)

Sociology Program - Doctoral Dissertation Research Improvement Awards (Soc-DDRI)

Other Resources

A Full List of Active SBE Funding Opportunities
Presentation by SBE Program Director F. Chowdhury
SBE Presentation at the latest NSF Regional Grants Conference
Scientific Foundations of Qualitative Research – 2003 Workshop Report

NSF's New GRIP Program: An Integrative Model

By Mike Cronan, co-publisher

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NSF's longstanding Graduate Research Fellowship Program (GRFP) expects to award 2,000 fellowships with a total funding of $333,440,000 this 2015 funding cycle based on applications due several weeks ago. However, NSF's new program entitled Graduate Research Internship Program (GRIP) represents an integrative complement to the GRFP. GRIP was announced in September and has application submission dates of December 5, March 6, and June 5. According to NSF, the new internship initiative "expands opportunities for NSF Graduate Fellows to enhance their professional development by engaging in mission-related research experiences with partner agencies across the federal government. GRIP is open only to NSF Graduate Fellows, recipients of the Graduate Research Fellowship Program (GRFP) award." GRIP is currently designated as a three-year pilot program between NSF and the Partner Agencies.

This new initiative is interesting on several levels. First, it links a new complementary model for integrative graduate education to the longstanding GRFP, thereby offering significant benefits to NSF Graduate Fellows. Secondly, it is interesting as a new NSF model for graduate education that links Fellows with internships. This is important, for example, to those submitting research proposals to NSF in which models for graduate education are an important part of the review expectations. A case in point is the currently open competition for NSF Science and Technology Centers. It would be a prudent competitive tactic for an STC team to become sufficiently informed about this new GRIP program because models for graduate education, internships, and innovation will be one of many determining factors in a successful STC proposal.

Under the new GRIP program, NSF and agency partner program officers will review internship applications from current Graduate Fellows. Approval by both NSF and the sponsoring partner agency is required before internships are awarded. According to NSF, "the following criteria will be used in evaluating the applications:

- The potential opportunities for effective research collaboration;
- The potential for effective professional development for the Graduate Research Fellow;
- The potential for effective career development/opportunities;
- Any agency-specific criteria (see proposed host agency website)."

Moreover, this new program is also of interest for the collaboration model it proposes with other federal agencies. Furthermore, NSF has established the Guiding Principles for GRFP Fellows Participating in GRIP that sets out the relationship parameters between the intern and the host agency. The list of NSF partner agencies for the GRIP program is expected to expand from the initial partners that include the Office Of Naval Research, Smithsonian Institution and the U.S. Department Of Homeland Security. The application process for GRIP is explained here.

"Through this initiative," NSF explains, "NSF Graduate Fellows will participate in mission-related, collaborative research under the guidance of host research mentors at federal facilities

and national laboratories. The internship experiences will support Fellows with developing expertise in critical STEM areas, enhancing professional skills, developing networks, and preparing for a wide array of career options. The sponsor agencies will benefit by engaging Fellows in mission-critical projects, helping to develop a highly skilled U.S. workforce in areas of national need."

NSF also notes several other STEM graduate fellowship programs at the GRIP website. Most of these programs are recently closed, but will open again in 2015 for another funding cycle. These include:

- EPA STAR Graduate Fellowship
- NOAA Educational Partnership Program
- USDA National Needs Graduate Fellowship
- USDA Agriculture and Food Research Initiative (NIFA)
- DOD National Defense Science & Engineering Graduate Fellowship (NDSEG)
- DOE Office of Science Graduate Student Research (SCGSR)
- ORISE Graduate Fellowships

Moreover, related to the above discussion, a new GROW Dear Colleague Letter has been released by NSF. GROW expands opportunities for U.S. graduate students to engage in international research collaboration (HERE). As with the GRIP, **GROW is open only to awardees of the Graduate Research Fellowship Program (GRFP). The submission deadline is December 15, 2014.** For the upcoming competition, in addition to the existing partner countries--Australia, Brazil, Chile, Denmark, Finland, France, India, Ireland, Japan, Netherlands, Norway, South Korea, Singapore, Sweden and Switzerland--new opportunities are available with Austria. Additional countries might be added by the time of application. See details in the **Dear Colleague Letter** and on the country-specific pages at the above URL.

Got STEM Education Data?

By **Mike Cronan**, co-publisher

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NSF has long talked about the ***Pre-K to PhD Continuum in STEM education***, a term that came into usage at the agency as long back as 15 years ago when Dr. Joseph Bordogna served as Deputy Director. Dr. Bordogna was instrumental in initiating many of the STEM education and diversity programs common today, albeit now dramatically evolved in scale, scope, and sophistication, relying on evidence-based best practices. Moreover, NSF STEM education programs are constantly reinventing themselves as some programs are phased out and newer programs are put in place, but always on a foundation of evidence-based research. (See Report Proposes Broad Changes to Undergraduate STEM Education.)

University researchers typically may submit STEM education-related proposals to NSF across the directorates. Often these are hybrid research and education programs, or address STEM education itself as a fundamental research topic. This is, for example, the case for the newly announced *EHR Core Research (ECR) Fundamental Research in Science, Technology, Engineering and Mathematics (STEM) Education* (NSF 15-509) program due February 3. As noted by NSF, the EHR Core Research program "*seeks proposals that will help synthesize, build and/or expand research foundations in the following focal areas: STEM learning, STEM learning environments, STEM workforce development, and broadening participation in STEM*." (See *Education and Workforce Development in the FY 2015 Budget* by AAAS for STEM education directions for FY 2015 across federal agencies.)

Moreover, researchers often must address STEM education as part of the NSF Broader Impacts criterion (see *Broader impacts: Improving society*), or as a component of a larger proposal, such as the currently open STC program, which requires a detailed five-page description of STEM educational activities proposed as part of the center. And what NSF CAREER hopeful has not struggled with, and sought advice from research offices, to identify and develop a STEM education component for his or her proposal? In the end, those who submit research proposals to NSF will need to familiarize themselves with STEM education and STEM education models favored by NSF for representing evidenced-based best practices.

In either case, there has been an dramatic increase in NSF solicitations that require a STEM education component grounded on evidence-based research that justify the program configuration. As in all proposals, one of the fundamental requirements for STEM education, either as the focus of a particular solicitation or as a component in a research proposal, is that the applicant describe the proposed research in the context of the current state of the field or as bringing value-added benefits to the agency's strategic mission objectives. This holds true whether the proposal is primarily a research project, an education project, or a hybrid research and education project, the latter now common at NSF given its long-standing mantra emphasizing the importance of integrating research and education.

That said, NSF has just made available a powerful tool that will be very helpful to those writing STEM education proposals or research proposals with a STEM education component. As NSF notes, "The **STEM Education Resource** allows the user to connect to data, trends, and

analyses from the National Science Board's *Science and Engineering Indicators* report. *Science and Engineering Indicators* (*Indicators*) is the "gold standard" of high-quality quantitative data on U.S. and international science, engineering, and technology. *Indicators* is factual, unbiased, and is widely used by state and federal policymakers, businesses, universities, and many others to inform their decisions."

Data presented in this resource run the entire STEM education spectrum, including pre-K, primary school, middle school, high school, college, and workforce. Some of the fundamental questions those writing STEM-related education proposals to NSF will likely have either to support their proposed STEM activities or to represent them in the national context will be answered here in several data formats. Whether you are a STEM faculty member writing proposals to NSF, or to other federal research agencies that fund STEM education and STEM workforce proposals, or work in a research office that supports STEM faculty, this is an excellent site to bookmark for future reference as a proposal-writing resource.

So check out the **STEM Education Resource** and take it for a test drive. It is an excellent complement to other STEM education resources that are helpful to those planning, developing, and writing STEM education proposals, including the NSF-supported MSPnet, which notes "*The majority of resources generated by NSF projects are available to the public at large and we invite you to visit our library, join MSPnet Academy webinars and sign-up for our newsletter*," as well as DoED's Institute for Education Statistics online library of education research **ERIC**.

Finally, recall that the *Common Guidelines for Education Research and Development* has been released by the National Science Foundation and the U.S. Department of Education. It provides a framework for producing and sharing knowledge and evidence resources related to STEM education, so that innovations that work can be more quickly and widely used in classrooms around the country. Here, also, is a set of Frequently Asked Questions about the Guidelines.

Research Grant Writing Web Resources

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NSF Grants Conference hosted by George Washington University - October 6-7, 2014

- Introduction and NSF Overview
- Proposal Preparation
- NSF Merit Review Process
- Award Management
- NSF Policy Update
- Crosscutting and Special Interest Programs
- International Programs
- Office of the Inspector General
- **Breakout Sessions:**
  - Biological Sciences
  - Post-Award Monitoring and Compliance
  - Computer and Information Science and Engineering
  - Education and Human Resources
  - Engineering
  - Faculty Early Career Development (CAREER) Program
  - Geosciences
  - Mathematical and Physical Sciences
  - NSF Award Cash Management Service (ACM$)
  - Science, Engineering & Education for Sustainability (SEES)
  - Social, Behavioral and Economic Sciences
  - IT Modernization/Research.gov

School of Nursing, University of Washington

Training Sessions

- Writing the Successful Proposal
- Organizing For Proposal Development
- Writing Goals and Objectives and Linking to the Time Line
- Statement of Need and Literature Review
- Methods Proposal Development Training
- Preparing the Proposal Budget
- Planning and Submitting Grant Proposals for Federal Funding
- Challenges for Tribes in Planning & Submitting Federal Grant Proposals

Faculty Training Lectures

- Building a Sustainable Indian Tribal Infrastructure for Translational Research

Presentations

- An Introduction to the Institute of Translational Health Sciences (ITHS)

Educational Grant Writing Web Resources

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NSF EHR Core Research (ECR) Program Funding Webinars

EHR Core Research Fiscal Year 2015 Webinar Series

- November 17, 2014 2:00 PM to
  November 17, 2014 3:00 PM
  NSF
- November 25, 2014 1:00 PM to
  November 25, 2014 2:00 PM
  NSF
- December 5, 2014 12:00 PM to
  December 5, 2014 1:00 PM
  NSF
- December 8, 2014 4:00 PM to
  December 8, 2014 5:00 PM
  NSF

All times are based upon eastern time zone.

The purpose of these Webinars is to inform researchers about opportunities to submit proposals to the EHR Core Research (ECR) program announcement (NSF 15-509). ECR seeks proposals that will help synthesize, build and/or expand research foundations in the following core areas: STEM learning, STEM learning environments, workforce development, and broadening participation in STEM. We invite researchers to identify and conduct research on questions or issues in order to advance the improvement of STEM learning in general, or to address specific challenges of great importance. Two types of proposals are invited: ***Core Research Proposals*** (maximum 5 years, $2.5 million) that propose to study a foundational research question/issue designed to inform the transformation of STEM learning and education and ***Capacity Building Proposals*** (Synthesis - maximum 2 years, $300,000; conference/ workshop - typically $25-$100K) intended to support groundwork necessary for advancing research within the four core areas. ECR program officers will discuss ECR, outline the elements of ECR proposals, and answer commonly asked questions. (The content of all four webinars will be the same; there is no need to attend more than one webinar.) Please note the dates and return to this website for updates including information on accessing the webinars.

- To join the November 17 meeting online click here. If requested, enter your name and e-mail address and if required the meeting password is ECRfy15! (the password is case sensitive and includes the special character !). Audio is provided via conference call at 1-877-951-3139, the participant password is 528 003 0.
- To join the November 25 meeting online click here. If requested, enter your name and e-mail address and if required the meeting password is ECRfy15! (the password is case sensitive and includes the special character !). Audio is provided via conference call at 1-877-951-3139, the participant password is 528 003 0.
- To join the December 5 meeting online click here. If requested, enter your name and e-mail address and if required the meeting password is ECRfy15! (the password is case

sensitive and includes the special character !). Audio is provided via conference call at 1-877-951-3139, the participant password is 528 003 0.

- To join the December 8 meeting online click here. If requested, enter your name and e-mail address and if required the meeting password is ECRfy15! (the password is case sensitive and includes the special character !). Audio is provided via conference call at 1-877-951-3139, the participant password is 528 003 0.

NSF List of Reference Relevant to Webinars

- Carnevale, Anthony P., Nicole Smith, and Michelle Melton. (2011) *STEM*. Washington, DC: Georgetown University Center on Education and the Workforce.
- Carnevale, Anthony P., Nicole Smith, and Jeff Strohl. (2010*) Help Wanted: Projections of Jobs and Education Requirements Through 2018.* Washington, DC: Georgetown University Center on Education and the Workforce.
- Kelly, Terrence K, William P. Butz, Stephen Carroll, David M. Adamson, and Gabrielle Bloom, editors. (2004) *The U.S. Scientific and Technical Workforce: Improving Data for Decision making*. Rand Corporation.
- National Research Council. (2011) *Expanding Underrepresented Minority Participation: America's Science and Technology Talent at the Crossroads.* Committee on Science, Engineering, and Public Policy. Washington, DC: The National Academies Press.
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- National Research Council. (2012b). *A framework for K-12 science education practices, crosscutting concepts, and core ideas*. Committee on a Conceptual Framework for New K-12 Science Education Standards. Board on Science Education, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.
- National Research Council. (2012c). *Discipline-based education research: Understanding and improving learning in undergraduate science and engineering*. Committee on the Status, Contributions, and Future Directions of Discipline-Based Education Research. Board on Science Education, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.
- National Research Council (2012d). *Monitoring progress toward successful K-12 STEM education: A nation advancing?* Committee on the Evaluation Framework for Successful K-12 STEM Education. Board on Science Education and Board on Testing and Assessment, Division of Behavioral and Social Sciences and Education
- National Science Board. (2003) *The Science and Engineering Workforce: Realizing America's Potential*. Arlington, VA: National Science Foundation.
- National Science Board. (2014) *Science and Engineering Indicators*. Arlington, VA: National Science Foundation

- President's Council of Advisors. *(2012) Engage to Excel: Producing One Million Additional College Graduates with Degrees in Science, Technology, Engineering, and Mathematics*. Washington, DC: Executive Office of the White House.
- Stokes, Donald (1997). Pasteur's quadrant – Basic Science and Technological Innovation. Washington D.C.: Brookings Institution Press.

Report Proposes Broad Changes to Undergraduate STEM Education

The need for systemic reform based on proven teaching methods is clear and can no longer wait, according to a report from the Coalition for Reform of Undergraduate STEM Education. Despite decades of research on successful teaching practices in science, technology, engineering, and mathematics (STEM), there has been disappointingly little incorporation of proven teaching methods in undergraduate classrooms, a new report says.

The Coalition for Reform of Undergraduate STEM Education, which includes staff members from AAAS and other leading academic and research organizations, says that faculty members, campus leaders, and funding organizations must "work together to make effective practice the norm rather than the exception."

The need for systemic reform is apparent and can no longer wait, the report says. Less than 40 percent of the students who enter college with the intention of majoring in a STEM field complete a degree in one of those fields. Among the reasons, according to a recent report from the President's Council of Advisors on Science and Technology, are "uninspiring" introductory courses and an unwelcoming atmosphere from faculty.

Meanwhile, baby boomers — who hold nearly a quarter of STEM jobs requiring a bachelor's degree or higher — are starting to retire, and the number of jobs in STEM fields is projected to grow 26 percent by 2020. The United States has relied on foreign nationals in the past to meet the demand for STEM jobs, but the new report notes that the global market is shifting so that China, India, and other countries are now able to compete on wages to attract STEM talent.

The recommendations in the report, "Achieving Systemic Change: A Sourcebook for Advancing and Funding Undergraduate STEM Education," are the result of a two-day workshop in June 2013 at AAAS that was organized by the coalition. In addition to AAAS, coalition members include staff from the Association of American Colleges and Universities, the Association of American Universities, the Association of Public and Land-Grant Universities, and the National Research Council.

Agency Research News

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A revised version of the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) (NSF 15-1), **is effective for proposals submitted, or due, on or after December 26, 2014**. The PAPPG is consistent with, and, implements the new Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance) (2 CFR § 200). NSF anticipates release of the PAPPG in the Fall of 2014.

Dear Colleague Letter: CPS EAGERs Supporting Participation in the Global City Teams Challenge

With this Dear Colleague letter (DCL), the NSF is announcing its intention to accept EArly-Concept Grants for Exploratory Research (EAGER) proposals to support NSF researchers in participating in the NIST GCTC teams, with the goal of pursuing novel research on effective integration of networked computer systems and physical devices that will have significant impact in meeting the challenges of the smart city. Priority will be given to researchers who have previously received funding from CPS, or who have related projects from other NSF programs (e.g., Computer Systems Research (CSR), Energy, Power, Control and Networks (EPCN), Secure and Trustworthy Cyberspace (SaTC), including CAREER awardees), and who are members of, or are seeking to, establish GCTC teams building upon the results of NSF-funded projects. The deadline for submission of EAGERs is **January 15, 201**5, but earlier submissions are encouraged, and decisions will be made on a first-come, first-serve basis.

Dear Colleague Letter: SaTC EAGERs Enabling New Collaborations

The National Science Foundation is announcing its intentions to build upon the success of previous Early Concept Grants for Exploratory Research (EAGERs) in the area supported by the Secure and Trustworthy Cyberspace (SaTC) program (see solicitation 14-599: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf14599) and to accept additional EAGER proposals that encourage novel interdisciplinary research resulting from new collaborations between one or more Computer and Information Science and Engineering (CISE) researchers and one or more Social, Behavioral and Economic Science (SBE) researchers. (Research teams with a history of collaborating together should instead submit directly to the SaTC solicitation.) The proposed research should fit both the Trustworthy Computing (TWC) and the Social, Behavioral and Economic (SBE) Sciences perspectives within the SaTC solicitation. Below are some examples of the types of topics that computer and social and behavioral scientists could conceivably study together under such an EAGER project. This list is by no means intended to be complete, nor is it meant to suggest what topics are of interest to the NSF. Instead, it is meant to give some notion of the broad spectrum of possibilities for such research. The respective role of social and computer scientists under different topics may vary from fully interdisciplinary involvement of both, which would be ideal, to varying degrees of mutual consultation and resource provision.

DE-FOA-0001203: Assisting Federal Facilities with Energy Conservation Technologies, Fiscal Year 2015

THIS REQUEST FOR INFORMATION (RFI) IS NOT A FUNDING OPPORTUNITY ANNOUNCEMENT (FOA); THEREFORE, DOE IS NOT ACCEPTING APPLICATIONS.

EERE intends to issue, on behalf of the U.S. Department of Energy (DOE) Federal Energy Management Program (FEMP), a Funding Opportunity Announcement (FOA) entitled "Assisting Federal Facilities with Energy Conservation Technologies, Fiscal Year 2015 (AFFECT 2015)." This RFI seeks input from interested parties and stakeholders regarding the subject of the anticipated FOA and related details. If the FOA is issued, it will likely provide grants to Federal agencies for renewable energy projects that are incorporated into a privately financed performance contract, such as an Energy Savings Performance Contract or Utility Energy Service Contract, or as part of a renewable energy Power Purchase Agreement (PPA). Applications for renewable energy projects that are financed through appropriations will also be considered. A key merit review criterion will likely be how much private and/or agency funds are leveraged against the FEMP AFFECT grant funding. Highly leveraging outside funds through performance contracting is important, because it will lead to projects of greater impact. **If the FOA is issued, it will be released at some point in Fiscal Year 2015, which began October 1, 2014 and ends September 30, 2015.**

DE-FOA-0001187: Request for Information (RFI): Hydrogen Transmission and Distribution Workshop Report: Public Comment

The Fuel Cell Technologies Office (FCTO) is a key component of the Department of Energy's (DOE) Energy Efficiency and Renewable Energy (EERE) portfolio. EERE seeks to provide clean, safe, secure, affordable, and reliable energy from diverse domestic resources, along with the benefits of increased energy security and reduced criteria pollutants and greenhouse gas emissions. DOE seeks feedback from industry, academia, research laboratories, government agencies, and other stakeholders on issues related to hydrogen transmission and distribution pathways, specifically with respect to the Hydrogen Transmission and Distribution Workshop Report. The workshop was held February 25-26, 2014, in Golden, Colorado. EERE is interested both in information on the current status of transmission and distribution pathways, technologies and their potential to meet DOE cost goals as well as feedback on the content of the report, including the key Research, Development and Demonstration (RD&D) needs as determined by the participants. This Is Not A Funding Opportunity Announcement (Foa); Therefore, Doe Is Not Accepting Applications. The report may be found at: http://energy.gov/eere/fuelcells/workshop-and-meeting-proceedings. **Responses to this RFI must be submitted electronically to h2workshop@ee.doe.gov no later than 5:00pm (EDT) on December 5, 2014.**

DE-FOA-0001188: Request for Information (RFI): Electrolytic Hydrogen Production Workshop Report: Public Comment

The Fuel Cell Technologies Office (FCTO) is a key component of the Department of Energy's (DOE) Energy Efficiency and Renewable Energy (EERE) portfolio. EERE seeks to provide clean, safe, secure, affordable, and reliable energy from diverse domestic resources, along with the

benefits of increased energy security and reduced criteria pollutants and greenhouse gas emissions. DOE seeks feedback from industry, academia, research laboratories, government agencies, and other stakeholders on issues related to electrolytic hydrogen production pathways, specifically with respect to the Electrolytic Hydrogen Production Workshop Report. The workshop was held February 27–28, 2014, in Golden, Colorado. EERE is interested both in information on the current status of electrolytic hydrogen production pathways, technologies and their potential to meet DOE cost goals as well as feedback on the content of the report, including the key RD&D needs as determined by the participants. EERE is also interested in the community's opinion of the electrolysis technologies that have the most potential to produce low cost hydrogen that meets DOE goals. This Is Not A Funding Opportunity Announcement (Foa); Therefore, Doe Is Not Accepting Applications. The report may be found at: http://energy.gov/eere/fuelcells/workshop-and-meeting-proceedings.
Responses to this RFI must be submitted electronically to h2workshop@ee.doe.gov no later than 5:00pm (EDT) on December 5, 2014.

Introducing NSF's new program: Integrative Strategies for Understanding Neural and Cognitive Systems
December 3, 2014 1:00 PM to
December 3, 2014 2:00 PM
Stafford II, Room 1155.05 (Library)
NSF invites you to attend a webinar introducing the new Integrative Strategies for Understanding Neural and Cognitive Systems program (NSF-NCS, NSF- 14-611) on Wednesday, December 3, 2014 at 1:00 PM EST. If you wish to participate in this webinar, you must register for it at: https://nsfevents.webex.com/nsfevents/onstage/g.php?d=748565712&t=a. All questions concerning this webinar should be e-mailed to ncs@nsf.gov.

Dear Colleague Letter: Computing About the Ebola Virus
This Dear Colleague Letter (DCL) follows a recent National Science Foundation (NSF) DCL (NSF 15-006, http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf15006) that referred to the emergence of the lethal Ebola virus in the US and expressed NSF's interest in proposals to conduct non-medical, non-clinical care research that can be used immediately to better understand how to model and understand the spread of Ebola; educate about prophylactic behaviors; and encourage the development of products, processes, and learning that can address this global challenge. In that DCL, NSF invited researchers to use the Rapid Response Research (RAPID) funding mechanism, which allows NSF to receive and review proposals having a severe urgency with regard to availability of, or access to, data, facilities or specialized equipment, as well as quick-response research on natural or anthropogenic disasters and similar unanticipated events. The NSF Division of Advanced Cyberinfrastructure (ACI) is particularly interested in proposals that include software development activities, such as those that would be funded by the Computational and Data-Enabled Science and Engineering (CDS&E, http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504813) or Software Structure for Sustained Innovation (SI2, http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf14520) programs, along with the use of petascale computing on Blue Waters, such as that which would

be funded by the Petascale Computing Resource Allocations (PRAC, http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf14518) program. ACI encourages such submissions through this DCL.

Complete guidance on submitting a RAPID proposal may be found in the NSF *Grant Proposal Guide* (GPG): http://www.nsf.gov/pubs/policydocs/pappguide/nsf14001/gpg_2.jsp#IID1.

Questions about this specific DCL should be addressed to:

Daniel S. Katz, dkatz@nsf.gov or Rudolf Eigenmann, reigenma@nsf.gov.

Agency Reports, Workshops & Research Roadmaps

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National Strategy for Combating Antibiotic Resistant Bacteria

The National Strategy for Combating Antibiotic Resistant Bacteria identifies priorities and coordinates investments: to prevent, detect, and control outbreaks of resistant pathogens recognized by CDC as urgent or serious threats, including carbapenem-resistant Enterobacteriaceae (CRE), methicillin-resistant Staphylococcus aureus (MRSA), ceftriaxoneresistant Neisseria gonorrhoeae, and Clostridium difficile, which is naturally resistant to many drugs used to treat other infections and proliferates following administration of antibiotics (Table 1); to ensure continued availability of effective therapies for the treatment of bacterial infections; and to detect and control newly resistant bacteria that emerge in humans or animals. This National Strategy is the basis of a 2014 Executive Order on Combating Antibiotic Resistance, as well as a forthcoming National Action Plan that directs Federal agencies to accelerate our response to this growing threat to the nation's health and security. The National Action Plan will be informed by a report approved by the President's Council of Advisors on Science and Technology (PCAST) on July 11, 2014. The National Strategy outlines five interrelated goals for action by the United States Government in collaboration with partners in healthcare, public health, veterinary medicine, agriculture, food safety, and academic, Federal, and industrial research.

National and Transnational Security Implications of Big Data in the Life Sciences

Big Data analytics is a rapidly growing field that promises to change, perhaps dramatically, the delivery of services in sectors as diverse as consumer products and healthcare. Big Data analytics also have the potential to enable deeper insight into complex scientific problems by leveraging ever-increasing stores of knowledge coupled with ever-improving processing capabilities. These beneficial aspects of Big Data have been well-documented and widely touted. However, less attention has been paid to the possible risks associated with these technologies beyond issues related to privacy. These risks include, but are not limited to, vulnerabilities of datasets to cyber intrusion and design of biological agents intended for harmful or criminal purposes derived from the integration and analysis of Big Data in the life sciences.

In this report, the American Association for the Advancement of Science (AAAS) Center for Science, Technology, and Security Policy (CSTSP), the Biological Countermeasures Unit of the Federal Bureau of Investigation Weapons of Mass Destruction Directorate (FBI/WMDD/BCU) and the United Nations Interregional Crime and Justice Research Institute (UNICRI) seek to:

- Examine the risks and benefits associated with Big Data analytics;
- Develop frameworks for risk and benefit assessment of emerging or enabling technologies, such as Big Data in the life sciences; and
- Identify options for U.S. government action to further characterize the risks and benefits from Big Data analytics and to mitigate risks.

The report is the culmination of a year-long evaluation of the drivers of Big Data in the life sciences, possible risks and benefits, and existing or needed solutions to address the

risks identified. To carry out this project, AAAS/CSTSP, FBI/WMDD/BCU, and UNICRI involved a working group of experts in computer science, data science, life science, biological security, data security, cyber security, law enforcement and homeland security from U.S. government agencies, intergovernmental organizations, academia, private industry, and the amateur science community.

New Funding Opportunities

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Content Order

New Funding Posted Since October 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 October 15 Newsletter

DE-FOA-0001198: GENerators for Small Electrical and Thermal Systems (GENSETS)
The GENSETS Program – GENerators for Small Electrical and Thermal Systems – seeks to fund the development of potentially disruptive generator technologies that will enable widespread deployment of residential Combined Heat and Power (CHP) systems. Here, CHP is defined as the distributed generation of electricity from piped-in natural gas fuel at a residence or a commercial site complemented by use of exhaust heat for local heating and cooling. If adopted widely by U.S. residential and commercial sectors, GENSETS CHP systems could lead to annual primary energy savings of more than 5 quadrillion BTU (quads). GENSETS systems could also provide annual CO2 emissions reductions of more than 200 million metric tons, which is roughly 10% of the CO2 produced annually from U.S. electricity generation and 4% of total U.S. annual CO2 emissions. The GENSETS Program seeks transformative generators/engines with 1 kW of electrical output (kWe) that have high efficiency (40% fuel to electricity), long life (10 years), low cost ($3,000 per system), and low emissions. Heat engines and generators capable of achieving these targets may include internal and external combustion engines, turbines, and solid state devices such as thermophotovoltaics, thermionic emitters, and thermoelectrics. It is anticipated that the same technologies developed for 1-kWe engines in GENSETS could be adapted to build larger engines with even higher efficiencies for various commercial sectors of the U.S. **Concept Paper due Dec. 1.**

Gulf of Mexico Research Initiative Issues Call for Research Proposals
The Gulf of Mexico Research Initiative (GoMRI) will award approximately $9 million per year for the next three years to support research on the effects of the Deepwater Horizon incident on the Gulf of Mexico. The new program, RFP-V, is the second GoMRI initiative to fund research by individual investigators or small teams of researchers. GoMRI supports research in five thematic areas:

1. Physical distribution, dispersion, and dilution of petroleum (oil and gas), its constituents, and associated contaminants (e.g., dispersants) under the action of physical oceanographic processes, air-sea interactions, and tropical storms.
2. Chemical evolution and biological degradation of the petroleum/dispersant system and subsequent interaction with coastal, open-ocean, and deep-water ecosystems.
3. Environmental effects of the petroleum/dispersant system on the sea floor, water column, coastal waters, beach sediments, wetlands, marshes, and organisms; and the science of ecosystem recovery.
4. Technology developments for improved responses, mitigation, detection, characterization, and remediation associated with oil spills and gas releases.
5. Impact of oil spills on public health including behavioral, socioeconomic, environmental risk assessment, community capacity, and other population health considerations and issues.

Individuals and teams interested in applying for research support under the RFP-V program must submit a **Letter of Intent by 5:00 PM Eastern time on December 15, 2014.** Full proposals will be due by March 13, 2015. It is anticipated that awards will be announced around November 13, 2015, and that most grants will run from 2016 through 2018. All RFP-V program requirements and guidelines are available on the GoMRI Web site.

FOA-RQKM-2015-0009 Integrated Photonics Institute for Manufacturing Innovation Department of Defense

The objective of this solicitation is to select an award recipient to establish an Integrated Photonics Institute for Manufacturing Innovation (IP-IMI). The IP-IMI will accelerate research, development, and demonstration in the manufacture of integrated photonic components and circuits; to include Institute initiatives in workforce development and technology demonstration. This Institute is envisioned to bring together large and small businesses, academia, and federal and state agencies to accelerate innovation by investing in industrially relevant manufacturing technologies. The IP-IMI will serve as a technical center of excellence, providing the innovation infrastructure to support integrated photonic manufacturing enterprises of all sizes and ensure that the U.S. photonics sector is a key pillar in an enduring and thriving U.S. economy. **Concept paper due December 19.**

Food Specific Molecular Profiles and Biomarkers of Food and Nutrient Intake, and Dietary Exposure (R01)

The purpose of this Funding Opportunity Announcement (FOA) is to promote research on food specific molecular signatures and biomarkers of dietary consumption and to promote collaborative interactions among NIH and USDA supported nutrition researchers. **LOI 30 days prior to due dates of January 2, 2015; May 27, 2015; September 28, 2015.**

Scientific Discovery through Advanced Computing (SciDAC): High Energy Physics

The Office of High Energy Physics (HEP) http://science.energy.gov/hep/research/ and the Office of Advanced Scientific Computing Research (ASCR) http://science.energy.gov/ascr/research/ of the Office of Science (SC), U.S. Department of Energy (DOE), hereby announce their interest in receiving peer reviewable proposals from interdisciplinary multi-institutional teams to the Scientific Discovery

through Advanced Computing (SciDAC) program, for Scientific Computation Application Partnerships (hereafter, Partnerships) in the area of computational high energy physics. Applications should propose two-year research plans and demonstrate how the proposed research will advance the HEP mission http://science.energy.gov/hep/about by fully exploiting leadership class computing resources (by which we mean those existing at or planned in the next five years for the Oak Ridge and Argonne Leadership Computing Facilities, or the high performance production computational systems at the National Energy Research Scientific Computing Center, or similar computing facilities, see http://science.energy.gov/ascr/facilities/ .) Proposals should focus on computational advances for the HEP Science drivers http://science.energy.gov/hep/research/science-drivers-of-particle-physics/ and be aligned with 2014 P5 priorities. **Letters of intent strongly encouraged by Dec. 3. Due January 7.**

BRAIN Initiative: Integrated Approaches to Understanding Circuit Function in the Nervous System (U01)

The purpose of this FOA is to promote the integration of experimental, analytic, and theoretical capabilities for large-scale analysis of neural systems and circuits. This FOA seeks applications for exploratory research studies that use new and emerging methods for large scale recording and manipulation of neural circuits across multiple brain regions. Applications should propose to elucidate the contributions of dynamic circuit activity to a specific behavioral or neural system. Studies should incorporate rich information on cell-types, on circuit functionality and connectivity, and should be performed in conjunction with sophisticated analysis of complex, ethologically relevant behaviors. Applications should propose teams of investigators that seek to cross boundaries of interdisciplinary collaboration by bridging fields and linking theory and data analysis to experimental design. Exploratory studies supported by this FOA are intended to develop experimental capabilities and quantitative, theoretical frameworks in preparation for a future competition for large scale awards. **LOI January 10; full February 10.**

National Robotics Initiative (NRI)

The goal of the National Robotics Initiative is to accelerate the development and use of robots in the United States that work beside or cooperatively with people. Innovative robotics research and applications emphasizing the realization of such co-robots working in symbiotic relationships with human partners ***is supported by multiple agencies of the federal government including the National Science Foundation (NSF), the National Aeronautics and Space Administration (NASA), the National Institutes of Health (NIH), the U.S. Department of Agriculture (USDA), and the U.S. Department of Defense (DOD).*** The purpose of this program is the development of this next generation of robotics, to advance the capability and usability of such systems and artifacts, and to encourage existing and new communities to focus on innovative application areas. It will address the entire life cycle from fundamental research and development to manufacturing and deployment. Questions concerning a particular project's focus, direction and relevance to a participating funding organization should be addressed to that agency's point of contact listed in section VIII of this solicitation. Methods for the establishment and infusion of robotics in educational curricula and research to gain a better understanding of the long-term social, behavioral and economic implications of co-robots across all areas of human activity are important parts of this initiative. Collaboration between

academic, industry, non-profit and other organizations is strongly encouraged to establish better linkages between fundamental science and technology development, deployment and use. **Due January 14.**

W911NF-15-R-0002 Fiscal Year 2015 Department of Defense Research and Education Program for Historically Black Colleges and Universities and Minority-Serving Institutions (HBCU/MI)
The Department of Defense (DoD) announces the availability of the FY 2015 Broad Agency Announcement (BAA) for Historically Black Colleges and Universities and Minority-Serving Institutions (HBCU/MI). The BAA is a set-aside for HBCU/MI. The BAA aims to (a) enhance research programs and capabilities in scientific and engineering disciplines critical to the national security functions of the DoD; (b) enhance the capacity of HBCU/MI to participate in DoD research programs and activities; and (c) increase the number of graduates, including underrepresented minorities, in fields of science, technology, engineering, and mathematics (STEM) important to the defense mission. The BAA will contain additional information along with instructions for proposal preparation and submission. **Due January 15.**

EPA Water Quality Benefits
The U.S. Environmental Protection Agency (EPA), as part of its Science to Achieve Results (STAR) program, is seeking applications proposing research to advance knowledge of how changes in water quality, including incremental or step improvements, can be valued at appropriate spatial scales using advanced non-use valuation methods for the Nation's inland fresh water small streams, lakes and rivers, estuaries, coastal waters, and the Great Lakes. For purposes of this Request for Applications (RFA), small streams are defined as streams that are perennial and wadeable. This solicitation provides the opportunity for the submission of applications for projects that may involve human subjects research. Human subjects research supported by the EPA is governed by EPA Regulation 40 CFR Part 26 (Protection of Human Subjects). This includes the Common Rule at subpart A and prohibitions and additional protections for pregnant women and fetuses, nursing women, and children at subparts B, C, and D. Research meeting the regulatory definition of intentional exposure research found in subpart B is prohibited by that subpart in pregnant women, nursing women, and children. Research meeting the regulatory definition of observational research found in subparts C and D is subject to the additional protections found in those subparts for pregnant women and fetuses (subpart C) and children (subpart D). All applications must include a Human Subjects Research Statement (HSRS, as described in Section IV.B.5.c of this solicitation), and if the project involves human subjects research, it will be subject to an additional level of review prior to funding decisions being made as described in Sections V.C and V.D of this solicitation. Additional information can be found in Section I.A of the full announcement. **Due January 14.**

Major Research Instrumentation Program (MRI): Instrument Acquisition or Development
The Major Research Instrumentation Program (MRI) serves to increase access to shared scientific and engineering instruments for research and research training in our Nation's institutions of higher education, not-for-profit museums, science centers and scientific/engineering research organizations. The program provides organizations with

opportunities to acquire major instrumentation that supports the research and research training goals of the organization and that may be used by other researchers regionally or nationally.

Each MRI proposal may request support for the acquisition (Track 1) or development (Track 2) of a single research instrument for shared inter- and/or intra-organizational use. Development efforts that leverage the strengths of private sector partners to build instrument development capacity at MRI submission-eligible organizations are encouraged.

The MRI program assists with the acquisition or development of a shared research instrument that is, in general, too costly and/or not appropriate for support through other NSF programs. The program does not fund research projects or provide ongoing support for operating or maintaining facilities or centers.

The instrument acquired or developed is expected to be operational for regular research use by the end of the award period. For the purposes of the MRI program, a proposal must be for either acquisition (Track 1) or development (Track 2) of a single, well-integrated instrument. The MRI program does not support the acquisition or development of a suite of instruments to outfit research laboratories or facilities, or that can be used to conduct independent research activities simultaneously.

Instrument acquisition or development proposals that request funds from NSF in the range $100,000-$4 million may be accepted from any MRI-eligible organization. Proposals that request funds from NSF less than $100,000 may also be accepted from any MRI-eligible organization for the disciplines of mathematics or social, behavioral and economic sciences and from non-Ph.D.-granting institutions of higher education for all NSF-supported disciplines.

Cost-sharing of precisely 30% of the total project cost is required for Ph.D.-granting institutions of higher education and for non-degree-granting organizations. Non-Ph.D.-granting institutions of higher education are exempt from cost-sharing and cannot include it. National Science Board policy is that voluntary committed cost sharing is prohibited. **Due January 22.**

DE-FOA-0001167: Buildings University Innovators & Leaders Development (BUILD) - 2015

Funding Opportunity Announcement (FOA), DE-FOA-0001167 - Buildings University Innovators And Leaders Development (BUILD) - 2015 seeks to improve the competitiveness of American universities to conduct building energy efficiency R&D, develop strong industrial partnerships and improve manufacturing education. This FOA makes available competitive, 2-year cooperative agreements for teams at USA-based institutions of higher education to research and develop innovative building energy efficiency technologies. Teams of engineering and business students will develop and work toward commercializing building energy-efficient technologies or approaches. Teams may develop a technology (hardware), software, or a manufacturing process with direct application to residential, multi-family and/or commercial buildings in the USA, with significant primary energy savings potential. DE-FOA-0001167 - Buildings University Innovators And Leaders Development (BUILD) - 2015 ; DE-FOA-0001167 FAQs **Concept papers due Dec. 19; full due February 11.**

Science, Technology, and Society

Revision Summary

1. The solicitation revises the characterization of the program to emphasize that it studies the full range of scientific, technological, engineering, and mathematical (STEM) disciplines, including medical science, using historical, philosophical, and social scientific approaches; and that it focuses on the intellectual, material, and social facets of STEM. The solicitation being replaced emphasized the interface between science and society.
2. Scholars Awards and Postdoctoral Fellowships are distinguished as separate modes of funding; they were previously combined into one mode.
3. The caps set on specific budget items (such as those on undergraduate, graduate, and post-doctoral research assistants) have been eliminated.
4. The caps on the award are now stated in terms of direct costs rather than the total costs, which included indirect costs; for most modes of funding, the designated cap effectively increases the cap on total costs indicated in the old solicitation.
5. Doctoral Dissertation Research Improvement Grant proposals now only have one deadline per year, August 1, and they are submitted to the STS program only under this solicitation.

The Science, Technology, and Society (STS) program supports research that uses historical, philosophical, and social scientific methods to investigate the intellectual, material, and social facets of the scientific, technological, engineering and mathematical (STEM) disciplines. It encompasses a broad spectrum of STS topics including interdisciplinary studies of ethics, equity, governance, and policy issues that are closely related to STEM disciplines, including medical science. The program's review process is approximately six months. It includes appraisal of proposals by ad hoc reviewers selected for their expertise and by an advisory panel that meets twice a year. The deadlines for the submission of proposals are February 2nd for proposals to be funded as early as July, and August 3rd for proposals to be funded in or after January. There is one exception: Doctoral Dissertation Improvement Grant proposals will have only one deadline per year, August 3rd. The Program encourages potential investigators with questions as to whether their proposal fits the goals of the program to contact one of the program officers. **Due February 2.**

AID-SOL-OAA-00005 Broad Agency Announcement (BAA) for Powering Agriculture: An Energy Grand Challenge for Development (PAEGC) - Second Global Innovation Call

The United States Agency for International Development (USAID), the Government of Sweden, Duke Energy Corporation, the Government of Germany, and the Overseas Private Investment Corporation (OPIC) invite eligible organizations to respond to **Powering Agriculture: An Energy Grand Challenge for Development (PAEGC) Second Global Innovation Call.** This Broad Agency Announcement (BAA) is for a funding competition component of PAEGC, designed to address barriers to increasing access to clean energy services within the agriculture sectors of developing countries. The BAA describes the purpose of the program and the types of activities that it will fund; indicates the process for preparing and submitting applications for funding; and outlines criteria that will be used to evaluate the applications received. Through this competition, PAEGC anticipates disbursing $10 - $20 million USD in award funding. Individual awards are expected to be between $500,000 USD and $2,000,000 USD. The period of performance for individual awards will be up to three years; the actual period of performance

for each award will be determined at the time of award. Awards made through this BAA may be in the form of grants, cooperative agreements, and contracts, depending on the nature of the activities proposed in the application. It is expected that between 10 and 20 individual awards will be issued through this solicitation. This BAA and any future amendments can be downloaded from http://www.grants.gov and http://www.fbo.gov . Prospective Applicants that are unable to retrieve the BAA from the Internet can request an electronic copy by e-mail at PoweringAg@usaid.gov . http://poweringag.org/call-innovations . DUE DATE: Applications shall be received no sooner than **Monday, December 8, 2014** and no later than **Thursday, February 12, 2015 at 4:00 PM EST** via the Online Application Platform.

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.**

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

ONRFOA14-012 Fiscal Year (FY) 2015 Department of Defense Multidisciplinary Research Program of the University Research Initiative

The DoD Multidisciplinary University Research Initiative (MURI), one element of the University Research Initiative (URI), is sponsored by the DoD research offices: the Office of Naval Research (ONR), the Army Research Office (ARO), and the Air Force Office of Scientific Research (AFOSR) (hereafter collectively referred to as "DoD agencies").The MURI program supports basic research in science and engineering at U.S. institutions of higher education (hereafter referred to as "universities") that is of potential interest to DoD. The program is focused on multidisciplinary research efforts where more than one traditional discipline interacts to provide rapid advances in scientific areas of interest to the DoD. As defined by the DoD, "basic research is systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications

towards processes or products in mind. It includes all scientific study and experimentation directed toward increasing fundamental knowledge and understanding in those fields of the physical, engineering, environmental, and life sciences related to long-term national security needs. It is farsighted high payoff research that provides the basis for technological progress." **White papers due November 27; Full proposal due February 23.**

Partnerships for Innovation: Building Innovation Capacity

The Partnerships for Innovation: Building Innovation Capacity (PFI:BIC) program supports academe-industry partnerships, which are led by an interdisciplinary academic research team with a least one industry partner to build technological, human, and service system innovation capacity. These partnerships focus on the integration of technologies into a specified human-centered smart service system with the potential to achieve transformational change in an existing service system or to spur an entirely new service system. These technologies have been inspired by existing breakthrough discoveries. **WEBINARS: Webinars will be held to answer questions about the solicitation. Register on the PFI:BIC website where details will be posted (http://www.nsf.gov/eng/iip/pfi/bic.jsp).** Potential proposers and their partners are encouraged to attend. Also, Vice Presidents for Research and academic personnel concerned with the review of their respective institution's selection of candidates for submission, individuals from Sponsored Research Offices, and those focused on the identification and understanding of limited application submissions are encouraged to attend. Service systems are socio-technical configurations of people, technologies, organizations, and information designed to deliver services that create and deliver value [1]. A "smart" service system is a system capable of learning, dynamic adaptation, and decision making based upon data received, transmitted, and/or processed to improve its response to a future situation. The system does so through self-detection, self-diagnosing, self-correcting, self-monitoring, self-organizing, self-replicating, or self-controlled functions. These capabilities are the result of the incorporation of technologies for sensing, actuation, coordination, communication, control, etc. The system may exhibit a sequence of features such as detection, classification, and localization that lead to an outcome occurring within a reasonable time. **LOI due December 3; full due January 28.**

NEH Collaborative Research Grants

Collaborative Research Grants support interpretive humanities research undertaken by a team of two or more scholars, for full-time or part-time activities for periods of one to three years. Support is available for various combinations of scholars, consultants, and research assistants; project-related travel; field work; applications of information technology; and technical support and services. All grantees are expected to communicate the results of their work to the appropriate scholarly and public audiences. **Due December 9.**

Pathogen Predators Solicitation Number: DARPA-BAA-14-51

DARPA is soliciting proposals for research supporting the potential use of Bdellovibrio and/or Micavibrio bacterial predators as therapeutics against infections caused by Gram-negative antibiotic-resistant and priority threat pathogens. **Due December 9.**

Integrative Strategies for Understanding Neural and Cognitive Systems (NSF-NCS)

The complexities of brain and behavior pose fundamental questions in many areas of science and engineering, drawing intense interest across a broad spectrum of disciplinary perspectives while eluding explanation by any one of them. Rapid advances within and across disciplines have led to newly converging theories, models, empirical methods and findings, opening new opportunities to understand complex aspects of the brain in action and in context. Innovative, integrative, boundary-crossing approaches are necessary to push the field forward.

This solicitation describes the first phase of a new NSF program to support transformative and integrative research that will accelerate understanding of neural and cognitive systems. NSF seeks exceptional proposals that are bold, potentially risky, and transcend the perspectives and approaches typical of disciplinary research programs. This multi-directorate program is one element of NSF's broader aim to foster innovation in Cognitive Science and Neuroscience, a multi-year effort that includes NSF's participation in the Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative (http://www.nsf.gov/brain/).

For FY 2015, this competition is organized around two research themes: ***Neuroengineering and Brain-Inspired Concepts and Designs*** and ***Individuality and Variation***. Within each theme, general advances in theory and methods, technological innovations, educational approaches, enabling research infrastructure, and workforce development are all of significant interest. Competitive proposals must be consistent with the missions of the participating directorates. Potentially groundbreaking approaches that entail significant risk are encouraged.

Two classes of proposals will be considered in FY 2015. **INTEGRATIVE FOUNDATIONS** awards will support projects that develop foundational advances that are deeply connected to a broad scope of important research questions in cognitive and neural systems, and have significant potential for transformative advances in one or more of the FY 2015 thematic areas. **CORE+ EXTENSIONS** will provide additional support to projects selected for funding by other programs in the participating offices and directorates, to enable additional activities that will connect those projects to significant new integrative opportunities in cognitive and neural systems. **LOI December 10; full January 26.**

Science and Technology Centers: Integrative Partnerships

The Science and Technology Centers (STC): Integrative Partnerships program supports innovative, potentially transformative, complex research and education projects that require large-scale, long-term awards. STCs conduct world-class research through partnerships among academic institutions, national laboratories, industrial organizations, and/or other public/private entities, and via international collaborations, as appropriate. They provide a means to undertake significant investigations at the interfaces of disciplines and/or fresh approaches within disciplines. STCs may involve any area of science and engineering that NSF supports. STC investments support the NSF vision of creating and exploiting new concepts in science and engineering and providing global leadership in research and education.

Centers provide a rich environment for encouraging future scientists, engineers, and educators to take risks in pursuing discoveries and new knowledge. STCs foster excellence in

education by integrating education and research, and by creating bonds between learning and inquiry so that discovery and creativity fully support the learning process.

NSF expects STCs to demonstrate leadership in the involvement of groups traditionally underrepresented in science and engineering at all levels (faculty, students, and postdoctoral researchers) within the Center. Centers use either proven or innovative mechanisms to address issues such as recruitment, retention and mentorship of participants from underrepresented groups.

Centers must undertake activities that facilitate knowledge transfer, i.e., the exchange of scientific and technical information with the objective of disseminating and utilizing knowledge broadly in multiple sectors. Examples of knowledge transfer include technology transfer with the intention of supporting innovation, providing key information to public policy makers, or dissemination of knowledge from one field of science to another. **Preliminary Proposals due December 11; full June 16.**

NOAA-NOS-NCCOS-2015-2004202 Center for Sponsored Coastal Ocean Research, Fiscal Year 2015 National Competitive HAB Programs Department of Commerce

The purpose of this document is to advise the public that NOAA/NOS/NCCOS/CSCOR is soliciting proposals for the Ecology and Oceanography of Harmful Algal Blooms Program, the Monitoring and Event Response for Harmful Algal Blooms Program and the Prevention, Control and Mitigation of Harmful Algal Blooms Program. Funding is contingent upon the availability of Fiscal Year 2015 Federal appropriations. It is anticipated that projects funded under this announcement will have a September 1, 2015 start date. Total funding for this research: It is anticipated that up to $2,000,000 may be available in FY 15 for the first year of all HAB projects combined. Awards are expected to last 2 to 5 years. Approximately 6 to 8 projects are expected to be funded at the level of approximately $100,000. to $600,000. per year per proposal. Background information about the NCCOS/CSCOR efforts can be found at http://coastalscience.noaa.gov/about/centers/cscor . Proposals should be submitted through Grants.gov (http://www.grants.gov .) **Due December 15.**

NIJ FY 14 Research and Development for Publicly Funded Forensic Science Laboratories to Assess the Testing and Processing of Physical Evidence

With this solicitation, NIJ seeks proposals for research, evaluation, and validation projects that will: (1) inform the forensic community of best practices through the evaluation of existing laboratory protocols, (2) result in the production of a validated method(s) that may be replicated by other laboratories in the forensic community, and (3) have a direct and immediate impact on laboratory efficiency and assist in making laboratory policy decisions. The intent of this program is to direct the findings of the research and validation toward the identification of the most efficient, accurate, reliable, and cost-effective existing methods for the identification, analysis, and interpretation of physical evidence for criminal justice purposes. **Due December 15**.

12th Annual P3 Awards: A National Student Design Competition for Sustainability Focusing on People, Prosperity and the Planet

Funding Opportunity Numbers (FON) and Associated Research Areas:
EPA-G2015-P3-Q1 – Energy
EPA-G2015-P3-Q2 – Built Environment
EPA-G2015-P3-Q3 – Materials and Chemicals
EPA-G2015-P3-Q4 – Water
EPA-G2015-P3-Q5 – Urban Green Water Infrastructure
EPA-G2015-P3-Q6 – Clean Cookstoves
The U.S. Environmental Protection Agency (EPA), as part of the P3-People, Prosperity and the Planet Award Program, is seeking applications proposing to research, develop, and design solutions to real world challenges involving the overall sustainability of human society. The P3 competition highlights the use of scientific principles in creating innovative projects focused on sustainability. The P3 Award program was developed to foster progress toward sustainability by achieving the mutual goals of improved quality of life, economic prosperity and protection of the planet -- people, prosperity, and the planet – the three pillars of sustainability. The EPA offers the P3 competition in order to respond to the technical needs of the world while moving towards the goal of sustainability. Please see the P3 website for more details about this program. **Due December 16.**

DE-FOA-0001192 Novel In Situ Imaging And Measurement Technologies For Biological Systems Science
The Office of Biological and Environmental Research (BER) of the Office of Science (SC), U.S. Department of Energy (DOE) hereby announces its interest in receiving research applications for novel imaging and measurement technologies for biological systems science. This Funding Opportunity Announcement (FOA) will consider applications for the development of novel imaging instrumentation and measurement technologies that support the integrative analysis of communication among subcellular compartments, between individual microbial cells and within multicellular communities/plant tissues. The goal is to develop in situ, dynamic and nondestructive approaches to enable multifunctional imaging, quantitative flux measurements, and multiscale integrative analysis of bioenergy-relevant plant and microbial systems. Ideally, these imaging approaches will pave the way for predictive understanding of the spatial and temporal relationships, physical connections, and chemical exchanges that facilitate the flow of materials and information across membranes and between intracellular sp aces. The anticipated outcome of this FOA is the development of in situ imaging and measurement technologies that can (1) resolve multiple key metabolic processes over time within or among cells and (2) bridge the critical gap in linking molecular-scale information to whole-cell, systems-level understanding. **Due December 18.**

Forensic Science Center of Excellence Program
NIST is soliciting applications to establish a Forensic Science Center of Excellence (COE) in which NIST researchers collaborate with interdisciplinary researchers from academia and industry for the wide-spread adoption of probabilistic methods within the forensic science community, specifically in the areas of pattern evidence and digital evidence, by developing the necessary analytical methods, creating a suitable education and training infrastructure in probabilistic

methods for the relevant stakeholders, and engaging the forensic science community to promote competence building (more).

Webinar and Website: NIST plans to hold a webinar to offer information on the Forensic Science Center of Excellence program. ***The webinar will be held approximately 30 days after posting of this FFO on August 19.*** The webinar will provide general guidance on preparing applications and provide an opportunity for the public to ask questions about the program. Proprietary technical discussions about specific project ideas will not be permitted, and NIST will not critique or provide feedback on any project ideas during the webinar or at any time before submission of an application to NIST. There is no cost for the webinar, but participants must register in advance. Participation in the webinar is not required for the submission of an application. The webinar will be recorded, and a link to the recording will be available for public access. Additional, information concerning, and registration for, the webinar is available at: www.nist.gov/coe/forensics .

A NIST Forensic Science COE public website exists (www.nist.gov/coe/forensics) that provides information about NIST's involvement in forensic science, including this Forensic Science Center of Excellence Federal Funding Opportunity. NIST anticipates that a "Frequently Asked Questions" section will be maintained and updated as needed to provide additional guidance and clarifying information that may arise related to this Funding Opportunity. Questions regarding this FFO should be submitted in writing and may be posted in the "Frequently Asked Questions" section. **Due December 19.**

Partnerships for Innovation: Accelerating Innovation Research- Research Alliance (PFI:AIR-RA)

The NSF Partnerships for Innovation (PFI) program within the Division of Industrial Innovation and Partnerships (IIP) is an umbrella for two complementary subprograms, Accelerating Innovation Research (AIR) and Building Innovation Capacity (BIC). Both programs are concerned with the movement of academic research discoveries into the marketplace, although each focuses on different stages along the innovation spectrum. The PFI:AIR program has two additional subprograms: the PFI:AIR-Technology Translation (See NSF 14-569,) and PFI:AIR-Research Alliance (this solicitation). This PFI:AIR-Research Alliance (RA) solicitation is intended to accelerate the translation and transfer of existing research discoveries into competitive technologies and commercial realities by leveraging the investments NSF has made in research consortia (e.g., Engineering Research Centers, Industry University Cooperative Research Centers, Science and Technology Centers, Nanoscale Science and Engineering Centers, Materials Research Science and Engineering Centers, Centers for Chemical Innovation, and others) and catalyzing academic-based innovation ecosystems. The goal is that these synergistic partnerships and collaborations between government, academia, and other public and private entities will result in new wealth and the building of strong local and regional economies. **WEBINAR: A webinar will be held within 6 weeks of the release date (Sept. 29) of this solicitation to answer any questions about this solicitation. Details will be posted on the PFI:AIR-RA website** (http://www.nsf.gov/eng/iip/pfi/air-ra.jsp) **as they become available**. **LOI January 12; full February 18.**

20150115-PJ National Digital Newspaper Program National Endowment for the Humanities

NEH is soliciting proposals from institutions to participate in the National Digital Newspaper Program (NDNP). NDNP is creating a national digital resource of historically significant newspapers published between 1836 and 1922, from all the states and U.S. territories. This searchable database will be permanently maintained at the Library of Congress (LC) and will be freely accessible via the Internet. (See the website, Chronicling America: Historic American Newspapers.) An accompanying national newspaper directory of bibliographic and holdings information on the website directs users to newspaper titles available in all types of formats. During the course of its partnership with NEH, LC will also digitize and contribute to the NDNP database a significant number of newspaper pages drawn from its own collections. NEH intends to support projects in all states and U.S. territories, provided that sufficient funds allocated for this purpose are available. One organization within each U.S. state or territory will receive an award to collaborate with relevant state partners in this effort. Previously funded projects will be eligible to receive supplements for continued work, but the program will give priority to new projects. In particular, the program will give priority to projects from states and territories that have not received NDNP funding. Applications that involve collaboration between previously funded and new projects are welcome. Such collaborations might involve, for example, arranging with current awardees to manage the creation and delivery of digital files; offering regular and ongoing consultation on managing aspects of the project; or providing formal training for project staff at an onsite institute or workshop. Over a period of two years, successful applicants will select newspapers published in their state or territory between 1836 and 1922s and convert approximately 100,000 pages into digital files (primarily from microfilm), according to the technical guidelines (PDF) outlined by the Library of Congress. Applicants may select titles published in Danish, English, French, German, Hungarian, Italian, Norwegian, Portuguese, Spanish, and Swedish. (More languages will be added in future years.) **Due January 15.**

DE-FOA-0001207 Systems Biology Research to Advance Sustainable Bioenergy Crop Development Department of Energy - Office of Science

The Office of Biological and Environmental Research (BER) of the Office of Science (SC), U.S. Department of Energy (DOE), hereby announces its interest in receiving applications for research that supports the Genomic Science research program (http://genomicscience.energy.gov). In this FOA, applications are requested for: i) Systems-level research to better understand the molecular and physiological mechanisms that control bioenergy crop vigor, resource use efficiency, and resilience/adaptability to abiotic stress, as well as interactions with the surrounding environment, in order to increase biomass productivity under changing and at times suboptimal conditions; ii) Systems biology-enabled investigations into the role(s) of microbial and microbial communities in the complex and multi-scaled interactions of the plant-soil-environment: contribution(s) to bioenergy feedstock plant performance, adaptation, and resilience in the face of a broad range of changing environmental conditions and abiotic stressors (e.g., climate), and the impacts of introducing bioenergy cropping systems on the local ecosystem. **Preapplication required Nov. 28**; **Due January 16.**

Long Term Research in Environmental Biology (LTREB)

The Long Term Research in Environmental Biology (LTREB) Program supports the generation of extended time series of data to address important questions in evolutionary biology, ecology, and ecosystem science. Research areas include, but are not limited to, the effects of natural selection or other evolutionary processes on populations, communities, or ecosystems; the effects of interspecific interactions that vary over time and space; population or community dynamics for organisms that have extended life spans and long turnover times; feedbacks between ecological and evolutionary processes; pools of materials such as nutrients in soils that turn over at intermediate to longer time scales; and external forcing functions such as climatic cycles that operate over long return intervals. **Preliminary proposal due January 23; full August 3.**

ONRBAA14-013 Minerva Research Initiative Department of Defense

The Office of Naval Research (ONR) is interested in receiving proposals for the Office of the Secretary of Defense (OSD)-led Minerva Research Initiative (http://minerva.dtic.mil), a DoD-sponsored, university-based social science research program initiated by the Secretary of Defense. This program is a multi-service effort. Ultimately, however, funding decisions will be made by OSD personnel, with technical inputs from the Services. The program focuses on areas of strategic importance to U.S. national security policy. It seeks to increase the Department's intellectual capital in the social sciences and improve its ability to address future challenges and build bridges between the Department and the social science community. Minerva brings together universities, research institutions, and individual scholars and supports multidisciplinary and cross-institutional projects addressing specific topic areas determined by the Department of Defense. The Minerva Research Initiative aims to promote research in specific areas of social science and to promote a candid and constructive relationship between DoD and the social science academic community. The Minerva Research Initiative competition is for research related to the four (4) topics and ten (10) subtopics listed below. Detailed descriptions of the topics can be found in Section VIII, "Specific Minerva Research Initiative Topics." The detailed descriptions are intended to provide the proposer a frame of reference and are not meant to be restrictive. Innovative proposals related to these research topics are highly encouraged. White papers and full proposals are solicited which address the following topics (described in Section VIII of this solicitation): (1) Identity, Influence, and Mobilization (1-A) Culture, identity, and security (1-B) Belief formation and influence (1-C) Mobilization for change (2) Contributors to Societal Resilience and Change (2-A) Governance and rule of law (2-B) Resources, economics, and globalization (2-C) Additional factors impacting societal resilience and change (3) Power and Deterrence (3-A) Power projection and diffusion (3-B) Beyond conventional deterrence (4) Innovations in National Security, Conflict, and Cooperation (4-A) Analytical methods and metrics for security research (4-B) Emerging topics in conflict and security Proposals will be considered both for single-investigator awards as well as larger teams. A team of university investigators may be warranted because the necessary expertise in addressing the multiple facets of the topics may reside in different universities, or in different departments of the same university. The research questions addressed should extend across a fairly broad range of linked issues where there is clear potential synergy among the contributions of the distinct disciplines represented on the team. Team proposals must name

one Principal Investigator as the responsible technical point of contact. Similarly, one institution will be the primary recipient for the purpose of award execution. The relationship among participating institutions and their respective roles, as well as the apportionment of funds including sub-awards, if any, must be described in both the proposal text and the budget. FULL ANNOUNCEMENT is available on the Grants.gov website by scrolling to the top of the synopsis page and clicking on the "FULL ANNOUNCEMENT" box. **Due January 30.**

DARPA-BAA-14-49 Biological Robustness in Complex Settings (BRICS)

Through the Biological Robustness in Complex Settings (BRICS) program, DARPA is soliciting innovative research proposals to develop the necessary fundamental understanding and component technologies to create robust engineered biological systems. It is expected that technology developed in the BRICS program will enable the safe transition of synthetic biological systems from stringently controlled laboratory environments to more complex settings (Grants.gov posting). The BRICS portfolio will consist of a set of programs, of which this is the first, that aim to elucidate the design principles of engineering robust biological consortia and apply this fundamental understanding towards specific DoD applications. This announcement calls for the development of generalizable approaches that may be ultimately integrated into a complex biological system. DARPA anticipates a second BAA comprising specific challenge scenarios that require the integration of capabilities developed within this program.

Though not strictly required, it is expected that proposals will involve ***multidisciplinary teams*** that include expertise from both the traditional synthetic biology community, as well as areas that have not typically engaged in this area (e.g., process control and systems engineers, population biologists, and ecologists).

For example, in one technical area, proposers are asked to develop the necessary technology to create a functional, multi-species, ***synthetic microbial community***. The community must be engineered to perform a function, which is at the discretion of the proposers but must require essential contributions from all species of the microbial community. Examples of engineered functions include, but are not limited to, the biosynthesis of a specific molecule or the ability to sense and respond to a substance in the environment. The complexity of community composition and function should increase as the BRICS program progresses.

The development of techniques and tools to rapidly sequence, synthesize, and manipulate genetic material has led to the **rapidly maturing discipline of synthetic biology**. The potential applications enabled by this field include efficient on-***demand bio-production of novel drugs, fuels and coatings; engineered microbes able to optimize human health or prevent or treat disease; and bio-based sensors, tags, or tracking systems***. To date, work in synthetic biology has focused primarily on manipulating individual species of domesticated organisms. These species tend to be fragile, requiring precise environmental controls to survive, and unstable, subject to losing their engineered advantages through genetic attrition or recombination. The costs of maintaining required environmental controls and detecting and compensating for genetic alterations are substantial. If applications such as those highlighted above are to come to fruition, methods to increase the biological robustness and stability of engineered organisms must be achieved while maintaining or enhancing assurances of safety.

The Biological Robustness in Complex Settings (BRICS) program will develop the ***fundamental understanding and component technologies to engineer biosystems*** that maintain their functional value in environments less stringently controlled than those in which these systems are today cultivated, eventually enabling the safe transition of synthetic biological systems from well-defined laboratory environments into more complex settings where they can achieve greater biomedical, industrial, and strategic potential. While this program will support the development of technologies that would be prerequisite to the safe application of engineered biological systems in the full range of environments in which the DoD has interests, all work performed in this program will occur in controlled laboratory settings.

There are multiple technical focus areas within the solicitation. Initial program funding of $42.5 million. Proposals due February 17.

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.**

W912HZ-14-BAA-01 2014 BAA Engineer Research and Development Center — DOD

The U.S. Army Engineer Research and Development Center (ERDC) has issued a Broad Agency Announcement (BAA) for various research and development topic areas. The ERDC consists of the Coastal and Hydraulics Lab (CHL), the Geotechnical and Structures Lab (GSL), the Environmental Lab (EL) and the Information Technology Lab (ITL) in Vicksburg, Mississippi; the Cold Regions Research and Engineering Lab (CRREL) in Hanover, New Hampshire; the Construction Engineering Research Lab (CERL) in Champaign, Illinois; and the Topographic Engineering Center (TEC) in Alexandria, Virginia. The ERDC is responsible for conducting research in the broad fields of hydraulics, dredging, coastal engineering, instrumentation, oceanography, remote sensing, geotechnical engineering, earthquake engineering, soil effects, vehicle mobility, self-contained munitions, military engineering, geophysics, pavements, protective structures, aquatic plants, water quality, dredged material, treatment of hazardous waste, wetlands, physical/mechanical/ chemical properties of snow and other frozen precipitation, infrastructure and environmental issues for installations, computer science, telecommunications management, energy, facilities maintenance, materials and structures, engineering processes, environmental processes, land and heritage conservation, and ecological processes. The BAA is available at http://erdc.usace.army.mil/ and is open until superseded. Proposals may be accepted at any time. For questions regarding proposals to CHL,

EL, GSL, TEC & ITL, contact Derek Howard at 601-634-3310 or via email at Derek.A.Howard@usace.army.mil . For questions concerning proposals to CERL, contact Wanda Huber at 217-373-6730 or via email at wanda.l.huber@usace.army.mil or Andrea Krouse at 217-373-6746 or via email at andrea.j.krouse@usace.army.mil . For questions concerning proposals to CRREL, contact Wendy Adams at 603-646-4323 or via email at Wendy.A.Adams@usace.army.mil . Contact the technical personnel listed at the end of each topic area for questions concerning the topic areas themselves. **Open to January 31, 2015.**

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)

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What We Do--

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

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

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