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Our 2014 CAREER Webinar for faculty interested in pursuing an NSF CAREER grant is scheduled for Thursday, March 27th from 2 – 4 pm Eastern Time. Cost is $275 per institution. A link to the registration page and more info are posted at our website (here).

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

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This interactive workshop offers a 4-hour overview of the successful strategies needed to transition to large team grants. Now scheduling for the spring semester. **Learn More Here**

**Our First 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**
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). 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)

2-HOUR WORKSHOP INCLUDED CONSULTATIONS: Individual consultations with faculty and/or research office staff on workshop topics (e.g., 4 consultations @30 minutes each).

WORKSHOP COSTS: Cost of the 4-hour interactive workshop and 2-hours of individual consultations with faculty and/or research office staff on presentation topics: $3,500 plus travel costs. A second day of consultations is available at a rate of $125/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, March 5 to May 2, 2014. 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

Technical Assistance Webinar Resources: NIH BUILD, NRMN, and CEC

NOI to Issue FOA Bioenergy Technologies Incubator (No. DE-FOA-0000974)

NOI to Issue FOA DE-FOA-0000984 Wind Forecasting Improvement Project in Complex Terrain

‘Climate Hubs’ will Provide Regional Networks on Climate Science, Forecasting Impacts

HHS Grants Forecast

Updated NIH Data Book

NIH Fiscal Policy for Grant Awards FY 2014

Insider Tips to Boost your Chance of Funding Success at NIH

NSF Prospective New Awardee Guide Effective February 24, 2014

National Science Foundation Reveals US Doctoral Degree Recipient Data

Science and Engineering Indicators: 2014

BAA Engineer Research and Development Center — DOD

Integrated Postsecondary Education Data System (IPEDS)

National Center for Education Statistics (NCES)

IPEDS Data Center

Digest of Education Statistics, 2012

Frontiers of Engineering: Reports on Leading-Edge Engineering from the 2013 Symposium

DOJ Forthcoming Funding Opportunities

National Center for Sustainable Water Infrastructure Modeling Research

The Charles Stewart Mott Foundation

Inspiring STEM Learning

What is the Page Limit for Letters of Support for K (Research Career) Awards?

New Videos Help You Find Your Way Around eRA

Looking at Reproducibility

Soliciting Comments for NIGMS on Planned Extramural Training Activities for Data Reproducibility

CDC RSS Feeds

CISE CAREER Proposal Writing Workshop

Preparing Applications to Participate in Phase I Ideas Labs on Undergraduate STEM Education
The NIH BUILD initiative's primary purpose is to provide opportunities and resources for eligible institutions to implement transformative, broadly-based approaches to training students to undertake biomedical and behavioral research related to the cause, diagnosis, prevention, and treatment of diseases. Through the BUILD initiative, eligible institutions will design and implement new models of biomedical and behavioral research training for students that emphasize attaining hallmarks of success. Eligibility requirements are intended to target funds to relatively under-resourced institutions with a demonstrated commitment to students from financially disadvantaged backgrounds (see Integrated Postsecondary Education Data System (IPEDS) and the IPEDS Data Center).

Addressing a major leakage point in the research workforce pipeline, BUILD awards are intended to support the design and implementation of innovative programs, strategies, and approaches to transform undergraduate research training and mentorship. BUILD awards will also support institutional and faculty development to further strengthen undergraduate research training environments. The NIH Common Fund intends to commit $30 million to fund approximately ten BUILD awards this grant cycle. Total costs for the project, adjusted upward to reflect increased numbers of trainees (Student Training Core) and student participants (Research Enrichment Core), may not exceed $5.3 million in any one year.

However, keep in mind that the BUILD initiative is not intended to support replication or expansion of existing programs at applicant institutions. Ignoring the sponsor’s specific objectives related to new and visionary models too often becomes the Achilles heel of proposals, both to NIH and NSF. For example, simply increasing the number of participants in current NIH-funded research training or mentoring programs would not be considered an effective response to this funding announcement. Promising practices and principles derived from the literature or from pilot programs may be leveraged to inform applicants’ approaches and/or expansion of existing efforts as long as it would do so in novel ways.

In fact, given this requirement for transformational potential, it is not too early to get your BUILD Red Team in place to ensure that you will fully respond to the solicitation, particularly as it relates to answering the key BUILD questions (see RD&GWN articles Red Teaming: Scalable, Adaptable & Versatile, May 2013; Red Teaming the Solicitation, July, 2012; and Red Teaming Proposals for Funding Success, November, 2010). Note that the very extensive additional review criteria specific to each program core would benefit enormously from the red teaming process. Moreover, you will need to align your specific aims to those of the BUILD project as a whole.

However, the aims of your project should not replicate the specific aims for each of the individual cores, but rather should constitute overarching aims expressed at a higher level of abstraction. These more general aims should include a vision for how the project will allow participating institutions to develop and implement innovative approaches to engaging students, including those from underrepresented backgrounds, sustaining their interest, and
preparing them to pursue doctoral degrees leading to biomedical research careers. A red team will be essential to reviewing the 60 pages of narrative text that describe the BUILD core activities.

Relevant questions for red teaming the Research Plan for this funding opportunity emphasized by NIH include, for example, “What are the hallmarks of a successful biomedical research career at each phase of the training process? What motivates students to enter biomedical research career paths, and what factors contribute to their sustained participation? What factors (e.g., institutional, social, and individual) influence emerging scientists, particularly those from underrepresented backgrounds, to enter, exit, or sustain a biomedical research career, and how can these factors be addressed? What must happen during different training stages to ensure that trainees and participants, particularly those from underrepresented backgrounds, develop the skills, knowledge, and competencies essential to success in biomedical research careers and careers in the NIH-funded research workforce? How do institutional structures and resources facilitate successful research training and professional development activities? How can approaches be designed so that their impact continues beyond the period of NIH funding?” These will prove very challenging questions to answer, given that successful BUILD projects are expected to yield tangible advances in three key areas: institutional development, faculty development, and student development.

With the foregoing in mind, if you are planning to submit an NIH BUILD proposal (LOI March 2; application April 2) and are not the recipient of one of the 15 BUILD planning grants (listed here) recently awarded, do not be deterred or discouraged—rather, be determined! Grant graveyards are well populated by unfunded full proposals submitted by overconfident applicants of funded planning grants. Conversely, if you are one of the recipients of a BUILD planning grant, take a few moments to bask in your success and then get back to the task of writing a successful proposal and do not carelessly assume you will have an advantage over applicants not funded under a planning grant, or those who did not submit a planning grant. As NIH noted in the April, 2013 Planning Grant Webinar, the grants are motivated by the agency’s desire to help “under-resourced” institutions compete for this large team grant, but the planning grant award carries no NIH promise, explicit or implied, related to the funding outcome of the BUILD applications due April 2.

Of course, the list of 15 funded BUILD planning grants posted to the NIH website will help all potential applicants scope out the competition and get a sense of competitors’ program models by following the links to the BUILD project abstracts of those funded for a planning grant. Moreover, the geographic distribution of the planning grants will give potential applicants a good idea of whether or not a regional competitor exists. The take-away message from the list of 15 planning grant recipients is that this remains a very open competition nationally, and, given the very significant 5-year funding levels, one worth mounting a major institutional partnership in an effort to win.

Either way, whether or not you are funded for a BUILD planning grant, make sure you are setting the stage correctly for planning, developing, and writing a full application that clearly meets the NIH BUILD program goals in the appropriate context. For example, keep in mind that this program originated in the NIH Biomedical Workforce Task Force that issued the Biomedical Research WG Report June 14, 2012 and posted data analyzed by a working group in
making workforce recommendations (here). Remember, at its core, BUILD is a STEM pipeline partnership project (see NCSES Publications and Data and Women, Minorities, and Persons with Disabilities in S&E). Pipeline partnership projects all share a common characteristic of comparing the national data context to a local data context as impacted by a proposed program model, particularly as the model relates to an institution’s prior success in advancing students through the key transition points in the pipeline. In this case, the model will be applied to the more specific biomedical and behavioral sciences pipeline, such as the path from a community college to a predominately undergraduate institution to a Research 1 partner. These data need to be woven into the narrative arguments you make and will form the baseline data for project evaluation and performance metrics (see AGEP Planning Strategies - Got Data? In the November 2013 newsletter).

Moreover, the Biomedical Workforce Task Force has published four key reports addressing this topic:

- Information on NIH Implementation of the Report Recommendations
- Biomedical Workforce Working Group Report
- Executive Summary of the Biomedical Workforce Working Group
- ACD Biomedical Workforce Working Group Data

Additional background information important to review includes the BUILD planning grant webinar and slides, both now posted to NIH for review: View the webinar; Download the slides at the Enhancing the Diversity of the NIH-Funded Workforce website. Furthermore, if you did not view the technical assistance webinar for potential BUILD applicants on January 14, 2014, an archived recording of this webinar is now posted on this website. Lastly, review references made in the BUILD solicitation, including How Well Do Undergraduate Research Programs Promote Engagement and Success of Students? (here), THE PIPELINE: Benefits of Undergraduate Research Experiences (Science 27 April 2007, and here), and Common Fund Workforce for related discussions of training for multiple career options. Always keep in mind that your task for a successful BUILD application is to design and implement new (visionary/transformational) models of biomedical and behavioral research training for students that emphasize attainment of hallmarks of success.

So, you may still ask, why should I spend my time reading all this background information? Well, first off, because NIH makes it clear that in preparing an application the BUILD Primary Institution and its partners should draw from the relevant literature to collectively consider all the factors, including institutional, social, and individual, that are likely to influence a student’s persistence in biomedical research career paths. BUILD awards will provide extensive flexibility to participating institutions to tailor approaches to their individual communities, building from existing strengths while enabling new approaches to be developed and assessed. Note, too, that the primary institution must be a baccalaureate degree-granting college or university that receives less than $7.5M annually in NIH funding (total costs) through Research Project Grants and that have relatively high proportions of students from low-income backgrounds.

Moreover, do not assume that because you have mentored students and managed successful STEM pipeline programs in the past that your existing pipeline mentoring models can
be transplanted directly, like a simple copy and paste, into your BUILD application without significant strategic planning and rethinking. The PI and the BUILD team must demonstrate to NIH that you have designed and will implement new training models.

Whether or not you can compete for BUILD funding will be decided at the intersection of how well you understand and integrate (1) the background rationale on workforce diversity that motivated the NIH BUILD initiative, (2) the BUILD application guidelines, and (3) the unique and transformational ways your proposed BUILD partnership model maps to items 1 and 2. Keep in mind here that while a “transformational blizzard” is emanating from federal research agencies now in which use of “transformational” is approaching hackneyed status, particularly at NIH and NSF, use such terms as “transformational” judiciously, even when it is emphasized in the solicitation. Concentrate on writing a narrative that demonstrates rather than merely claims that your proposed project model will transform current practice. Superlatives are always best bestowed on the research narrative by the program officers and reviewers rather than the applicants.

Of course, given the 5 core components of the BUILD application narrative, each 12 pages in length, sheer determination and stamina will help win the day on this application. It is truly a major undertaking and not for the faint of heart, or those inexperienced in planning, developing, and writing large team grants (got a BUILD Red Team in place?).

Finally, keep in mind the dynamics and challenges of large team grants. As always, narrative synergy remains the Yellow Brick Road of a successful application. But achieving synergy is no easy task on large teams grants. It requires a well organized and structured proposal narrative. You will also need a plan for integrating narrative contributions by multiple authors. And, finally, your capacity to clearly describe a compelling overarching vision for your BUILD application will be the linchpin of your success on this effort.
Louis Pasteur once famously noted that “in the field of observation, chance favors the prepared mind.” Whether or not the famous French microbiologist had to write grants and agonize over crafting the clear and compelling specific aims needed to secure support for his research is best left to historians of nineteenth-century science, but it’s nonetheless abundantly clear in the twenty-first century that, in the universe of research grant writing, “funding favors the strategically prepared.” After all, success in writing research grants is fundamentally a strategic endeavor—knowing what to say, how to say it, and why you say it in your research narrative is a strategically-guided process. That is not to say that “dumb luck” does not occasionally and perversely award funding to a few mediocre proposals. Why the occasional bad proposal gets funded is akin to the age-old theological question, Why do bad things happen to good people? However, these questions are essentially unanswerable and best left to philosophical pondering.

The more important question to answer is why haven’t Strategic Research Funding Plans been created at the appropriate institutional scale and scope—for individual researchers, research teams, departments, colleges, universities, and potential multi-institutional partnerships? Too often Strategic Research Funding Plans are noted for their absence. But as Lewis Carroll noted in Alice in Wonderland, “if you don’t know where you’re going, any road will get you there.” Bottom line: everyone needs a strategic game plan when it comes to writing successful research grants. Their absence is akin to NASA announcing it will revisit the moon landing but noting, “if we overshoot the moon, we’ll try to land on Mars.”

Admittedly, when it comes to institutional strategic plans in general, some may be good, some may be not so good, and some may be truly horrid, but all seem to share the common characteristic of being quickly forgotten by everyone. Fortunately, regardless of scale, Strategic Research Funding Plans are fairly simple to develop, require minimal maintenance, and are flexible and adaptable to changing priorities or research opportunities. The core elements of a funding plan include its scale and scope, a time horizon, an assessment and tracking of potential funding agencies, an assessment of research capacities and priorities, a research funding training and transition plan, faculty forensics, and continuous engagement strategies for research development and grant writing.

The goal is simply to connect the dots—understand the trees but envision a forest, i.e., more research funding. A Strategic Research Funding Plan offers a simple solution to a persistent problem: insufficient success in obtaining research funding. The stepwise process for creating a Strategic Research Funding Plan include these core elements.

Define Your Scale and Scope

The first step is to define the boundaries of your funding plan by both scale (e.g., engaged researchers) and scope (e.g., engaged research capacities and expertise). Once this is done, your domain of focus has been established. You must access this domain to assess your
competitiveness, and then map to potential research funding opportunities over your selected time horizon.

In terms of scale, determine whether the funding plan is for one or at most a few researchers, a large research team, or a department or college. In this last case, is the department or college trying to align resources to new faculty hires, better motivate research with existing faculty, form new research teams, or support faculty research cluster hires to pursue large team grants in a topic area such as sustainability, genomics, water, manufacturing, nano-materials, or energy, among numerous other areas. With this knowledge, your place in the “research funding universe” can be determined by identifying and continuously tracking a subset of federal agencies and foundations that fund research in your domain of interest. In most cases, this will be a small subset of agencies, but that also depends on how you have defined the scale and scope of your funding plan.

However, even if your research domain of interest spans multiple federal agencies and perhaps even a few foundations, for example, under a broad topic area such as sustainability or genomics, a realistic assessment of your capacities likely will limit your focus to a few research agencies and a few programmatic areas within those agencies where you are competitive for funding. Most likely, your research funding opportunities will not be the equivalent of free beer and wide roads. As your funding focus narrows through the self-assessment process from what you might dream about to what is possible, your funding plan will converge on a more realistic competitive strategy.

Of course, research partnerships often expand the potential funding opportunities when team members have experience at multiple agencies. However, a more difficult and common challenge, particularly at the scale of an academic department, occurs when the traditional funder of departmental research faces budget cutbacks and/or changes funding priorities concurrent with an increase in proposals submitted to that agency as more universities make funded research a priority. For example, funding constraints and changing research priorities at USDA or EPA may force faculty in departments traditionally funded by those agencies to seek funding at other agencies, such as NSF, NIH, and DOE. But this is not easily done without a research funding Training And Transition Plan in place to better guide this process. Understanding the unique mission and culture of each funding agency is key to success. A history of competitiveness at USDA/NIFA does not translate into competitiveness at NSF, NIH, DOE or DOD (see Integrating PI Experiences from Various Agencies, December, 2012).

Define Your Time Horizon

Defining your research funding time horizon is important, particularly since your goal in a funding plan is to identify a series of potential funding solicitations that form a Funding Opportunity Matrix to which you map your research scope of interest, expertise, and capacities, and then assess your competitiveness. A moving one-year time horizon is a reasonable starting point for this process in many cases, although it could be multiple years for large teams focused on winning major research centers through success in obtaining smaller “building block” research grants. Many center grants, such as the current NSF Engineering Research Centers, may have several hundred preliminary grants submitted but will invite only 4 or 5 per hundred of those to submit a full proposal. So being strategically prepared several
years in advance is critical to success. Regardless, within your selected time period, you need to identify and track all potential funding opportunities for evaluation.

Identify and Track Potential Funding Sources

Once this process is set up, it is fairly easy to monitor and maintain for the selected group. In most cases, funding opportunities will come from the major federal research agencies listed on Grants.gov, although foundation funding may also be included in your Funding Opportunities Matrix. The important point here is to make sure your matrix includes both solicited and unsolicited opportunities, as well as Broad Agency Announcements that often remain open for several years, although funding priorities may shift during the BAA’s open period through modifications posted to Grants.gov. BAA and other unsolicited proposals often have a stepwise process, or gates, that start with a brief concept paper or “elevator abstract” that eventually leads to an invitation to submit a full proposal. Crafting concept papers is an excellent team-building exercise that forces a focus on clearly and succinctly describing research significance, integration, synergy, and the value-added benefits of the team structure to the agency’s research mission priorities.

Moreover, it is wise to subscribe to Grants.gov electronic notifications, either RSS feeds or email alerts, to keep your Funding Opportunities Matrix current. Bottom line: if you wake up to find a funding opportunity of potential interest delivered to you during the night by an RSS feed or email alert, then the entire team should receive that funding opportunity before you finish your morning coffee or diet Dr. Pepper. In particular, if BAA’s are a potential funding source for your research, consider subscribing to the Modified Opportunities by Agency RSS feed to receive a listing of recently modified opportunities by agency name. Many open funding opportunities at the mission and defense agencies may have 20 or more modifications posted during the open period that reflect changing research priorities. Grants.gov modification notices keep you current on all changes made to open solicitations—this is critical information to track. Of course, almost all federal research agencies have very robust electronic notification services using RSS and emails.

Keep in mind that your Funding Opportunities Matrix needs to be distributed among members of the research team. Whether done in a Word table or an Excel spreadsheet, emailed around as an attached file, or posted to a website is less important than that it be easily visible, accessible, transparent, and current for those who use it. In other words, don’t use a database. Databases are great for tracking all the identified Goldilocks planets in the galaxy, or the inventory at a big box store, but a simple, easily visualized spreadsheet matrix gives the best relational understanding of potential funding opportunities. Other than that, creating the matrix is just an organizational process of listing in a spreadsheet or Word table all the relevant funding agencies, URL links to funding opportunities, due dates, program synopses, and any other key information needed for the team to discuss a “go/no go” decision on the potential funding opportunity. The key is to keep this information current on a daily basis.

Assess Your Research Capacities and Priorities

Another key step in the funding strategies process is to map your capacities and expertise, either as an individual or a team, to a specific funding opportunity of possible
interest to determine your competitiveness. One of the most important decisions in research grant writing is deciding whether or not to submit a proposal. In this regard, to quote Ann Landers, “Don't accept your dog’s admiration as conclusive evidence that you are wonderful.”

In many cases you, or your team, will have identified more possible funding opportunities over the coming year than would be realistic to apply for, and so some winnowing will be required to prioritize opportunities based on a competitive assessment of how well you or your team can address the sponsor’s goals and objectives. On a large team proposal, this process of assessing competitiveness is critical (see Red Teaming the Solicitation, July, 2012). Planning, developing, and writing a competitive proposal, regardless of size, represents a significant commitment of time and resources focused on research narrative perfection. Remember, it is infinitely better to submit a few excellent proposals each year than to spam multiple funders with a blizzard of mediocre proposals. The funding dice are heavily weighted to favor the strategically prepared.

Moreover, the assessment you or your team makes about your competitive readiness for a specific solicitation will form the basis of the narrative arguments you make in the proposal to convince program officers and reviewers to fund you.

**Faculty and Team Forensics**

A key part of assessment is to develop a process of forensics that helps determine the role each member of a research team will play in any funding solicitation under consideration for a submittal. Additionally, once this “forensics” process is complete for each team member, it needs to be conducted to assess the team as a whole. After all, you can anticipate with certainty that program officers and reviewers, regardless of agency or solicitation, will want to know the experience and expertise each team member brings to a proposed research project, the experience the proposing team has working together (e.g., results of prior support, joint publications, preliminary data, etc.), the value-added benefits and research synergy the proposed team configuration brings to the project, and how the proposed research advances the mission of the funding agency or the field, or impacts other fields.

**Research Funding Training and Transition Plan**

Often, particularly at the level of a large research team, academic program, or an academic department, an assessment of funding opportunities leads to the conclusion that it is unlikely, given budget constraints or shifting priorities, that sufficient research funding will be available at one long-standing or “go-to” agency to maintain an existing research capacity, or expand a research capacity into new areas. The most common solution to this situation is to seek to expand the number of funding agencies to which proposals might be submitted.

This is not an unreasonable plan, albeit with several caveats, the principal one being that exploring new agencies necessitates understanding a new agency culture and mission. Transitioning from NIH to NSF, for example, or from USDA/NIFA to NSF, or from NSF to DOE or DOD, will all require an Agency Transition Plan. Do not make the mistake of thinking that all agencies that fund, say, sustainability, water, energy, genomics, or whatever, are fungible. They are not! If you are going from a mission agency, e.g., DOD, EPA, USDA/NIFA, etc., to a basic research agency, e.g., NSF, NIH, DARPA, DOE/OS, etc., or even transitioning among
mission agencies, it will be critical to your success to understand, as former Texas Governor Ann Richards was fond of observing, “how the cow eats the cabbage” at the particular agency of interest.

**Research Grants Training**

In many cases, a Strategic Research Funding Plan requires some **aligned grant-training activities specifically targeting the proposed strategic directions**, particularly for new faculty, newly formed faculty clusters, or more senior faculty seeking to transition to new agencies, perhaps from USDA/NIFA to NSF. In particular, faculty transitioning from grants of a few PIs to large-team grants will benefit from training on the subject of planning, developing, and writing these major, more complex efforts. This training can often be given by a campus research development and grant-writing office with experience assisting in the writing of center level grants, particularly in partnership with senior faculty whose large team research has been well funded, or who have served as reviewers of large team grants.

**Continuous Engagement Strategies**

Finally, strategic plan graveyards have a very long waiting list of old strategic plans looking for a final resting place, as well as many who hope these plans never again see the light of day. To keep this from happening to your Strategic Research Funding Plan, make sure to keep it **short, simple, accessible, and current**. Its real value serves as a “funding GPS system” that helps faculty, regardless of scale and scope, discuss a coordinated plan for writing research grants over the coming year, or more. **A well done Strategic Research Funding Plan is a tool that puts real money on the table for consideration and engagement.** Real money on the table is the glue that will hold a team together. After all, when Willie Sutton was asked why he robbed banks, he replied, "because that's where the money is." **Similarly, a Strategic Research Funding Plan shows you where the money is and helps you get your fair share, or more!**
Ideas Labs: What are they and why is NSF using them?

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By Lucy Deckard, co-publisher

(Back to Page 1)

NSF is experimenting with a new funding/review mechanism to facilitate the formation of strong multidisciplinary teams and innovative ideas. IUSE is the most recent program to employ Ideas Labs.

NSF recently released a Dear Colleague Letter providing guidance for applications to participate in Phase I Ideas Labs that are a part of the new Improving Undergraduate STEM Education (IUSE) program. Applications to participate in IUSE Ideas Labs focused, variously, on new educational approaches for biology, geosciences, and engineering with a target date of Feb. 4, 2014. This is not the first time Ideas Labs (or a related approach, “sand pits”) have been used by NSF. Sand pits or Ideas Labs have been used most extensively by the NSF BIO directorate (initially in collaboration with UK’s Engineering and Physical Sciences Research Council in 2008), as well as by the EHR directorate. Similar approaches are also being used by the other research funding agencies, including the UK Biotechnology and Biological Sciences Research Council and FRIENZ. If these new approaches prove effective, PIs should expect to see more of these Ideas Labs at NSF, eventually spreading to other federal agencies with an interest in funding innovative multidisciplinary research.

What are Ideas Labs?

Ideas Labs grew out of a suite of programs pioneered by UK’s Engineering and Physical Sciences Research Council (EPSRC) called the IDEAS Factory which was designed to generate highly innovative research projects that “would be difficult to conceive under normal circumstances.” “Sandpits” are an important component of the IDEAS Factory approach. Sandpits are generally meant for problems that have already received considerable research attention, but progress has stalled and a profoundly different approach is needed. The fundamental strategy of sandpits is to bring together researchers from different communities who probably would not otherwise connect with each other, along with facilitators and mentors, in an intense workshop environment. The funder selects participants based on their research expertise as well as other factors including their interest in engaging in multidisciplinary work. (An organizational psychologist may advise the funder on participant selection.) Through a series of activities and interactions, the participants generate new ideas on how to attack the research challenge. Key to the process is that participants are expected to generate new ideas and teams, not just shop their preconceived research ideas. Importantly, the mentors also act as reviewers, helping to select the teams who will be funded to pursue the ideas that come out of the sandpit. In this way, the ideas can be improved with input from the reviewers as the week progresses. Often, funding decisions are made at the end of the week.

Ideas Labs are a version of sandpits modified to meet NSF’s needs. The overall goals and approach are the same, but some of the logistics, such as how participants are selected and how projects coming out of the Ideas Labs are selected for funding, are different. Participants apply individually in response to a solicitation or program announcement. Applications are typically short (e.g., 2 pages) and focus not just on the applicants’ research expertise and ideas, but also
on their experience working in teams and with others outside their discipline. These applications are not conventional project-based proposals, and no collaborators or co-PIs are allowed.

Selected participants (typically 20 to 30 researchers, and sometimes stakeholders, from different disciplines and institutions) convene for an intense residential five-day workshop. The idea is to remove them from their day-to-day distractions and responsibilities and put them in an environment where new connections can be made, new teams formed, and insights generated through interactions with a wide range of participants with diverse backgrounds and perspectives. The process is relatively structured, with professional facilitators assigning tasks and activities designed to help participants analyze the problem in new ways and develop innovative insights. Mentors—subject matter experts recruited by NSF who are not eligible to apply for funding for this opportunity—help participants by asking questions, providing guidance and feedback, and challenging participants to think more creatively. Speakers (sometimes labeled “provocateurs”) may give short presentations to stimulate thinking in a new direction or from a different perspective. This process can be a bit messy and chaotic, and ideas often don’t begin to crystallize until the final day, so if you’re considering applying to participate, you’ll need to approach the experience with an open mind and a tolerance for ambiguity.

At the end of the five days, participants will be invited to submit a full proposal. In some cases, participation in the Ideas Lab is not a requirement for submitting a proposal, but more commonly, only Ideas Lab participant teams are invited to submit full proposals.

The recent IUSE Ideas Lab Dear Colleague Letter describes a slightly different approach to the concept. In what they are calling Phase I Ideas Labs, three separate Ideas Labs are planned: one for Biology, one for Engineering, and one for Geosciences. Each of these Ideas Labs is focused on a specific educational challenge identified by NSF. The Biology Ideas Lab will focus on strategies to integrate quantitative literacy into the biology core curriculum. The Engineering Ideas Lab will focus on “new framings and strategies” to broaden participation in engineering. And the Geosciences Ideas Lab will consider novel approaches in geoscience education “to develop essential competencies and skills for the workforce and increase access for diverse student populations.” In this “Phase I” version, NSF does not spell out how the potential projects resulting from the Ideas Labs will lead to funding; they simply say that the anticipate that concepts developed “will lead eventually to new proposals to NSF to engage in activities that will be high-risk/high-impact.” It’s likely that NSF is waiting to see what comes out of these Ideas Labs in order to determine how they will proceed.

**Why is NSF Using Ideas Labs?**

NSF sees the greatest opportunity for making significant progress in a number of scientific areas at the intersections of disciplines. Moreover, many of today’s grand challenges, such as renewable energy, environmental sustainability, and STEM education, are inherently interdisciplinary. However, a number of factors, not least of which are NSF’s discipline-based program structure and most universities’ departmental structures, work against interdisciplinary collaboration. Ideas Labs are one more approach in NSF’s efforts to battle disciplinary silos and promote
Increased collaboration across disciplines that will lead to scientific breakthroughs. Other approaches to increasing interdisciplinary research have included Research Coordination Networks (discussed in our November 2013 issue), CREATIV and INSPIRE (discussed in the February 2013 issue), the various NSF Center programs, and multidisciplinary solicitations. The Ideas Lab approach is also a strategy to enable funding of more high-risk, potentially transformative projects since peer review often results in conservative funding decisions that shut out these kinds of projects. Another approach used by NSF is the EAGER mechanism.

**Participating in Ideas Labs**

If you are interested in participating in an Ideas Lab related to your research, the first step is to find out when NSF is planning an Ideas Lab in a topic of interest to you. In addition to talking to your Program Officer and networking with colleagues in your discipline who are funded by NSF, you should subscribe to NSF Program Announcements and Info Updates either by email or RSS feed (see the top of this page to subscribe). This will ensure that you receive Dear Colleague Letters and solicitations informing you of upcoming Ideas Labs.

If you plan to apply to participate in an announced Ideas Lab, keep in mind NSF's motivation in holding these Labs. You will need to demonstrate not only your expertise in the topic, but also your capacity to think in new and creative ways about the topic and your ability to work openly and collaboratively with researchers and stakeholders from radically different backgrounds. While you need a point of view, if you use your application to promote a set approach or research agenda, NSF will likely conclude that you are unlikely to be open to new ideas. NSF will also look at your track record in collaborating with others outside your discipline. If you don't yet have that track record, considering exploring some small interdisciplinary projects that will result in joint publications that will help you make that case.

You should also honestly assess your comfort with the Ideas Lab process. Scientists and engineers are natural skeptics, and most of us have participated in unproductive “brainstorming” or “networking” sessions. While at first glance Ideas Labs look similar to these kinds of sessions, they are more structured and have yielded promising results. However, if the thought of a five-day workshop devoted to developing “out-of-the box” ideas sounds excruciating to you, you may not want to apply to participate. On the other hand, if you are intrigued, think you have something to contribute, and embrace the opportunity to integrate new perspectives on your research topic, you may find participating in an Ideas Lab a stimulating and rewarding experience as well as a path to NSF funding.

**Other Resources**

- A case study of an NSF Ideas Lab (article by T. Collins, M. Kearney and D. Maddison)
- Report by Rand Europe: Alternatives to Peer Review in Research Project Funding 2013 Update

Past NSF Sandpit or Ideas Lab Solicitations/Dear Colleague Letters:

- New Directions in Synthetic Biology (NSF BIO and UK-EPSRC, April 2009)
- Innovations in Biological Instrumentation and Visualization (NSF BIO, May 2010)
• Surpassing Evolution: Transformative Approaches to Enhance the Efficiency of Photosynthesis (NSF BIO and UK-BBSRC, September 2010)
• Assembling, Visualizing, and Analyzing the Tree of Life (NSF BIO, August 2011)
• Nitrogen Utilization in Plants (NSF BIO and UK-BBSRC, December 2012)
• Data-Intensive Research to Improve Teaching and Learning – An Ideas Lab to Foster Transformative Approaches to Teaching and Learning (NSF EHR, October 2013)
• Phase I Ideas Labs on Undergraduate STEM Education (NSF EHR, BIO, ENG, GEO, March 2014)

Projects and teams awarded out of the Nitrogen Utilization Ideas Lab
When it comes to the operational divisions of Health and Human Services, the elephant in the room is the National Institutes of Health (Grants By HHS Operating Division). However, in addition to NIH, ten other operating divisions under the HHS umbrella also fund extramural research, typically in the areas of biomedical and social and behavioral sciences. Obviously, this funding is overshadowed by NIH’s total funding, but it should not be ignored. For many faculty, particularly in the social and behavioral sciences, a close examination of the funding opportunities offered by these 10 operating divisions will open up new avenues of research funding.

Each of these 10 operating divisions publishes opportunities for research contacts, discretionary grants, and, in some cases, unsolicited grants. Funding opportunities for these divisions are published on Grants.gov, but in most cases it is simpler to track these funding opportunities on the specific division’s website, as listed in the below table. In many cases, RSS feeds and email alerts are available. Moreover, as the below links show, these divisions do a good job of providing information on available funding, how to write a strong application, the review process, and either the division’s strategic plan or a goals and mission statement that can help you write an application demonstrating the value-added benefits of your research to the division’s mission. The below links offer an opportunity to expand your funding domain and are well worth exploring.

### Key URLs of HHS Operating Divisions Funding Extramural Grants

<table>
<thead>
<tr>
<th>Administration for Children and Families (ACF)</th>
<th>The Administration for Children &amp; Families promotes the economic and social well-being of families, children, individuals and communities through a range of educational and supportive programs in partnership with states, tribes, and community organizations.</th>
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<tbody>
<tr>
<td>Funding Opportunities</td>
<td>Administration for Community Living (ACL)</td>
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<tr>
<td>Write a Strong Application</td>
<td>The Administration for Community Living brings together the efforts of the Administration on Aging and the Administration on Intellectual and Developmental Disabilities to increase access to community support and resources for the unique needs of older Americans and people with disabilities across the lifespan.</td>
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<tr>
<td>The Review Process</td>
<td>Strategic Plan</td>
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<tr>
<td>Strategic Plan</td>
<td>Agency for Healthcare Research and Quality (AHRQ)</td>
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<tr>
<td>The Agency for Healthcare Research and Quality, as part of the Public Health Service, is responsible for supporting research designed to improve the quality of healthcare, reduce its costs, address patient safety and medical errors, and broaden access to essential services.</td>
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<tr>
<td>Funding Opportunities</td>
<td>Strategic Plan</td>
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<tr>
<td>Write a Strong Application</td>
<td>Agency for Toxic Substances and Disease Registry (ATSDR)</td>
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<tr>
<td>The Agency for Toxic Substances and Disease Registry, as part of the Public Health Service, is charged with the prevention of exposure to</td>
<td>The Review Process</td>
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<td>Strategic Plan</td>
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<td>Funding Opportunities</td>
<td>Funding Opportunities</td>
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<tr>
<td><strong>Centers for Disease Control and Prevention (CDC)</strong></td>
<td>toxic substances and the prevention of the adverse health effects and diminished quality of life associated with exposure to hazardous substances from waste sites, unplanned releases, and other sources of pollution present in the environment.</td>
</tr>
<tr>
<td>Funding Opportunities</td>
<td>The Centers for Disease Control and Prevention, as part of the Public Health Service, is charged with protecting the public health of the Nation by providing leadership and direction in the prevention of and control of diseases and other preventable conditions, and responding to public health emergencies. The <strong>NIOSH</strong> Office of Extramural Research and Training Programs (<strong>Research Strategic Plan</strong>).</td>
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<td>HIOSH Research &amp; Training</td>
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<tr>
<td>CDC Research Resources</td>
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<td>CDC Peer Review Policy</td>
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<td>Write a Strong Application</td>
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<td>CDC RSS Feeds</td>
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<td><strong>Centers for Medicare &amp; Medicaid Services (CMS)</strong></td>
<td>Generally, the Agency's extramural research and demonstration activities, such as evaluations, demonstration implementation, and research studies, are funded through contracts. CMS awards grants and cooperative agreements under certain specific, focused programs, such as Historically Black Colleges and Universities, Hispanic research organizations and earmarks mandated by Congress.</td>
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<td>Extramural Research Grants</td>
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<td>HBCU Grant Program</td>
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<td>Hispanic Health Research Grants</td>
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<td>Other CMS Grant Opportunities</td>
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<td>Author's Guidelines for Grants</td>
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<tr>
<td>Unsolicited Grants Guidelines</td>
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<tr>
<td><strong>Food and Drug Administration (FDA)</strong></td>
<td>The Food and Drug Administration (FDA), as part of the Public Health Service, is charged with ensuring that food is safe, pure, and wholesome; human and animal drugs, biological products, and medical devices are safe and effective; and electronic products that emit radiation are safe.</td>
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<tr>
<td>Research at FDA</td>
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<td>FDA Grant Opportunities</td>
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<tr>
<td><strong>Health Resources and Services Administration (HRSA)</strong></td>
<td>The Health Resources and Services Administration (HRSA), an agency of the U.S. Department of Health and Human Services, is the primary Federal agency for improving access to health care services for people who are uninsured, isolated or medically vulnerable. HRSA makes <strong>grants</strong> to organizations to improve and expand health care services for underserved people.</td>
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<td>Grant Opportunities</td>
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<td>How to Apply For A Grant</td>
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<td>Write a Strong Application</td>
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<td>Tips for Writing a Grant</td>
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<td>Ten Tips for a Strong Application</td>
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<tr>
<td>Understand the Review Process</td>
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<tr>
<td><strong>Indian Health Service (IHS)</strong></td>
<td>The Indian Health Service, as part of the Public Health Service, provides a comprehensive health services delivery system for American Indians and Alaska Natives, with opportunity for maximum tribal involvement in developing and managing programs to meet their health needs.</td>
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<td>Grants Management</td>
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<td>Application Submission Process</td>
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<td>Grants Forecast</td>
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<tr>
<td><strong>Substance Abuse and Mental Health Services Administration (SAMHSA)</strong></td>
<td>The Substance Abuse and Mental Health Services Administration, a part of the Public Health Service, provides national leadership to ensure that knowledge acquired is effectively used for the prevention and treatment of addictive and mental disorders. It strives to improve access and reduce barriers to high quality, effective programs and services for individuals who suffer from or are at risk for these disorders, as well as for their families and communities.</td>
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<tr>
<td>Fiscal Year 2014 Grants</td>
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<td>Applying for a SAMHSA Grant</td>
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<td>Grant Review Process</td>
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<td>Grant Review Opportunities</td>
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Avoid Placing a Cognitive Tax on Your Narrative

In the seemingly eternal debate that occurs with each new release or upgrade of Microsoft Windows, there is much discussion about the enormous “cognitive burden” or “cognitive tax” unnecessarily imposed on users of Windows 8. This issue has apparently resonated to the point that a fall release of Windows 9.0 removing this “cognitive burden” may be in the works. Many who write proposals or give grant-writing presentations may have personally experienced this “cognitive tax” in numerous forms, under the software theory, or, as some may say, “software bloat,” that if 500 document formatting options are good, then 10,000 options must be better.

Regardless, those writing the research narrative, i.e., the project description, of a proposal will likewise want to avoid imposing a “cognitive burden” or “cognitive tax” upon the reader, particularly upon reviewers and program officers charged with making funding decisions. What, you may ask, are these “cognitive burdens” or “cognitive taxes” that writers may impose on reviewers and program officers? Well, a good place to start is to “round up the usual suspects,” as Captain Louis Renault ordered his investigating officers to do in the movie Casablanca.

Keep in mind, a narrative cognitive burden on the reader can take many forms, often in combination with each other. For example, an all too common cognitive burden is the toxic combo imposed on the reader by (a) a narrative mired in technical minutia (b) presenting an “unguided” cascade of undifferentiated data or preliminary results to the reader (c) written by a team of authors who produce proposal sections seemingly disconnected from each other (d) formatted under the assumption that the solicitation imposed an unrealistically low page count on the narrative, thereby (e) justifying the use of the smallest allowable font, elimination of all white space and paragraph breaks, and, if visuals are used, (f) reducing them to illegible postage stamp size, thereby presenting the reader with a Rorschach test rather than useful information. The reviewers’ likely interpretation of such a test is “Do not fund this proposal!”

Keep in mind that your fundamental goal in writing the narrative is to convince the reviewers to fund your project. You must tell reviewers a compelling and persuasive tale by leading them along a narrative path that takes them exactly to the place you want them to go—a positive funding decision. How well you perform your role as the “reviewers’ guide” to your proposed research is critical to your funding success. Of course, this presupposes that, as you organize and draft the narrative, you know where you are going and how you plan to get there.

However, if you harbor any uncertainty or lack of clarity about the vision, goals, objectives, and rationale of your proposed research, that uncertainty must be resolved before you can successfully serve as the “reviewers’ guide.” A lack of convincing clarity in the research narrative is most often precipitated by a poorly organized proposal. A poorly organized narrative imposes a major “cognitive burden” on the reader. A poorly organized proposal takes readers on a confusing and meandering journey that leaves them confused about where they are going and why, about what is important and what is not, about the logic and rationale of
the journey, and, ultimately, about why they should pay the “cognitive tax” required to take this journey with you rather than just setting your proposal aside.

The final research narrative, a least a successful one, will have gone through a process of continuous improvement through many draft iterations and reviews. Moreover, it is the wise author that asks others to review the proposal and comment during the final stages of proposal production. One of the key questions to ask those who may review your proposal is whether or not the proposal as a whole or the proposal in any section or paragraph imposes a “cognitive tax” or a “cognitive burden” on them as a reader and keeps them from clearly understanding why your research is important and why it should be funded. If these colleagues flag parts of your proposal as imposing these taxes on them, you can assume it will also impose such a tax on reviewers and program officers. After all, your goal in the narrative is to “amp up” reviewers’ enthusiasm for your research, not to suffocate it by making them struggle under a heavy cognitive tax burden that leaves them mentally spent and uncertain of the value of your research.
Research Grant Writing Web Resources

HHS Grants Forecast
The Department of Health and Human Services' Grants Forecast is a database of planned grant opportunities proposed by its agencies. Each Forecast record contains actual or estimated dates and funding levels for grants that the agency intends to award during the fiscal year. Forecast opportunities are subject to change based on enactment of congressional appropriations. When funding is available and an agency is ready to accept applications, the agency will issue an official notice, known as a Funding Opportunity Announcement (FOA), which will be available on Grants.gov. The FOA provides guidance on how to receive an application kit and instructions on how to apply.

CDC RSS Feeds
Stay updated with new content from the CDC. From this page you can subscribe to CDC or other US Government RSS feeds or view their contents directly on this page without having to use an aggregator. New to RSS? See Podcast Help and RSS Help.

Dissemination to Implementation at NIH
NIH Institutes and Centers (ICs) have been collaborating to promote the science of dissemination and implementation. Multiple ICs participate in a program to encourage research in this area and have issued a program announcement. In addition, OBSSR, in collaboration with National Cancer Institute, the National Institute on Mental Health, and the Veterans Health Administration support a summer institute to train junior scholars on the science of dissemination and implementation. The science of dissemination and implementation holds considerable promises for advancing our goals of longer healthier lives. Developing the new literature into a robust body of evidence-based research will take time, but will ultimately help us reach our goal of improving the nation’s health and well-being.

Insider Tips to Boost your Chance of Funding Success at NIH

By Amy C. Lossie and Wendy Nilsen On February 3, 2014

As current NIH Scientific Staff, we cannot stress enough the importance of engaging NIH Program Officers when developing grant applications. Their perspective is invaluable. Here we elaborate on, and encourage you to follow these four tips to increase your likelihood of funding success:

- Find the right fit: Spend time finding a Program Officer who is excited about your research.
- Cultivate a relationship: Develop a working relationship with your Program Officer; make sure they know who you are.
- Develop a sound strategy: Cultivate your relationship BEFORE you submit your application.
Learn by listening: Program Officers take the pulse on the reviewers. They hear their comments and can provide invaluable advice on experimental design and grantsmanship.

What do NIH Program Officers do?
NIH Program Officers administer scientific programs, oversee grant portfolios and are advocates for their scientific areas. While they do not make funding decisions, they attend a range of scientific activities that include review sessions, council meetings and conferences. As a result, their feedback to investigators is informed by intimate knowledge of the system, their IC and scientific areas of expertise (including unpublished work), and knowledge of what reviewers are saying during study section. Below are suggestions to help you find and engage a Program Officer that’s right for you.

Step 1: Find an NIH Program Officer
Each Program Officer has a unique research portfolio and a different philosophy about how to achieve the goals of their portfolio. Some specialize in specific research topics, others seek certain types of studies, and some prefer to work with investigators developing new technologies.
Finding the Program Officer that matches you and your research is critical. Here are some ideas for locating the right person:

- Talk to colleagues about their program officers
- Explore the websites of NIH Institutes or Centers that are closely aligned with your research
- Locate names of NIH Program officers in section 7 of the Funding Opportunity Announcement (FOA)
- Scour RePORTER for similar topics or studies, and find out who administers their grant
- Seek out NIH Program Officers at scientific meetings

Step 2: Make the Connection
Once you have identified a possible Program Officer, send an introductory email with a one-page concept paper. Introduce yourself and your project and request a time to connect. If a week goes by without a response, follow up with a second email; Program Officers are inundated with similar requests and your message may have been missed. If your second message does not receive a response, consider approaching another NIH Program Officer. Ideally, you want to find someone that is excited by your work.

Step 3: Get to Work
Once your call with a Program Officer is scheduled, prepare your questions in advance. Ask them their thoughts on your overarching Scientific Question, your Hypothesis, Innovation and Significance, and Scientific Approach. Also ask if they are the best person for this type of research or if someone else is a better fit.
Program Officers can advise you regarding:

- An Institute or Center’s potential enthusiasm about your research area
The fit of your potential application topic with their portfolio
- The appropriate funding announcement through which to apply
- Requirements for special areas, such as human subjects and vertebrate animal research
- The appropriate study section to request in your cover letter

Things to Avoid
As you’re navigating this relationship, keep in mind that NIH has very strict conflict of interest regulations. Avoid offering a Program Officer any favors, even if they are common in other settings (e.g., offering to pay for a meal or even a cup of coffee). Also remember that the NIH runs on a peer review system and it is unlikely that a Program Officer will be able to advocate for proposals that have not gone through that system. It is usually best to avoid proposing activities that are out of the ordinary.

Increased Success
NIH Program Officers understand the importance of developing working relationships with members of the scientific community. Knowing and interacting with your Program Officer is a key to increasing your chances of funding success. A Program Officer’s job is to grow the science in their portfolio. By respectfully using their knowledge and skills, you significantly increase your chances of becoming part of that success.
**Educational Grant Writing Web Resources**

(Back to Page 1)

**Technical Assistance Webinar Resources: NIH BUILD, NRMN, and CEC**

NIH held a technical assistance webinar for the Diversity FOAs in January 2014. You can view recordings of the webinar and download the webinar slides using the links below. BUILD, NRMN, and CEC are highly integrated; therefore, we encourage potential applicants to be familiar with all three initiatives, as well as the overall program goals discussed in the background section.

- Video 1: [Introductions and Background](#)
- Video 2: [BUILD](#)
- Video 3: [NRMN](#)
- Video 4: [CEC](#)

View the webinar [slides](#)

**Digest of Education Statistics, 2012**

The 48th in a series of publications initiated in 1962, the Digest's purpose is to provide a compilation of statistical information covering the broad field of education from prekindergarten through graduate school. The Digest contains data on a variety of topics, including the number of schools and colleges, teachers, enrollments, and graduates, in addition to educational attainment, finances, and federal funds for education, libraries, and international comparisons.

**Inspiring STEM Learning**

NSF's Directorate for Education & Human Resources has issued an 8 page brochure entitled Inspiring STEM Learning that highlights diverse STEM learning projects awarded through EHR.

**The Condition of STEM 2013**

The Condition of STEM 2013 reviews the 2013 graduating class in the context of STEM (Science, Technology, Engineering, Mathematics)-related fields to determine student interest levels in specific STEM fields and, more importantly, readiness in math and science of those interested in STEM careers. The report reveals an untapped pool of students who have an interest in STEM areas (science, technology, engineering, and mathematics) but are not planning to pursue a STEM career as they prepare for the future. The data point to a gap between interests and intentions that, if addressed, could help put more students on the path to STEM careers.

**Characteristics of Schools Successful in STEM: Evidence from Two States' Longitudinal Data**

Current federal education policies promote learning in Science, Technology, Engineering, and Math (STEM) and the participation of minority students in these fields. Using longitudinal data on students in Florida and North Carolina, value-added estimates in math and science are generated to categorize schools into performance levels and identify differences in school STEM measures by performance levels. Several STEM-relevant variables show a significant association with effectiveness in math and science, including STEM teacher turnover, calculus and early algebra participation, and math and science instructional indices created from survey...
items in the data. Surprisingly, a negative association between students' STEM course participation and success in STEM is consistently documented across both states, in addition to low participation of underrepresented minority students in successful schools in STEM.

**Expanding Access to STEM-Focused Education: What Are the Effects?**

Calls for broadening the population of students motivated and prepared to pursue STEM studies, with an aim ultimately to impact the country’s competitiveness, have been frequent and widespread, including Prepare and Inspire: K-12 Education in STEM for America’s Future from the President's Council of Advisors in Science and Technology (PCAST, 2010), Building a STEM Agenda (National Governors’ Association, 2007), and Rising Above the Gathering Storm (National Academies, 2007). While publicly supported selective STEM high schools, such as the well-known Bronx High School of Science, have an extensive history of offering advanced course work and an emphasis on one or more STEM disciplines to a student body chosen through competitive examination or record of past performance (Hanford, 1997; Subotnik, Rayhack, & Edmiston, 2006), they do not meet this new need. These schools offer opportunities to develop deep expertise in STEM subject areas, but they do not expand the pipeline of students motivated and prepared for STEM majors in college or address the issues of economic competitiveness or educational equity.

To address this need, a number of private foundations and education policy groups have promoted the idea of addressing changing demographic trends and differences in subgroup STEM participation rates by creating a new type of specialized secondary school designed to inspire, engage, and educate as broad a population as possible in STEM-related fields (Carnegie Corporation, 2009; Means, Confrey, House, & Bhanot, 2008; Morrison & Bartlett, 2009). These are inclusive STEM high schools. We define an inclusive STEM high school (ISHS) as a school, school-within-a-school, or multi-year school program accepting students primarily on the basis of interest rather than aptitude or prior achievement and giving them the mathematics and science preparation they need to succeed in postsecondary STEM majors and certification programs. ISHSs enroll students from groups underrepresented in STEM professions through an application process that does not require high test scores before high school entry (Means et al., 2008). Such schools are designed to develop students' STEM expertise rather than to select those students with prior demonstration of talent.

**CC. BetterLesson**

The National Education Association (NEA) and BetterLesson launch a new web site this month, cc.betterlesson.com/mtp. The site, where teachers share what works in the classroom, features more than 3,000 classroom-ready lessons that are easily accessible and can be integrated into any curriculum. This new BetterLesson product was built entirely for the Common Core State Standards (CCSS) and features the lessons of 130+ Master Teachers (MTs), who represent every K-12 grade level for math and English Language Arts & Literacy. This is one of several long-term partnerships NEA has pursued to support its members' professional development and leadership in the teaching practice; members have been recruited around the country to participate and develop comprehensive materials along with these partner organizations.
Mathematical Modeling in European Education
Teaching and learning of mathematical modeling has become a key competence within school curricula and educational standards in many countries of the world. The term mathematical modeling, its meaning, and how it can be implemented in mathematics lessons have been intensively discussed during several Conferences of the European Society for Research in Mathematics (CERME), particularly in the last few years. The aim of the article is to show the similarities and the differences in the teaching and learning of mathematical modeling within education in Europe.

A Primer for Mathematical Modeling
With the implementation of the National Council of Teachers of Mathematics recommendations and the adoption of the Common Core State Standards for Mathematics, modeling has moved to the forefront of K-12 education. Modeling activities not only reinforce purposeful problem-solving skills, they also connect the mathematics students learn in school with the mathematics they will use outside of school. Instructors have found mathematical modeling difficult to teach. To successfully incorporate modeling activities curricular changes should be accompanied by professional development for curriculum developers, classroom teachers, and higher education professionals. This article serves as an introduction to modeling by defining mathematical modeling, outlining the steps to construct a model, and providing an example that illustrates the iterative non-linear process. Key to teaching modeling is the ability to understand how the modeling process differs from problem solving activities, which this article discusses. This article describes the benefits and challenges of incorporating mathematical models. The overarching aim of this article is to serve as a primer to aid with the implementation of curricular reforms that call for an increased focus on modeling activities.

Mathematical Modeling, Sense Making, and the Common Core State Standards
On October 14, 2013 the Mathematics Education Department at Teachers College hosted a full-day conference focused on the Common Core Standards Mathematical Modeling requirements to be implemented in September 2014 and in honor of Professor Henry Pollak’s 25 years of service to the school. This article is adapted from the conference covering Mathematical Modeling in the Common Core.

Sharing Our Journey To Improve Mathematics and Science Education
We could have done as we had done before: finish a project and immediately start working on the next. But this one was not like any other we have worked on before. This project was about learning with understanding and the most ambitious project we have ever embarked. Along with five core partners we worked intensely with 155 K-12 schools offering math and science (M&S) professional development (PD) to teachers from these and other nearby schools and creating 28 professional resource centers to enhance mathematics and science education. Everybody in this project learned about mathematics and science, about the process of learning mathematics and science, and about how to create effective environments to support this learning. On our seventh year of work we are delighted with what we have achieved together. Furthermore, we are joyful that we are able to share our experiences during this voyage with
the intention of helping others that might want to undertake a similar journey and want to hear
about the process, and not just about the end product that normally only presents the end
result and what was successful.
NIH FY2013 By The Numbers: Research Applications, Funding, and Awards (NIH Data Book)

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<tr>
<td>The overall success rate for competing research project grants (RPGs)</td>
<td>17.6%</td>
<td>16.8%</td>
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<tr>
<td>The average size* of RPGs</td>
<td>$454,588</td>
<td>$441,404</td>
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<tr>
<td>The average size* of RPGs in constant (1999) dollars is the lowest ever since 1999.</td>
<td>$290,869</td>
<td>$277,653</td>
</tr>
<tr>
<td>In 2013, there was a decrease in the total amount of funding that went to RPGs.</td>
<td>$15,923,746,065</td>
<td>$14,917,675,859</td>
</tr>
<tr>
<td>NIH received fewer R01-equivalent grant applications.</td>
<td>29626</td>
<td>28044</td>
</tr>
<tr>
<td>Success rates for R01-equivalent applications decreased.</td>
<td>18.4%</td>
<td>17.5%</td>
</tr>
<tr>
<td>The average size* of R01-equivalent awards decreased.</td>
<td>$419,321</td>
<td>$405,874</td>
</tr>
<tr>
<td>The number of R01-equivalent awards decreased.</td>
<td>5436</td>
<td>4902</td>
</tr>
<tr>
<td>R01-equivalents made up a slightly smaller percentage of the total number of RPG awards.</td>
<td>60.2%</td>
<td>59.0%</td>
</tr>
<tr>
<td>NIH received fewer R21 grant applications.</td>
<td>13,743</td>
<td>13,229</td>
</tr>
<tr>
<td>Success rates for the R21 decreased.</td>
<td>14.1%</td>
<td>13.4%</td>
</tr>
<tr>
<td>The number of R21 awards decreased</td>
<td>1,932</td>
<td>1,771</td>
</tr>
<tr>
<td>R21s made up the same percentage of the total number of RPG awards.</td>
<td>21.4%</td>
<td>21.3%</td>
</tr>
<tr>
<td>The total number of research grant applications received by NIH decreased.</td>
<td>63,524</td>
<td>61,013</td>
</tr>
</tbody>
</table>

**Hannah Valantine, M.D., named NIH’s first Chief Officer for Scientific Workforce Diversity**
Following a nationwide search, National Institutes of Health Director Dr. Francis S. Collins, M.D., Ph.D., has appointed Hannah Valantine, M.D., to the permanent position of Chief Officer for Scientific Workforce Diversity. Dr. Valantine will lead NIH’s effort to diversify the biomedical research workforce by developing a vision and comprehensive strategy to expand recruitment and retention, and promote inclusiveness and equity throughout the biomedical research enterprise. Dr. Valantine is expected to begin her new role this spring. The appointment stems from a recommendation by the Biomedical Research Workforce Diversity Working Group of the Advisory Committee to the Director (ACD) that called for a newly created position entirely dedicated to diversity.

**Notice of Intent to Publish a Funding Opportunity Announcement for Predoctoral Training in Biomedical Big Data Science (T32)**
The NIH is announcing its intent to publish a Funding Opportunity Announcement (FOA) for graduate training programs in Big Data science, to train the next generation of scientists who
will develop computational and quantitative approaches and tools needed by the biomedical research community to work with biomedical Big Data. The aim of this initiative is to train a cadre of scientists who have the knowledge and skill sets in scientific disciplines relevant to Big Data Science in the biomedical sciences.

In this context, the term “Big Data” is used in the broadest sense to include biological, biomedical, behavioral, social, environmental, and clinical studies that relate to understanding health and disease. This predoctoral training initiative is different from most currently funded NIH training programs in that it will: (1) require that trainees to become proficient at the intersection of three scientific areas – computer science/informatics, statistics/mathematics, and biomedical science; (2) expect active participation of training faculty from all of these three scientific disciplines who will work collaboratively across disciplines as co-mentors of trainees in Big Data Science; and (3) develop the skills required to participate in a team approach to solving data-intensive biomedical problems, while also nurturing the skills necessary to be an independent investigator in Big Data science.

This Notice is being provided to allow potential applicants sufficient time to develop meaningful collaborations and responsive projects. The FOA is expected to be published in the spring of 2014 with an expected application due date in the summer of 2014.

DOJ Forthcoming Funding Opportunities
Typically, most of NIJ's solicitations are released December through April (pending appropriations from Congress). This preliminary list of solicitations will change over the coming weeks. When the solicitation is released, it will contain the name and contact information of the person managing the solicitation. To be fair and open in the competition, we do not discuss solicitations until they are published. Total funding for these solicitations will depend on the availability of funds. Find forthcoming solicitations in these areas:

- Forensic Sciences
- Social Sciences
- Physical Sciences and Technology
- Multi-disciplinary

Dear Colleague Letter: Cyberlearning Opportunities in the Directorate for Education and Human Resources (EHR)
Emerging technologies have the potential to transform learning opportunities, increase interest in learning, and enhance learning outcomes for people in the workforce and in every educational level and outside of formal education. NSF recently released the Cyberlearning and Future Learning Technologies (Cyberlearning) program solicitation (NSF 14-526) that states “The program has two goals: (1) to invent, explore, and learn to effectively use the new technologies that will address society’s educational goals and (2) to advance understanding of how people learn and how to better foster learning in the context of the new kinds of learning experiences that technology makes possible.” Cyberlearning is jointly managed by the Directorates for Computer and Information Science and Engineering; Education and Human Resources; Social, Behavioral and Economic Sciences; and Engineering.
The purpose of this DCL is to invite proposals that support the goals of the *Cyberlearning* program and do so in the context of the EHR programs listed below. EHR is particularly interested in projects that propose to design, develop, and evaluate technological resources, tools, and models for fostering and assessing STEM learning; to advance understanding of how to foster STEM learning; and to study the cognitive, social, cultural, neurobiological, volitional, epistemological, and other processes involved in such learning. EHR programs that accept proposals with cyberlearning components and features include:

- EHR Core Research (ECR)
- Advancing Informal STEM Learning (AISL)
- Discovery Research K-12 (DRK-12)
- Improving Undergraduate STEM Education (IUSE)
- Innovative Technology Experiences for Students and Teachers (ITEST)
- STEM-C Partnerships: Math and Science Partnership (MSP)
- Research on Education and Learning (REAL)
- Alliances for Graduate Education and the Professoriate (AGEP)
- Centers of Research Excellence in Science and Technology (CREST) and HBCU Research Infrastructure for Science and Engineering (RISE)
- Historically Black Colleges and Universities Undergraduate Program (HBCU-UP)
- Tribal Colleges and Universities Program (TCUP)

The above EHR programs also participate in NSF’s Foundation-Wide programs, which also welcome cyberlearning proposals: EAGER, RAPID, INSPIRE, and CAREER. Additional investments made in cyberlearning through targeted EHR programs will be coordinated with the *Cyberlearning* program and may involve joint post award activities and monitoring.

**Dear Colleague Letter: Preparing Applications to Participate in Phase I Ideas Labs on Undergraduate STEM Education**

The Directorate for Education and Human Resources has implemented a new program for “Improving Undergraduate STEM Education” (IUSE) through its Division of Undergraduate Education (EHR/DUE). The IUSE program description [PD 14-7513](http://example.com) outlines a broad funding opportunity to support projects that address immediate challenges and opportunities facing undergraduate science, technology, engineering, and math (STEM) education, as well as those that anticipate new structures and function of the undergraduate STEM learning and teaching enterprise. The IUSE program description creates an opportunity to submit unsolicited proposals across all topics and fields affecting undergraduate STEM education. It also includes an opportunity to participate in the first phase of three different Ideas Labs aimed at incubating innovative approaches for advancing undergraduate STEM education in three disciplines (biology, engineering, and the geosciences). These “IUSE Phase I Ideas Labs” will bring together relevant disciplinary and education research expertise to produce research agendas that address discipline-specific workforce development needs. The purpose of this Dear Colleague Letter is to provide additional information regarding the focus of the three Phase I Ideas Labs and guidance on preparing applications for community members seeking to participate in them.
Dear Colleague Letter: Cultural Anthropology Research Experience for Graduates (REG) and Research Experience for Undergraduates (REU) Supplements

To advance the integration of research and education, the Cultural Anthropology program of the National Science Foundation invites researchers holding existing NSF awards to request a Research Experience for Graduates (REG) or Research Experience for Undergraduates (REU) Supplement. This supplemental funding will provide up to $5,000 per REG student or $4,000 per REU student to support the cost of a Cultural Anthropology student’s closely mentored but independent research experience. Whether a REG or REU supplement request, the student's research should be his/her own research project; supplements are not intended to support clerical or research assistants to the PI. Supplements are also not intended to support language training except in the context of a research project. REG supplements are not intended to support dissertation fieldwork, nor will they be granted to support preliminary dissertation site visits in the absence of an independent research project. The purpose of the REG and REU supplements is to provide promising students in cultural anthropology opportunities for independent research while also encouraging PIs to mentor students in cooperative, collaborative activities.

Dear Colleague Letter: Opportunity for Support of Innovative Managing Director Models in I/UCRC Organizations

The National Science Foundation (NSF) invites supplemental funding requests from NSF Industry/University Cooperative Research Centers (I/UCRC). Cultivation and maintenance of trusted industry relationships as well as professional project management of the center's portfolio of activities are essential to I/UCRC member recruitment and retention and the growth of a strong and vibrant I/UCRC ecosystem. In recognition of the importance of these functions to center success, this opportunity provides support to assist centers in either creating and filling a new position of Innovative Managing Director or supporting an existing position in their leadership team with this function. However, centers that have received prior NSF supplemental funding to support the Innovative Managing Director position are not eligible to apply.
**Improved Regulations to Protect Human Research Subjects Would Reduce Burden on IRBs While Better Protecting Study Participants**

Proposed updates to federal regulations that protect human research subjects need additional clarification when applied to the social and behavioral sciences, says a new report from the National Research Council. The report reviews an Advance Notice of Proposed Rulemaking (ANPRM) from the U.S. Department of Health and Human Services (HHS), issued in July 2011 to strengthen protection for human subjects, and recommends how best to ensure those protections while promoting effective social and behavioral science research and also respecting the different contexts and processes of biomedical research.

Last updated in 1991, the Federal Policy for the Protection of Human Subjects, popularly known as the Common Rule, outlines basic regulations for participation of human subjects in biomedical and behavioral research. Since that update, however, rapid advances in technology and the increasing volume of data available on individuals have changed the landscape for investigators and Institutional Review Boards (IRBs). The ANPRM addresses how the Common Rule may need to be revised to more effectively protect research subjects and promote important research.

To first determine if research activities fall within the scope of the Common Rule, the report recommends that HHS define “human subjects research” as a systematic investigation designed to develop or contribute to generalizable knowledge that involves direct interaction or intervention with a living individual or that involves obtaining identifiable private information about an individual. Only research that fits this definition should be subject to IRB procedures and the Common Rule.

Building on this definition, HHS should also clarify that research which relies on publicly available information, information in the public domain, or information that can be observed in public contexts does not meet the definition of human subjects research -- regardless of whether the information is personally identifiable -- as long as individuals whose information is used have no reasonable expectation of privacy. This includes digital data, some types of administrative records, and public-use data files that have been certified as protected against disclosure. Once defined as “human subjects research,” studies should be put in one of three review categories — excused research, expedited review, or full review — already outlined in the ANPRM.

**The Forensic Technology Center of Excellence (FTCoE) Executive Summary for 2013**

The Forensic Technology Center of Excellence (FTCoE) assists the National Institute of Justice (NIJ) in defining program objectives, assessing ongoing research and development (R&D) projects, finding relevant technology efforts for NIJ collaboration, and participating in national and regional groups that support the adoption of technology. The FTCoE conducts relevant, focused studies to support program development and participates in relevant technical conferences and symposia.
Sustainable Diets: Food for Healthy People and a Healthy Planet: Workshop Summary
One of the many benefits of the U.S. food system is a safe, nutritious, and consistent food supply. However, the same system also places significant strain on land, water, air, and other natural resources. A better understanding of the food-environment synergies and trade-offs associated with the U.S. food system would help to reduce this strain. Many experts would like to use that knowledge to develop dietary recommendations on the basis of environmental as well as nutritional considerations. But identifying and quantifying those synergies and trade-offs, let alone acting on them, is a challenge in and of itself. The difficulty stems in part from the reality that experts in the fields of nutrition, agricultural science, and natural resource use often do not regularly collaborate with each other, with the exception of some international efforts.

Sustainable Diets is the summary of a workshop convened by The Institute of Medicine's Food Forum and Roundtable on Environmental Health Sciences, Research, and Medicine in May 2013 to engender dialogue between experts in nutrition and experts in agriculture and natural resource sustainability and to explore current and emerging knowledge on the food and nutrition policy implications of the increasing environmental constraints on the food system. Experts explored the relationship between human health and the environment, including the identification and quantification of the synergies and trade-offs of their impact. This report explores the role of the food price environment and how environmental sustainability can be incorporated into dietary guidance and considers research priorities, policy implications, and drivers of consumer behaviors that will enable sustainable food choices.

STEM Integration in K-12 Education: Status, Prospects, and an Agenda for Research
Leaders in business, government, and academia assert that education in the STEM subjects (science, technology, engineering, and mathematics) is vital not only to U.S. innovation capacity but also as a foundation for successful employment, including (but not limited to) work in the STEM fields. K-12 STEM education, including standards and assessments, has tended to focus on the individual subjects, most often science and mathematics. The T and E of STEM have received relatively little attention. However, recent reform efforts, like the Next Generation Science Standards (NGSS), are stressing STEM connections - in the case of NGSS, between science and engineering.

STEM Integration in K-12 Education examines current efforts to connect the STEM disciplines in K-12 education. This report identifies and characterizes existing approaches to integrated STEM education, both in formal and after- and out-of-school settings. The report reviews the evidence for the impact of integrated approaches on various student outcomes, and it proposes a set of priority research questions to advance the understanding of integrated STEM education. STEM Integration in K-12 Education proposes a framework to provide a common perspective and vocabulary for researchers, practitioners, and others to identify, discuss, and investigate specific integrated STEM initiatives within the K-12 education system of the United States.

STEM Integration in K-12 Education makes recommendations for designers of integrated STEM experiences, assessment developers, and researchers to design and document effective integrated STEM education. This report will help to further their work and improve the chances
that some forms of integrated STEM education will make a positive difference in student learning and interest and other valued outcomes.

**Frontiers of Engineering: Reports on Leading-Edge Engineering from the 2013 Symposium**

This volume presents papers on the topics covered at the National Academy of Engineering's 2013 US Frontiers of Engineering Symposium. Every year the symposium brings together 100 outstanding young leaders in engineering to share their cutting-edge research and innovations in selected areas. The 2013 symposium was held September 19-21 and was hosted by DuPont in Wilmington, Delaware. The topics covered at the 2013 symposium were: designing and analyzing societal networks; cognitive manufacturing: energy: reducing our dependence on fossil fuels; and flexible electronics. The intent of this book is to convey the excitement of this unique meeting and to highlight innovative developments in engineering research and technical work.

**2013-2014 Assessment of the Army Research Laboratory: Interim Report**

The National Research Council's Army Research Laboratory Technical Assessment Board provides biennial assessments of the scientific and technical quality of the research, development, and analysis programs at the Army Research Laboratory, focusing on ballistics sciences, human sciences, information sciences, materials sciences, and mechanical sciences. This interim report summarizes the findings of the Board for the first year of this biennial assessment. During the first year the Board examined the following elements: within ballistics sciences, terminal ballistics; within human sciences, translational neuroscience and soldier simulation and training technology; within information sciences, autonomous systems; and within materials sciences, energy materials and devices, photonic materials and devices, and biomaterials. The review of autonomous systems included examination of the mechanical sciences competency area for autonomous systems. A second, final report will subsume the findings of this interim report and add the findings from the second year of the review, during which the Board will examine additional elements.
New Funding Opportunities

Content Order
New Funding Posted Since January 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.]

New Funding Solicitations Posted Since January 15 Newsletter

**Vehicles Technologies Incubator, National Energy Technology Laboratory, DE-FOA-0000988**
The DOE Office of Energy Efficiency and Renewable Energy or EERE is an organization focused on achieving aggressive and well defined mid to long term clean energy goals for the United States of America. In that context, EERE has established multiyear plans and roadmaps. EERE focuses the majority of its resources on a limited number of highest probability of success pathways approaches to ensure that the program initiatives are supported at a critical mass both in terms of dollars and time for maximum impact. This roadmap based approach is one of EERE's greatest strengths, which can create challenges in recognizing and exploring unanticipated, game changing pathways or approaches which may ultimately be superior to the pathways or approaches on our existing roadmaps. To enhance the responsiveness of the roadmap approach, EERE is issuing Incubator Funding Opportunity Announcements or FOAs within its existing Offices and programs to support innovative technologies and solutions that could help meet existing goals but are not represented in a significant way in the Offices existing Multi Year Program Plans or MYPPs or current portfolios. The Incubator programs will allow EERE to assess new technologies for their potential to be ramped to future MYPPs. Successful incubator projects will reduce the risk associated with potentially breakthrough approaches and technologies so that they could be viable candidates for inclusion in future program roadmaps. DOE?s Vehicle Technologies Office or VTO develops and deploys efficient and environmentally friendly highway transportation technologies that will enable America to use less petroleum. These technologies will provide Americans with greater freedom of mobility and energy security, while lowering costs and reducing impacts on the environment. **Due February 28.**

**Pre-proposals for Conservation Innovation Grants**
The U.S. Department of Agriculture (USDA) is accepting applications for competitive grants to develop and accelerate conservation approaches and technologies on private agricultural and forest lands. "**Conservation Innovation Grants** (CIGs) have contributed to some of the most pioneering conservation work on America's agricultural and forest lands," said Agriculture Secretary Tom Vilsack. "It's an excellent investment in new conservation technologies and
approaches that farmers, ranchers and forest landowners can use to achieve their production and conservation goals." Due March 7.

Hispanic-Serving Institutions (HSI) Education Grants Program USDA-NIFA-HSI-004449
This competitive grants program is intended to promote and strengthen the ability of Hispanic-Serving Institutions to carry out higher education programs in the food and agricultural sciences. Programs aim to attract outstanding students and produce graduates capable of enhancing the Nation's food and agricultural scientific and professional work force. Due March 13.

Big Mechanism Defense Advanced Research Projects Agency DARPA-BAA-14-14
DARPA is soliciting innovative research proposals in the area of reading research papers and abstracts to construct and reason over explanatory, causal models of complicated systems. Proposed research should investigate innovative approaches that enable revolutionary advances in science, devices, or systems. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice. This broad agency announcement (BAA) is being issued, and any resultant selection will be made, using procedures under Federal Acquisition Regulation (FAR) 35.016. Any negotiations and/or awards will use procedures under FAR 15.4 (or 32 CFR 22 for grants and cooperative agreements). Proposals received as a result of this BAA shall be evaluated in accordance with evaluation criteria specified herein through a scientific review process. Due March 18.

Fiscal Year 2014 Pollution Prevention Grant Program EPA-HQ-OPPT-2014-002
EPA releases Pollution Prevention (P2) grant funds to states and tribal government entities to deliver technical assistance and training to businesses. The intent of this effort is to assist state and tribal governments to encourage businesses to adopt environmental strategies and solutions that significantly reduce or eliminate waste from the source. EPA anticipates it will award approximately $4.1 million in program funding during Fiscal Year (FY) 2014 to states and tribes. P2 grants will be awarded in the form of grants and/or cooperative agreements. All awards will be issued and managed by EPA’s Regional Pollution Prevention Program Offices (herein referred to as the Regions). The amount of grant funding available is dependent upon Congressional appropriation and the quality of proposals received. Due March 20.

U.S. Nuclear Regulatory Commission Funding Opportunity Announcement, Trade School and Community College Scholarship Grant, Fiscal Year 2014 NRC-HQ-84-14-FOA-0001
The U.S. Nuclear Regulatory Commission (NRC) is an independent agency, established by the Energy Reorganization Act of 1974, tasked with licensing and regulating the Nation’s civilian use of byproduct, source, and special nuclear material to ensure adequate protection of public health and safety, to promote the common defense and security, and to protect the environment. The program provides funding to support scholarships for nuclear science, engineering, technology, and related disciplines to develop a workforce capable of supporting the design, construction, operation, and regulation of nuclear facilities and the safe handling of nuclear materials. Due March 31.
U.S. Nuclear Regulatory Commission Funding Opportunity Announcement (FOA), Faculty Development Grant, Fiscal Year 2014 NRC-HQ-84-14-FOA-0002
The U.S. Nuclear Regulatory Commission (NRC) is an independent agency, established by the Energy Reorganization Act of 1974, tasked with licensing and regulating the Nation’s civilian use of byproduct, source, and special nuclear material to ensure adequate protection of public health and safety, to promote the common defense and security, and to protect the environment. This program provides funding to support nuclear science, engineering, and related disciplines to develop a workforce capable of supporting the design, construction, operation, and regulation of nuclear facilities and the safe handling of nuclear materials. This announcement is for faculty development grants. The objectives of the Faculty Development Program are to attract and retain highly-qualified individuals in academic teaching careers. The grants specifically target probationary, tenure-track faculty during the first 6 years of their career and new faculty hires in the following academic areas: Nuclear Engineering, Health Physics, Radiochemistry, Probability Risk Assessment (Levels 2 & 3) and related disciplines. Due March 31.

U.S. Nuclear Regulatory Commission Funding Opportunity Announcement, Scholarship and Fellowship Education Grant, Fiscal Year 2014. NRC-HQ-84-14-FOA-0003
The U.S. Nuclear Regulatory Commission (NRC) is an independent agency, established by the Energy Reorganization Act of 1974, tasked with licensing and regulating the Nation’s civilian use of byproduct, source, and special nuclear material to ensure adequate protection of public health and safety, to promote the common defense and security, and to protect the environment. This program provides funding to support nuclear science, engineering, and related disciplines to develop a workforce capable of supporting the design, construction, operation, and regulation of nuclear facilities and the safe handling of nuclear materials. This announcement is for scholarships and fellowships. Due March 31.

Courses for Skills Development in Biomedical Big Data Science (R25)
The NIH Research Education Program (R25) supports research education activities in the mission areas of the NIH. The goal of this Big Data to Knowledge (BD2K) Program is to support educational activities that complement and/or enhance the training of a workforce to meet the nation’s biomedical, behavioral and clinical research needs in Big Data Science. To this end, this FOA encourages the development of creative educational activities with a primary focus on Courses for Skills Development. LOI 30 days prior to application due dates of April 1, 2014, 2015, 2016.

Open Educational Resources for Biomedical Big Data (R25)
The NIH Research Education Program (R25) supports research education activities in the mission areas of the NIH. The goal of this funding opportunity announcement (FOA) is to complement and/or enhance the training of a workforce to meet the nation's biomedical, behavioral, and clinical research needs in utilizing Big Data. To this end, this funding opportunity announcement encourages the development of creative educational activities with a primary focus on Curriculum or Methods Development. In particular, this Big Data to
Knowledge (BD2K) FOA encourages R25 applications proposing the development of open educational resources (OER) for use by large numbers of learners at all career levels that enhance the ability of the workforce to use and analyze biomedical Big Data. **LOI 30 days prior to application due dates of April 1, 2014, 2015, 2016.**

**Secondary Education, Two-Year Postsecondary Education, and Agriculture in the K-12 Classroom Challenge Grants Program USDA-NIFA-SAEC-004424**
The Secondary Education, Two-Year Postsecondary Education, and Agriculture in the K-12 Classroom Challenge Grants (SPECA) program seeks to: (a) promote and strengthen secondary education and two-year postsecondary education in agriscience and agribusiness in order to help ensure the existence in the United States of a qualified workforce to serve the food and agricultural sciences system; and (b) promote complementary and synergistic linkages among secondary, two-year postsecondary, and higher education programs in the food and agricultural sciences in order to advance excellence in education and encourage more young Americans to pursue and complete a baccalaureate or higher degree in the food and agricultural sciences. **Due April 3.**

**National Center for Sustainable Water Infrastructure Modeling Research**
The Secondary Education, Two-Year Postsecondary Education, and Agriculture in the K-12 Classroom Challenge Grants (SPECA) program seeks to: (a) promote and strengthen secondary education and two-year postsecondary education in agriscience and agribusiness in order to help ensure the existence in the United States of a qualified workforce to serve the food and agricultural sciences system; and (b) promote complementary and synergistic linkages among secondary, two-year postsecondary, and higher education programs in the food and agricultural sciences in order to advance excellence in education and encourage more young Americans to pursue and complete a baccalaureate or higher degree in the food and agricultural sciences. **Due April 3.**

**USDA-NIFA-ICGP-004448 Organic Transitions Program**
The overall goal of the Organic Transitions Program (ORG) is to support the development and implementation of research, extension and higher education programs to improve the competitiveness of organic livestock and crop producers, as well as those who are adopting organic practices. In FY 2014, ORG will continue to prioritize environmental services provided by organic farming systems in the area of soil conservation and climate change mitigation, including greenhouse gases (GHG). Two new priorities have been added to support (1) the development of educational tools for Cooperative Extension personnel and other agricultural professionals who advise producers on organic practices and (2) the development of cultural practices and other allowable alternatives to substances recommended for removal from the National Organic Programs National List of Allowed and Prohibited Substances. Practices and systems to be addressed include those associated with organic crops, organic animal production, and organic systems integrating plant and animal production. **Due April 4.**

**DARPA - Information Innovation Office DARPA-BAA-14-21**
The Defense Advanced Research Projects Agency (DARPA) is soliciting proposals for innovative research to maintain technological superiority in the area of content indexing and web search on the Internet. Proposed research should investigate approaches that enable revolutionary advances in science, devices, or systems. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice. The Memex program envisions a new paradigm, where one can quickly and thoroughly organize a subset of the Internet relevant to one’s interests. Memex will address the inherent shortcomings of centralized search by developing technology for domain-specific indexing of web content and domain-specific search capabilities. Memex will develop technology to enable discovery, organization, and presentation of domain relevant content. The new search paradigm will provide fast, flexible, and efficient access to domain-specific content as well as search interfaces that offer valuable insight into a domain that previously remained unexplored. **Due April 8.**

**Higher Education Challenge Grants Program, NIFA USDA-NIFA-CGP-004425**
Projects supported by the Higher Education Challenge Grants Program will: (1) address a State, regional, national, or international educational need; (2) involve a creative or non-traditional approach toward addressing that need that can serve as a model to others; (3) encourage and facilitate better working relationships in the university science and education community, as well as between universities and the private sector, to enhance program quality and supplement available resources; and (4) result in benefits that will likely transcend the project duration and USDA support. **Due April 10.**

**Geothermal Play Fairway Analysis Golden Field Office — DE-FOA-0000841**
Reducing risk through improved drilling success rates is critical to securing financing and ultimately lowering overall costs for developing geothermal power projects. This success hinges on knowledge of the geological, geophysical, and geochemical characteristics that indicate geothermal favorability; along with improved coverage of data that are signatures of the key properties of temperature, permeability, and fluid. To this end, GTO is interested in projects that apply innovative exploration technologies to collect new data and/or apply new analysis methods to extract new value from data. Successful applications will focus on one of the regions identified in GTOs Data Gap Analysis, and include a significant component of uncertainty analysis that directly demonstrates potential or real impact on success rates. Projects should lead to the development of a Geothermal Play Fairway, which details a specific region constrained through a favorable combination of structural and hydrological conditions. **Due April 11.**

**DE-FOA-0000996 - Renewable Carbon Fibers Golden Field Office**
The objective of the FOA is to identify and develop a cost-competitive technology pathway to high performance carbon fibers using biomass as a starting raw feedstock and biomass derived ACN (bio-ACN) as a target product. The goal is to produce bio-ACN at a modeled cost of $1.00/lb to enable the overall manufacturing of carbon fiber at $5.00/lb by 2020. The full Funding Opportunity Announcement (FOA) is posted on the EERE eXCHANGE website at [https://eere-exchange.energy.gov](https://eere-exchange.energy.gov). Applications must be submitted through the EERE
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eXCHANGE website to be considered for award. The applicant must first register and create an account on the EERE eXCHANGE website. A User Guide for the EERE eXCHANGE can be found on the EERE website https://eere-exchange.energy.gov/Manuals.aspx after logging in to the system. Information on where to submit questions regarding the content of the announcement and where to submit questions regarding submission of applications is found in the full FOA posted on the EERE eXCHANGE website. **LOI March 3; full April 11.**

**National Center for Sustainable Water Infrastructure Modeling Research**
The U.S. Environmental Protection Agency (EPA), as part of its Science to Achieve Results (STAR) program, is seeking initial applications proposing the creation of a National Center for Sustainable Water Infrastructure Modeling Research (Center) that facilitates technology transfer of open source water infrastructure models and shares green infrastructure tools and research advancements with local communities and stakeholders. EPA will review the initial applications based on the initial application review criteria in Section V and the submitters of the highest-ranked initial applications will be asked to submit full applications. Prior to submitting full applications, finalists will be invited to meet as a group with EPA's National Risk Management Research Laboratory to learn more about EPA capabilities and plans for sustainable water infrastructure models. To ensure equal access to information for all finalists, one meeting will be held at EPA in Cincinnati, OH on April 23, 2014. **Due March 10.**

**DARPA-BAA-14-14 Big Mechanism**
DARPA is soliciting innovative research proposals in the area of reading research papers and abstracts to construct and reason over explanatory, causal models of complicated systems. Proposed research should investigate innovative approaches that enable revolutionary advances in science, devices, or systems. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice. **Due March 18.**

**EPA-HQ-OPPT-2014-002 Fiscal Year 2014 Pollution Prevention Grant Program**
EPA releases Pollution Prevention (P2) grant funds to states and tribal government entities to deliver technical assistance and training to businesses. The intent of this effort is to assist state and tribal governments to encourage businesses to adopt environmental strategies and solutions that significantly reduce or eliminate waste from the source. EPA anticipates it will award approximately $4.1 million in program funding during Fiscal Year (FY) 2014 to states and tribes. P2 grants will be awarded in the form of grants and/or cooperative agreements. All awards will be issued and managed by EPA’s Regional Pollution Prevention Program Offices (herein referred to as the Regions). The amount of grant funding available is dependent upon Congressional appropriation and the quality of proposals received. **Due March 20.**

**Borlaug Graduate Research Grant**
The U.S. Borlaug Fellows in Global Food Security graduate research grant program supports exceptional graduate students who are interested in developing a component of their graduate research in a developing country setting and in collaboration with a mentor from an International Agricultural Research Center (IARC), or a qualifying* National Agricultural
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Research System (NARS) unit. We anticipate the fellowship program will lay a foundation for launching long-term international research collaborations for the students and their affiliated faculty advisors and IARC/NARS mentors. We envision that the group of graduate students supported by the program will eventually assume leadership positions in a wide variety of organizations, and across an array of disciplines related to food security. Due April 14.

Awards for Faculty National Endowment for the Humanities
This program supports individual faculty or staff members at Hispanic-Serving Institutions, Historically Black Colleges and Universities, and Tribal Colleges and Universities pursuing research of value to humanities scholars, students, or general audiences. Awards are designed to be flexible, allowing applicants to define the audience, type of research, award periods, and administrative arrangements that best fit their projects. Awards can be used for a wide range of projects that are based on humanities research. Eligible projects include pursuing research in primary and secondary materials; producing articles, monographs, books, digital materials, archaeological site reports, translations, editions, or other scholarly resources; and conducting basic research leading to the improvement of an existing undergraduate course or the achievement of institutional or community research goals. Due April 15.

Targeted Radiochemistry and Associated Technology Development for Integrated Nuclear Medicine Research and Training with Human Application: A Joint Research Funding Opportunity Announcement NIH, DOE DE-FOA-0001075
The U.S. Department of Energy's Office of Science, Office of Biological and Environmental Research (OBER), and the National Institutes of Health (NIH), National Institute of Biomedical Imaging and Bioengineering (NIBIB), hereby announce their interest in receiving applications for potential funding of Translational Biomarkers Development to serve two important goals: 1. Develop clinically relevant radionuclide imaging biomarkers to individualize and optimize medical care through new, improved diagnostic and theranostic approaches, and 2. Enhancement of training opportunities of young scientists and clinicians in translational nuclear medicine. Applicants must have access to existing advanced facilities and an interdisciplinary collaborative team of clinicians specialized in human disease- or disorder-specific nuclear medicine imaging techniques as well as radiochemists, synthetic chemists, and/or biochemists with the ability to support a robust research-training environment. Institutional settings should offer broad ranging research collaborations between clinical physicians and basic and translational research scientists. In addition, research applicants should have easy access to advanced nuclear medicine imaging facilities, such as positron emission tomography (PET) and single photon emission computed tomography (SPECT), and radiochemistry laboratories for radiotracer synthesis, validation and quality control. Due April 18.

DE-FOA-0001082 Research and Development for Next Generation Nuclear Physics Accelerator
The Office of Nuclear Physics (NP), Office of Science (SC), U.S. Department of Energy (DOE), hereby announces its interest in receiving applications for Research and Development (R&D) efforts directed at challenges for next generation NP accelerator facilities. A companion Program Announcement to DOE National Laboratories will be posted on the SC Grants and
Contracts web site at: http://www.science.energy.gov/grants The full text of the Funding Opportunity Announcement (FOA) is located on FedConnect. Instructions for completing the Grant Application Package are contained in the full text of the FOA which can be obtained at https://www.fedconnect.net/FedConnect/?doc=DE-FOA-0001082&agency=DOE. Due April 21.

**Building Energy Efficiency Frontiers and Incubator Technologies (BENEFIT) - 2014**
The Office of Energy Efficiency and Renewable Energy (EERE) has issued, on behalf of the Building Technologies Office (BTO), a Funding Opportunity Announcement (FOA) entitled Building Energy Efficiency Frontiers and Incubator Technologies (BENEFIT) - 2014, Number DE-FOA-0001027. The BENEFIT FOA includes the following Areas of Interest: Incubators (Off-Roadmap): Area of Interest 1: Open Topic for Energy Efficiency Solutions for Residential and Commercial Buildings Innovative energy-efficiency technologies, approaches, or design tools NOT already supported or targeted by BTO are eligible to apply under this area of interest, providing they show a clear application to residential and/or commercial buildings with significant primary energy savings potential. Area of Interest 2: Innovative Sensors & Sensor Systems Develop open architecture sensors and sensor systems that easily share data to enable building operators and owners to cost effectively capture energy and cost savings through the use of new and existing control system applications. Major goals in this development area are low cost, data sharing, and ease of deployment (plug-n-play methodologies). Frontiers (Roadmap-Driven): Area of Interest 3: Advanced Energy-Efficient Clothes Dryers Applications are sought for advanced energy-efficient clothes dryers (vented and ventless). Economic and technical goals are defined for this area. Furthermore, concepts with measurable non-energy benefits, which are important for market success, are particularly encouraged. Area of Interest 4: Highly Insulating Building Envelope Components Subtopic 1, Visibly transparent building envelope components: There are technical and economic goals for this area that are significant improvements of current technology. Performance metrics include ≥ R-7 (residential) and ≥ R-5 (commercial). Subtopic 2, Opaque building envelope components: The metrics and targets for this subtopic are > R-8/inch building envelope thermal insulation material that can be added to either the exterior or interior walls in existing buildings at < $0.30/ft2 installed cost premium (labor and material). Due April 21.

**NIJ 2014 Research on Gangs and Gang Violence NIJ-2014-3747**
NIJ is interested in funding multiple criminal justice research projects involving research and/or evaluations of programs to improve our understanding and/or reduce gang membership and violence within the United States. Results from these projects should lead to better criminal justice policy, practice, and research, particularly at the local or state level, on issues surrounding gangs. Due April 25.

**NIJ-2014-3758 NIJ FY 14 Testing Geospatial Predictive Policing Strategies**
NIJ is seeking applications for funding for research that explores the relationship between theory (of any discipline) to geospatial predictive policing strategies. In particular, NIJ is seeking proposals that focus on linking theories to current policing strategies, discerning potential disconnects in the levels of analysis between theory and practice, explicating what effects this
may have on findings, and, finally, addressing means of adapting theory and practice based on the results. **Due April 25.**

**Microgrid Research, Development, and System Design National Energy Technology Laboratory DE-FOA-0000997**
The objective of this Funding Opportunity Announcement (FOA) is to solicit applications for financial assistance awards to enable microgrid development. This FOA is responsive to addressing high-priority research, development and demonstration activities, identified jointly with key stakeholders, to overcome key challenges facing broad adoption of microgrids for key commercial applications. **Due April 28.**

**NIJ Graduate Research Fellowship Program in Science, Technology, Engineering, and Mathematics NIJ-2014-3734**
The NIJ Graduate Research Fellowship program in science, technology, engineering, and mathematics provides awards for research on crime, violence, and other criminal justice-related topics to accredited academic universities that support graduate study leading to research-based doctoral degrees. NIJ invests in doctoral education by supporting universities that sponsor students who demonstrate the potential to successfully complete doctoral degree programs in disciplines relevant to the mission of NIJ and who are in the final stages of graduate study. Applicants sponsoring doctoral students are eligible to apply only if the doctoral research dissertation has direct relevance to providing science, technology, engineering, and mathematics to better prevent and control crime and ensure the fair and impartial administration of criminal justice in the United States. Doctoral students in the fields of science, technology, engineering, or mathematics are encouraged to apply. **Due April 28.**

**NIJ FY 14 New Approaches to Digital Evidence Processing and Storage NIJ-2014-3727**
With this solicitation, NIJ seeks proposals for funding for technology research and development to develop: New, innovative means to speed the processing of large-capacity digital media in a forensically sound manner that preserves the probative value of the evidence that the media may contain; More efficient means to store the large volumes of information seized as digital evidence while preserving the probative value of that evidence. **Due April 28.**

**NIJ FY 14 Optimizing the Use of Video Technology to Improve Criminal Justice Outcomes NIJ-2014-3723**
With this solicitation, NIJ seeks proposals from research organizations partnered with state, local, or tribal criminal justice agencies for funding for research to identify, implement, and evaluate those applications of video cameras and advanced video analysis software that provide optimum crime control and prevention outcomes. NIJ is most interested in receiving proposals involving the integration of video technology into policing strategies, most particularly those involving quantitative data analysis methods. NIJ will also consider proposals dealing with criminal courts and correctional environments. **Due April 28.**

**Sustainability Research Networks Competition (SRN), 2014 Focus: Urban Sustainability**
The goal of the Sustainability Research Networks (SRN) competition is to bring together multidisciplinary teams of researchers, educators, managers, policymakers and other stakeholders to conduct collaborative research that addresses fundamental challenges in sustainability. The 2014 SRN competition will fund research networks with a focus on urban sustainability. Proposals should identify an ambitious and nationally important theme in urban sustainability, present a creative and innovative research agenda that builds upon existing work in this area, and describe how a network of researchers and other stakeholders will be supported that integrates a variety of disciplines, sectors and backgrounds in order to create new perspectives and yield significant new understanding and knowledge. The Sustainability Research Networks competition is part of the growing NSF investment in its Science, Engineering and Education for Sustainability (SEES) portfolio (www.nsf.gov/sees/). Challenges associated with broadly based SEES goals will be met by supporting fundamental science and engineering research and education needed to understand and overcome the barriers to sustainable human and environmental wellbeing and to forge reasoned pathways to a sustainable future. NSF aims to support members of the academic research community for projects which produce discoveries and knowledge that will inform decisions leading to environmental, energy, social and cultural sustainability. NSF support will advance the frontiers of conceptual, empirical and computational research in science, engineering and education so that the nation has the knowledge base to inform policies on sustainability. Due April 29.

Low Temperature Geothermal Mineral Recovery Program Golden Field Office DE-FOA-0001016

The Energy Department seeks up to ten 1-2 year feasibility and/or applied R&D projects that will lead to commercialized technologies. Geothermal mining of rare earth and near-critical metals are the focus of this research, with the intent to effectively lower the cost of geothermal energy production while diversifying and stabilizing the supply of critical materials for domestic industries. To learn more about the `Low-Temperature Mineral Recovery Program funding opportunity, click here. Register for an informative webinar to learn more about the strategic material extraction and this opportunity. The Energy Department's Office of Energy Efficiency and Renewable Energy (EERE) accelerates development and facilitates deployment of energy efficiency and renewable energy technologies and market-based solutions that strengthen U.S. energy security, environmental quality, and economic vitality. EERE supports innovative technologies that reduce both risk and costs of bringing geothermal power online. Learn more about the Department's efforts to develop geothermal energy. Due May 2.

Agriculture Food and Research Initiative: Food Safety Challenge Area USDA-NIFA-AFRI-004434

This AFRI Challenge Area promotes and enhances the scientific discipline of food safety, with an overall aim of protecting consumers from microbial and chemical contaminants that may occur during all stages of the food chain, from production to consumption. This requires an understanding of the interdependencies of human, animal, and ecosystem health as it pertains to foodborne pathogens. The long-term outcome for this program is to reduce foodborne illnesses and deaths by improving the safety of the food supply, which will result in reduced impacts on public health and on our economy. In order to achieve this outcome, this program
will support single-function Research Projects and multi-function Integrated Research, Education, and/or Extension Projects, and Food and Agricultural Science Enhancement (FASE) Grants that address one of the Program Area Priorities (see Food Safety RFA for details). **LOI due February 26; application May 8.**

**NOAA Sea Grant Aquaculture Research Program 2014 NOAA-OAR-SG-2014-2003987**

NOAA Sea Grant expects to have up to $3,000,000 available for a national competition to fund new FY 2014 marine aquaculture research projects. This is part of the overall plan to support the development of environmentally and economically sustainable ocean, coastal, or Great Lakes aquaculture. Topical priorities for this FY 2014 competition are, briefly: 1) Research to inform pending, regulatory decisions on the local, state, or federal level leading to an information product—such as a tool, technology, template, or model—needed to make final decisions on a specific question regarding impacts of aquaculture; 2) Public-private research partnerships that address specific, current problems that limit a steady supply of marine or Great Lakes fingerlings; and 3) Social and/or economic research targeted to understand aquaculture issues in a larger context. Applicants must describe how their proposed work will rapidly and significantly advance U.S. marine aquaculture development in the short-term (1-2 years after project completion). This Federal Funding Opportunity includes information on application and criteria for aquaculture research proposals requesting a maximum of $500,000 in total federal funding for up to a two-year period. Matching funds are required. Awards are anticipated to start no later than September 1, 2014. Additional proposals from this competition may be selected for funding in the next fiscal year, subject to the availability of funds. **Due May 30.**

**DARPA-BAA-13-32: Information Innovation Office (I2O) Office-Wide BAA, Response Date 06/25/2014**

The Defense Advanced Research Projects Agency (DARPA) is soliciting innovative research proposals of interest to the Information Innovation Office (I2O). Proposed research should investigate innovative approaches that enable revolutionary advances in science, devices, or systems. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of the art. I2O seeks unconventional approaches that are outside the mainstream, undertaking directions that challenge assumptions and have the potential to radically change established practice. **Due June 26.**

**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.

**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.

**URL Links to New & Open Funding Solicitations**

*Links verified: Monday, July 08, 2013*

- HHS Grants Forecast
- American Cancer Society Index of Grants
- SAMHSA FY 2013 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 2013 Science To Achieve Results (STAR) Research Grants
- NASA Open Solicitations
- Defense Sciences Office Solicitations
- The Mathematics Education Trust
- EPA Open Funding Opportunities
- CDMRP FY 2013 Funding Announcements
- Office of Minority Health
- Department of Justice Open Solicitations
- DOE/EEERE 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 GrantCompetitions
- Foundation Center RFP Weekly Funding Bulletin

Solicitations Remaining Open from Prior Issues of the Newsletter
Plant Feedstock Genomics for Bioenergy: Joint Research FOA by USDA, DOE

The U.S. Department of Energy's Office of Science, Office of Biological and Environmental Research (OBER), and the U.S. Department of Agriculture (USDA), National Institute of Food and Agriculture (NIFA), hereby announce their interest in receiving applications for genomics based research that will lead to the improved use of biomass and plant feedstocks for the production of fuels such as ethanol or renewable chemical feedstocks. Specifically, applications are sought for research on plants that will improve biomass and oil seed characteristics, yield, or sustainability. Research to overcome the biological barriers to the low-cost, high-quality, scalable and sustainable production of bioenergy feedstocks using the tools of genetics and genomics are encouraged. Due February 25.

Climate and Earth System Modeling: SciDAC and Climate Variability and Change

The Climate and Earth System Modeling programs seek to develop and analyze high fidelity community models representing Earth and climate system variability and change, with a significant focus on the response of systems to natural and anthropogenic forcing. As the first of two programs in Climate and Earth System Modeling that participate in this FOA, the Earth System Modeling (ESM) Program seeks to advance computational, dynamical, and biogeophysical representations of the Earth system and its components, and to calibrate, test and assess predictive capabilities using uncertainty quantification methodologies. The second program participating in this FOA, the Regional and Global Climate Modeling (RGCM) Program, seeks to enhance the predictive understanding of the Earth system by analyzing the natural and anthropogenic components of global and regional Earth system models. The use of model simulations in combination with observations enables a deeper understanding of climate
variability and change. The ESM and RGCM programs are thus complementary, with ESM focused mainly on climate model development, and RGCM focused mainly on climate system analysis. Both modeling programs collaborate and coordinate with the Terrestrial Ecosystem Science (TES) and Atmospheric System Research (ASR) programs, by utilizing TES and ASR process research activities to inform model development, and by using model simulations to identify where further process research is required in atmospheric and terrestrial systems. **Due March 3.**

**NEH Landmarks of American History and Culture: Workshops for School Teachers**
The Landmarks of American History and Culture program supports a series of one-week residence-based workshops for a national audience of K-12 educators. NEH Landmarks of American History and Culture Workshops use historic sites to address central themes and issues in American history, government, literature, art, music, and related subjects in the humanities. Each workshop is offered twice during the summer. Workshops accommodate forty school teachers (NEH Summer Scholars) at each one-week session. **Due March 4.**

**NEH Summer Seminars and Institutes**
These grants support faculty development programs in the humanities for school teachers and for college and university teachers. NEH Summer Seminars and Institutes may be as short as two weeks or as long as five weeks. **Due March 4.**

**Summer Seminars and Institutes, National Endowment for the Humanities 20140304-FS**
These grants support faculty development programs in the humanities for school teachers and for college and university teachers. NEH Summer Seminars and Institutes may be as short as two weeks or as long as five weeks.
- extend and deepen knowledge and understanding of the humanities by focusing on significant topics and texts;
- contribute to the intellectual vitality and professional development of participants;
- build communities of inquiry and provide models of civility and excellent scholarship and teaching; and
- link teaching and research in the humanities.

An NEH Summer Seminar or Institute may be hosted by a college, university, learned society, center for advanced study, library or other repository, cultural or professional organization, or school or school system. The host site must be suitable for the project, providing facilities for scholarship and collegial interaction. These programs are designed for a national audience of teachers. **Due March 4.**

**Institutes for Advanced Topics in the Digital Humanities National Endowment for the Humanities 20140314-HT**
These NEH grants support national or regional (multistate) training programs for scholars and advanced graduate students to broaden and extend their knowledge of digital humanities. Through these programs, NEH seeks to increase the number of humanities scholars using digital technology in their research and to broadly disseminate knowledge about advanced technology
tools and methodologies relevant to the humanities. The projects may be a single opportunity or offered multiple times to different audiences. Institutes may be as short as a few days and held at multiple locations or as long as six weeks at a single site. For example, training opportunities could be offered before or after regularly occurring scholarly meetings, during the summer months, or during appropriate times of the academic year. The duration of a program should allow for full and thorough treatment of the topic. **Due March 11.**

**2014-NIST Summer Institute for Middle School Science Teachers**

NIST is soliciting applications from eligible public school districts and accredited private educational institutions in the U.S. and its territories nominating middle school science teachers to participate in the NIST Summer Institute Program. The NIST Summer Institute Program will provide selected teachers hands-on activities, lectures, tours, and visits with NIST scientists and engineers at the NIST Campus in Gaithersburg, Maryland. The NIST Summer Institute Program will be held at the NIST Campus in Gaithersburg, Maryland on July 7-18, 2014. **Due March 12.**

**Sunshot Incubator Program Round 9 Golden Field Office DE-FOA-0000923**

The Department of Energy is supporting the development of tools and approaches that will significantly reduce the costs for solar energy systems across all technology areas (i.e. photovoltaics, concentrating solar power, power electronics, balance of system and non-hardware cost such as customer acquisition permitting, financing, interconnection, and inspection.) As part of the SunShot Incubator program, this funding opportunity is designed to help startup businesses and entrepreneurs develop technologies, innovative programs, and streamlined processes that will make solar more accessible for consumers in the U.S. The SunShot Incubator Program is an aggressive pay for performance program focused on helping solar startups rapidly refine and commercialize promising, proven technologies and ideas. The program seeks to accelerate the commercialization of solar energy products and solutions that dramatically lower the cost of solar power. This round of the SunShot Incubator Program is for both hardware and non-hardware solutions that reduce the cost of systems that convert solar energy into electric potential. **Due March 13.**

**Intelligence Community - Center for Academic Excellence Defense Intelligence Agency — Department of Defense HHM402-14-BAA-243**

Accessing the 2014 IC CAE Broad Agency Announcement, #HHM402-14-BAA-243 The Broad Agency Announcement (BAA) for new IC Centers for Academic Excellence grants has been posted on www.grants.gov, the single point for all government grants. New users of www.grants.gov website need to first register and obtain a user identifier and password to use for logging into the site. Once registered and logged into the website, an applicant can click the “Current Efforts” tab and select the “Intelligence Community Centers for Academic Excellence Broad Agency Announcement #HHM402-14-BAA-243” page under the list. A “Frequently Asked Questions” section will be developed where all can view responses to all questions and comments, including those submitted by other organizations. Answers will be posted as they are developed. All questions are sent to ~243CAE@dodiis.mil . Applicants are encouraged to
review all previous questions and answers prior to posting a question to avoid duplication of questions. **Due March 15.**

**STEM-C Partnerships: MSP National Science Foundation**
The STEM-C (Science, Technology, Engineering and Mathematics, including Computing) Partnerships program is a major research and development effort of two NSF Directorates, the Directorate for Education and Human Resources and the Directorate for Computer and Information Science and Engineering, which supports innovative partnerships to improve teaching and learning in science, technology, engineering, and mathematics (STEM) disciplines. STEM-C Partnerships combines and advances the efforts of both the former Math and Science Partnership (MSP) and the former Computing Education for the 21st Century (CE21) programs. It is critical that our nation maintain a competent, competitive and creative STEM workforce, including teachers. Therefore, NSF aims to inspire and motivate the next generation of that workforce, while ensuring that it has the skills, competencies, and preparation to be successful. As we transition to a global, knowledge-based economy that is often driven by information technology and innovation, it is increasingly important that STEM workforce preparation includes a strong foundation in computing. Thus, the STEM-C Partnerships program addresses both the need for advances in K-12 STEM education generally, as well as the need to elevate the inclusion of computer science education. **Due March 18.**

The STEM-C (Science, Technology, Engineering and Mathematics, including Computing) Partnerships program is a major research and development effort of two NSF Directorates, the Directorate for Education and Human Resources (EHR) and the Directorate for Computer and Information Science and Engineering (CISE), which supports innovative partnerships to improve teaching and learning in science, technology, engineering, and mathematics (STEM) disciplines. STEM-C Partnerships combines and advances the efforts of both the former Math and Science Partnership (MSP) and the former Computing Education for the 21st Century (CE21) programs. It is critical that our nation maintain a competent, competitive and creative STEM workforce, including teachers. Therefore, NSF aims to inspire and motivate the next generation of that workforce, while ensuring that it has the skills, competencies, and preparation to be successful. As we transition to a global, knowledge-based economy that is often driven by information technology and innovation, it is increasingly important that STEM workforce preparation includes a strong foundation in computing. Thus, the STEM-C Partnerships program addresses both the need for advances in K-12 STEM education generally, as well as the need to elevate the inclusion of computer science education. **Due March 18.**

**NIH Coordination and Evaluation Center for Enhancing the Diversity of the NIH-Funded Workforce Program (U54)**
The purpose of this Funding Opportunity Announcement (FOA) is to encourage institutions with expertise in data coordination and evaluation of research training, career development, and mentoring programs to submit applications for the establishment and operation of the Coordination and Evaluation Center (CEC) for the NIH Enhancing the Diversity of the NIH-
Funded Workforce Program. This program will consist of three integrated initiatives: the Building Infrastructure Leading to Diversity (BUILD) initiative, the National Research Mentoring Network (NRMN) and the CEC. Awardees funded through these initiatives will work together as a consortium which will be coordinated by the CEC. The CEC will facilitate the establishment of program-wide goals and agreed upon hallmarks of successful biomedical researchers at multiple career stages. The CEC will develop appropriate instruments and processes to assess the impact of BUILD and NRMN activities on attainment of these hallmarks by program participants. It will coordinate the collection of data from BUILD and NRMN awardees and other sources, assess the data in an ongoing way, provide feedback to the consortium and facilitate an iterative process of program adjustment to maximize the research benefit of BUILD and NRMN activities. **Due March 18.**

**NIH Building Infrastructure Leading to Diversity (BUILD) Initiative (U54)**
The NIH encourages institutions that seek to engage undergraduate students in innovative mentored research training programs to submit applications for cooperative agreement awards through the NIH Building Infrastructure Leading to Diversity (BUILD) initiative, one of three new Common Fund initiatives that together aim to enhance diversity in the biomedical, behavioral, clinical, and social sciences research workforce. Addressing a major leakage point in the research workforce pipeline, BUILD awards are intended to support the design and implementation of innovative programs, strategies and approaches to transform undergraduate research training and mentorship. BUILD awards will also support institutional and faculty development to further strengthen undergraduate research training environments. **Due March 18.**

**NIH National Research Mentoring Network (NRMN) (U54)**
The purpose of this Funding Opportunity Announcement (FOA) is to encourage organizations with experience in the mentorship of individuals from diverse backgrounds as they pursue careers in biomedical research to submit grant applications for the NIH National Research Mentoring Network (NRMN). The NRMN will be a nationwide consortium to enhance the training and career development of individuals from diverse backgrounds who are pursuing biomedical, behavioral, clinical, and social science research careers (collectively termed biomedical research careers), through enhanced networking and mentorship experiences. **Due March 18.**

**Scientific Data Management, Analysis and Visualization at Extreme Scale, Office of Science DE-FOA-0001043**
The Office of Advanced Scientific Computing Research (ASCR) in the Office of Science (SC), U.S. Department of Energy (DOE), hereby invites applications for basic research that significantly advances management, analysis and visualization of data in disciplines supported by DOE in the context of emerging architectures for extreme scale computing platforms. The purpose of this announcement is to invite applications for basic computer science research on five major themes: 1. Usability and user interface design; 2. In situ methods for data management, analysis and visualization; 3. Design of in situ workflows to support data management,
processing, analysis and visualization; 4. New approaches to scalable interactive visual analytic environments; and/or 5. Proxy applications or workflows and/or simulations for data management, analysis and visualization software to support co-design of extreme scale systems. The supported research will lay the foundation for building the software infrastructure to support scientific data management, analysis and visualization in the context of extreme scale computing. A companion Program Announcement to DOE Laboratories (LAB 14-1043) will be posted on the SC Grants and Contracts website. The full text of the Funding Opportunity Announcement (FOA) is located on FedConnect: DE-FOA-0001043. Instructions for completing the Grant Application Package are contained in the full text of the FOA which can be obtained here. Due March 19.

**Biotechnology Risk Assessment Grants**

The USDA National Institute of Food and Agriculture (NIFA) is seeking research grant funding applications in its 'Biotechnology Risk Assessment Grants (BRAG) Program' to support the generation of new information that will assist Federal regulatory agencies in making science-based decisions about the effects of introducing into the environment genetically engineered organisms (GE), including plants, microorganisms (including fungi, bacteria, and viruses), arthropods, fish, birds, mammals and other animals excluding humans. Investigations of effects on both managed and natural environments are relevant. The BRAG program accomplishes its purpose by providing Federal regulatory agencies with scientific information relevant to regulatory issues. Due March 19.

**National Incubator Initiative for Clean Energy (NIICE) Golden Field Office DE-FOA-0001042**

The Department of Energy Office of Energy Efficiency and Renewable Energy (EERE) is seeking applicants to establish the National Incubator Initiative for Clean Energy (NIICE). NIICE seeks to advance three goals: Improve the performance of existing and new clean energy business incubators across the country by setting a high performance standard, fostering best practices, and improving coordination of the incubator community; Strengthen support for early-stage companies developing high-risk technologies and scaling from prototype to domestically-based production; and Catalyze investment in early-stage clean energy businesses by improving information regarding capital access for incubators, including disseminating analysis and materials on philanthropic funds, corporate venture, and other innovative financing mechanisms. To accomplish these goals, NIICE is funding awards in two topic areas: (1) a national organization to serve as a coordinating body for clean energy incubators and a central source of information for clean energy stakeholders; and (2) set a benchmark to develop top-performing, clean energy-focused incubators by funding three to five incubators across the United States. The full Funding Opportunity Announcement (FOA) is posted on the EERE eXCHANGE website at https://eere-exchange.energy.gov. Applications must be submitted through the EERE eXCHANGE website to be considered for award. The applicant must first register and create an account on the EERE eXCHANGE website. A User Guide for the EERE eXCHANGE can be found on the EERE website https://eere-exchange.energy.gov/Manuals.aspx after logging in to the system. Information on where to submit questions regarding the content
of the announcement and where to submit questions regarding submission of applications is found in the full FOA posted on the EERE eXCHANGE website. Due March 21.

**Next Generation Photovoltaic Technologies III Golden Field Office DE-FOA-0000990**

The Next Generation Photovoltaic Technologies III program seeks to support research that applies basic science towards the realization of devices that demonstrate photovoltaic (PV) effect. Specifically, this Funding Opportunity Announcement (FOA) solicits proposals that apply promising basic materials science that has been proven at the materials properties level to demonstrate photovoltaic conversion improvements that address or exceed SunShot goals. The full Funding Opportunity Announcement (FOA) is posted on the EERE eXCHANGE website at [https://eere-exchange.energy.gov](https://eere-exchange.energy.gov). To apply to this FOA, Applicants must register with and submit application materials through EERE Exchange at [https://eere-Exchange.energy.gov](https://eere-Exchange.energy.gov), EERE’s online application portal. Frequently asked questions for this FOA and the EERE Application process can be found at [https://eere-exchange.energy.gov/FAQ.aspx](https://eere-exchange.energy.gov/FAQ.aspx). Applicants must submit a Concept Paper by **01/03/2014** to be eligible to submit a Full Application. Due March 24.

**Fiscal Year 2015 National Sea Grant College Program Dean John A. Knauss Marine Policy Fellowship NOAA-OAR-SG-2015-2003978**

This notice announces that applications may be submitted for the 2015 National Sea Grant College Program Dean John A. Knauss Marine Policy Fellowship (Sea Grant Knauss Fellowship Program). Sea Grant anticipates funding not less than 30 selected applicants, of which those assigned to the Legislative branch may be limited to 10. Each award will be funded at a total of $56,500 in federal funding. Due March 28.

**Folded Non-Natural Polymers with Biological Function (Fold F(x)) DARPA - Defense Sciences Office DARPA-BAA-14-13**

The DARPA Fold F(x) program objective is to develop processes enabling the rapid synthesis, screening, sequencing and scale-up of folded, non-natural, sequence-defined polymers with expanded functionality. The program will specifically address the development of non-natural affinity reagents that can bind and respond to a selected target, as well as catalytic systems that can either synthesize or degrade a desired target. DARPA anticipates that successful efforts will include (1) novel synthetic approaches that yield large libraries (>109 members) of non-natural sequence-defined polymers; (2) flexible screening strategies that enable the selection of high affinity/specificity binders and high activity/selectivity catalysts from the non-natural libraries; (3) demonstration that the screening approach can rapidly (<4 days) yield affinity reagents or catalysts against targets of interest to the DoD; and (4) demonstration of scalability and transferability to the DoD scientific community. Due April 3.

**Cyber-Innovation for Sustainability Science and Engineering (CyberSEES)**

The Cyber-Innovation for Sustainability Science and Engineering (CyberSEES) program aims to advance interdisciplinary research in which the science and engineering of sustainability are enabled by new advances in computing, and where computational innovation is grounded in the context of sustainability problems. The CyberSEES program is one component of the
National Science Foundation's Science, Engineering, and Education for Sustainability (SEES) activities, a Foundation-wide effort aimed at addressing the challenge of sustainability through support for interdisciplinary research and education. In the SEES context, a sustainable world is one where human needs are met equitably without harm to the environment or sacrificing the ability of future generations to meet their own needs. **Due April 8.**

**Agriculture and Food Research Initiative: Foundational Program National Institute of Food and Agriculture USDA-NIFA-AFRI-004412**
The AFRI Foundational Program is offered to support research grants in the six AFRI priority areas to continue building a foundation of knowledge critical for solving current and future societal challenges. The six priority areas are: Plant Health and Production and Plant Products; Animal Health and Production and Animal Products; Food Safety, Nutrition, and Health; Renewable Energy, Natural Resources, and Environment; Agriculture Systems and Technology; and Agriculture Economics and Rural Communities. Single-function Research Projects, multifunction Integrated Projects and Food and Agricultural Science Enhancement (FASE) Grants are expected to address one of the Program Area Priorities (see Foundational Program RFA for details). **Open until September 29.**

**Funding Opportunity Announcement for Navy and Marine Corps Science, Technology, Engineering Office of Naval Research ONRFOA14-002**
All responsible sources from academia, the nonprofit sector, and industry may submit proposals under this FOA. Historically Black Colleges and Universities (HBCUs) and Minority Institutions (MIs) are encouraged to submit proposals and to join others in submitting proposals. However, no portion of this FOA will be set aside for HBCU and MI participation, due to the impracticality of reserving discrete or severable items of this opportunity for exclusive competition among the entities. Federally Funded Research & Development Centers (FFRDCs), including Department of Energy National Laboratories, are not eligible to receive awards under this FOA. However, teaming arrangements between FFRDCs and eligible principal bidders are allowed so long as they are permitted under the sponsoring agreement between the Government and the specific FFRDC. Navy laboratories and warfare centers as well as other Department of Defense and civilian agency laboratories are also not eligible to receive awards under this FOA and should not directly submit either white papers or full proposals in response to this FOA. If any such organization is interested in the program described herein, the organization should contact ONR STEM Program Office, onr_stem@navy.mil, to discuss its area of interest. As with FFRDCs, these types of Federal organizations may team with other responsible sources from academia, non-profits, and industry that are submitting proposals under this FOA. University Affiliated Research Centers (UARC) are eligible to submit proposals under this FOA unless precluded from doing so by their Department of Defense UARC contracts. **Open until December 31.**

**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.**

**Research Interests of the Air Force Office of Scientific Research**

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

**FY2014 Consolidated Innovative Nuclear Research Idaho Field Office — Department of Energy DE-FOA-0000998**

DOE is seeking applications from U.S. universities, national laboratories and industry to conduct Program Supporting, Mission Supporting and Program Directed nuclear energy-related research in support of the major NE-funded research programs. Additionally, DOE has interest in leveraging multiple needs to the extent possible. Appendix D provides a description of key data needs for validating advanced modeling and simulation tools being developed by NE. Researchers should evaluate their applications in light of these data needs and highlight any potential for capturing key data. **Due April 3.**

**DARPA 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. **Open to April 9, 2014.**

**DARPA Defense Sciences Research and Technology**

DARPA is soliciting innovative research proposals of interest to the Defense Sciences Office. Proposed research should investigate innovative approaches that enable revolutionary advances in science and technology. Specifically excluded is research that results primarily in evolutionary improvements to the existing state of the art. **Open to May 22, 2014.**

**Climate Change Adaptation Program (GPAP)**
One important effect of global climate change is the reduction in naturally stored water resources which, for Peru, means melting glaciers and a decrease in the size of highland wetlands (paramos). The loss of these areas decreases water availability for upland and lowland communities and increases the potential for Glacial Lake Outburst Floods (GLOFs). This APS seeks to stimulate adaptation projects that assist indigenous mountain communities, rural and urban areas, and local and regional governments potentially affected by GLOFs or changes in water availability. General project outcomes will be long-term, sustainable approaches that help reduce the impact of climate change on glaciated and highland wetland ecosystems and on those that depend on these ecosystems' services. **Open to June 6, 2014.**

**DARPA Strategic Technology Office (STO) Broad Agency Announcement (BAA)**

DARPA is seeking innovative ideas and disruptive technologies that offer the potential for significant capability improvement across the Strategic Technology Office (STO) focus areas. This includes system and technology development related to Battle Management (BM), Command and Control (C2), Communications, Intelligence, Surveillance, and Reconnaissance (ISR), Electronic Warfare (EW), and Positioning, Navigation and Timing (PNT). Technologies of particular interest would address challenges of operating in contested, denied, and/or austere environments. **Open until June 18, 2014.**

**DARPA-BAA-13-32: Information Innovation Office (I2O) Office-Wide BAA**

The Defense Advanced Research Projects Agency (DARPA) is soliciting innovative research proposals of interest to the Information Innovation Office (I2O). Proposed research should investigate innovative approaches that enable revolutionary advances in science, devices, or systems. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of the art. I2O seeks unconventional approaches that are outside the mainstream, undertaking directions that challenge assumptions and have the potential to radically change established practice. See Full Announcement, DARPA-BAA-13-32 (I2O Office Wide) pdf for further details. **Open until June 25, 2014.**

**DARPA Microsystems Technology Office-Wide**

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

**NINDS SBIR Technology Transfer (SBIR-TT [R43/R44])**

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


**Long Range Broad Agency Announcement (BAA) for Navy and Marine Corps Science and Technology 14-001 ONRBAA14-001**

This BAA is intended for proposals related to basic research, applied research, or advanced technology development. For NAVY and Marine Corps Science, Technology, Engineering & Mathematics (STEM) programs, refer to ONRBAA13-007, which may be found at the ONR Broad Agency Announcement (BAA) webpage-


The purpose of this notice is to request applications for special projects and programs associated with NOAA's strategic plan and mission goals, as well as to provide the general public with information and guidelines on how NOAA will select proposals and administer discretionary Federal assistance under this Broad Agency Announcement (BAA). This BAA is a mechanism to encourage research, education and outreach, innovative projects, or sponsorships that are not addressed through our competitive discretionary programs. It is not a mechanism for awarding congressionally directed funds or existing funded awards. Funding for potential projects in this notice is contingent upon the availability of Fiscal Year 2014 and Fiscal Year 2015 appropriations. Applicants are hereby given notice that funds have not yet been appropriated for any potential activities in this notice. Publication of this announcement does not oblige NOAA to review an application, or to award any specific project, or to obligate any available funds. Open to September 30, 2014.

**Army Engineer Research and Development Center BAA**

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. This research is conducted by Government personnel and by contract with educational institutions, non-profit organizations and private industries. The BAA is available at [http://erdc.usace.army.mil/](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 Allison Hudson at 601-634-5233 or via email at Allison.B.Hudson@usace.army.mil. For questions concerning proposals to CERL, contact Jim Dowling at 217-373-4479 or via email at james.p.dowling@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, 2014.

**Science, Technology, Engineering & Mathematics BAA**
ERDC solicits basic research proposals in the general DoD STEM Education and Outreach Program from colleges, universities, and non-profit organizations. Depending upon the availability of appropriated funds, ERDC may: (1) Make multiple awards under this BAA; and (2) Consider options exercisable for multi-year performance. Area of performance for proposals may be limited to one of the selected locations listed above or may address multiple locations. Funding is limited and proposals are primarily sought in the not-to-exceed $30,000 range; however, larger awards may be considered when appropriate. Geographically targeted. Open to January 31, 2014.

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

**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) Soldier/Personnel Issues. Funding of research and development (R&D) within ARI areas of interest will be determined by funding constraints and priorities set during each budget cycle. **Open to February 5, 2018.**

**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.**
What We Do--

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

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

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

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

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

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

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

**Workshops by Academic Research Funding Strategies**

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

(View Index of Articles)

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