Volume 3, Issue 11: July 15, 2013 Check Out Our eBook!

New Faculty Guide to Competing for Research Funding is an invaluable tool for faculty writing research grants, or for use by research offices developing grantwriting workshops to help faculty write more competitive proposals. Table of Contents.

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Research Development & Grant Writing News ©

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The Importance of Writing the 1.5-Page Practice Proposal

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When seeking research funding, it's just as important to ask the right questions (*How to go from Research Ideas to Research Dollars*, June 2013) as it is to answer them correctly. Moreover, answering the core generic questions asked by every funding agency is not a trivial task, particularly given the simplicity and clarity typically required for success. Even very experienced researchers oftentimes struggle with explaining succinctly and in simple terms the core vision, goals, and objectives of their research within the context of its significance or value-added benefits to the funding agency or the field. Success at grant writing is a learned skill grounded on multiple experiences of planning, developing, and writing proposals. In addition, it depends upon learning, from both failures and successes, how to amplify reviewer identified strengths and eliminate reviewer identified weaknesses in your research narrative.

In this context, it is important to keep in mind that reviewer comments you receive from one specific program solicitation, or in response to an investigator initiated (unsolicited) proposal, often have relevance beyond the immediate proposal under consideration. Program officers' and reviewers' comments often help illuminate the broader characteristics, both good and bad, of your grantsmanship, and thereby give you a better insight into improving your grant-writing skills on all your proposals, not just the one under review. The basic mistakes you make in writing one proposal will typically manifest themselves in the other proposals you write.

Common, basic mistakes in grant writing are eerily transportable from one proposal to another. The metastases of mistakes throughout proposals is something you must contain if you hope for sustained success in research funding. Keep in mind the admonition of Congressman Sam Rayburn, Speaker of the U.S. House of Representatives for 17 years, that *"there is no education in the second kick of the mule."* Learning and perfecting the art of research grant writing will serve as a firewall to prevent common mistakes from corroding the competitiveness of all your proposals. For instance, if you are writing as part of a team, you may be structuring a siloed research narrative (bad) rather than an integrated, synergistic one (good). In other cases, the proportionality of your research narrative may be poorly balanced, perhaps by writing too much about the general research background of the disciplinary field and writing too little about the importance of your research to that field.

Furthermore, as has often been noted in this newsletter, no amount of grantsmanship can turn a bad idea into a good one, but there are many ways in which poor grantsmanship can disguise a good idea (see the 7-part series "*Why Halloween is Bad for Proposals*," April-October 2012, on how these disguises defeat good ideas). Proposals commonly fail as a result of poor writing and poor planning, development, and structuring. In this context, poor writing means the poor communication of research ideas, which occurs, for example, when ambiguity is

introduced into the research narrative. Ambiguity is the nemesis of the successful research narrative; it is to proposals what Kryptonite is to Superman.

Of course, the basic mechanics of good writing must always be followed in proposals, such as correct grammar, punctuation, spelling, and sentence structure. In many ways, proposals are not unlike surfing, golf, baseball, tennis, curling, and numerous other activities that can benefit enormously from countless hours of repetitive practice. However, it is not necessary, and likely undesirable, to be a trained rhetorician to write successful proposals. Proposals are a very unique "genre" representing a mix of persuasive writing, marketing, and sales (a research "pitch"), but above all the successful proposal is able to represent your ideas clearly, simply, and logically. Successful proposals quickly answer some basic questions that are always asked by program officers and reviewers, such as: *What research do you propose to do? What is the significance of your research? What value-added benefits derive to the agency or the field from your research? What prior research/preliminary results validate your capacity to perform? What barriers or challenges must be addressed if your research is to be successful?*

While each funding opportunity will differ, both within agencies and across agencies, with respect to the goals and objectives of a specific solicitation, or guidelines for submitting an unsolicited proposal in a specific topic area, the aforementioned core questions will typically resemble the requirements of a funding opportunity. Learning to craft an initial response to these questions will give you valuable practice in refining and developing your ideas in a narrative format. Think of this as writing a "Goldilocks Proposal," one that is neither too long nor too short, but just right.

For these purposes, a 1 to 1.5 page practice proposal offers a significant opportunity to develop your skill at crafting and revising what lies at the core of a well-written and hence competitive proposal—a concise narrative overview of your research that responds to the key questions program officers and reviewers expect you to address in any proposal. Moreover, most research agencies, regardless of their mission or objectives, will ask you to answer the above questions. Obviously, these questions will be asked and framed within the context of the specific agency's mission, culture, and language, but their essence will be essentially the same across agencies and disciplines—from DARPA to NEH.

Moreover, writing the "Goldilocks Proposal" is different than practicing the so-called "elevator speech" that you might develop for talking to program officers and colleagues about your research, perhaps at a research conference. The transition from talking about your research to actually writing about your research is one often fraught with difficulty, not just for new faculty but for all faculty. Verbal communications are by nature ephemeral, whereas written communications represent a permanent record of how well or how poorly you explain your research. Moreover, keep in mind when writing your Goldilocks Proposal Mark Twain's observation in a letter to a friend—"*if I had had more time I would have written you a shorter letter.*" Writing simply, clearly, and succinctly is a difficult but foundational skill that must be mastered if you are to succeed in grantwriting. If you meld Twain's observation with Albert Einstein's observation that "*If you can't explain it simply, you don't understand it well enough,*" you have the two key waypoints needed to start the process of becoming a more successful proposal writer.

Just as golfers go to driving ranges and batters go to batting cages to improve their game by better mastering through repetitive practice the *fundamental, correct techniques* of their sport, writers of research proposals will benefit significantly from a similar process that will help them develop the fundamental, correct techniques of research grant writing. One way to start this process is by imposing some very limiting boundary conditions on the process.

For example, **my initial goal for this exercise is to describe in 750** <u>jargon free</u> words or less the following seven points in a way that is understandable and easily accessible for a scientifically or disciplinarily literate audience but <u>not</u> an audience of experts in the field:

- Research goals and objectives
- Research plan
- Significance of my research
- Value-added benefits and impact on an agency mission or a research field
- Prior results/preliminary data that validate my capacity to perform
- Barriers and challenges to achieving results and my plan for overcoming them
- Payoffs from my success

My midterm goal for this exercise is to ask colleagues or a mentor to read my 750 word "Goldilocks Proposal" and give me feedback on this narrative, such as, what was clear and what was not clear; what was convincing and what was not convincing; what questions came to mind that were not adequately addressed; how could the write-up be improved, etc.

My final goal for this exercise is to consider the review comments of my colleagues and rewrite the "Goldilocks Proposal" to improve it by addressing those comments *while concurrently reducing the document from the initial 750 words to 600 words*.

Keep iterating this document to perfection!

Research Funding Snapshot: National Institute of Justice

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About NIJ

The **National Institute of Justice** is the research, development, and evaluation agency of the U.S. Department of Justice. NIJ provides objective, independent, evidence-based knowledge and tools to enhance the administration of *justice and public safety* (<u>NIJ topics</u>). The Institute solicits proposals to inform its search for the knowledge and tools to guide policy and practice through announcements on its <u>Web site</u>. NIJ provides funding to *educational institutions*, public agencies, nonprofit organizations, faith-based organizations, individuals, and profitmaking organizations willing to waive profits and fees (<u>NIJ Overview Presentation</u>).

NIJ is under the Office of Justice Programs. OJP offers the following funding programs: Formula Grants, Congressionally Directed Awards, Discretionary Grants, Cooperative Agreements, and Payment Programs. *The focus of most university researchers will be on Discretionary Grants*. Discretionary grants are awarded directly by OJP to eligible recipients, most often on a competitive basis. Applications undergo a preliminary review process to ensure that they are complete and meet the eligibility requirements. Eligible applications are then reviewed and scored by a panel of subject matter experts. Strengths and weaknesses are noted based on the selection criteria outlined in the grant solicitation.

What NIJ Funds

NIJ awards grants and agreements for:

- **Research, development and evaluation** (CFDA 16.560). NIJ funds physical and social science research, development and evaluation projects about criminal justice through competitive solicitations. The focus of the solicitations varies from year to year based on research priorities and available funding.
- Forensic laboratory enhancement. NIJ provides funding through formula and discretionary awards to reduce evidence backlogs and improve the quality and timeliness of forensic science and medical examiner services. Programs include:
 - o DNA Backlog Reduction Program (CFDA 16.471)
 - Paul Coverdell Forensic Sciences Improvement Grant Program (16.472)
- **Research fellowships**. NIJ funds two fellowships through annual solicitations. The focus of the solicitations varies from year to year. Fellowships include:
 - o Graduate Research Fellowship (CFDA 16.562)
 - W.E.B. DuBois Fellowship (CFDA 16.566)
 - <u>Visiting Fellowship</u>

Finding Funding at NIJ

NIJ grants are posted to <u>Grants.gov</u>. However, NIJ also posts open and upcoming grant opportunities to the agency website: <u>Current NIJ Open Solicitations</u>; <u>NIJ Email Funding Alerts</u>; <u>OJP-wide Open Solicitations</u>.

Writing the NIJ Proposal

Required 600-word Abstract

NIJ applications require an abstract. NIJ uses abstracts for several purposes, including to assign proposals to an independent peer-review panel. The abstract becomes public if the proposal receives an award. *The abstract should serve as a succinct, stand-alone, and accurate description of the proposed work and should not exceed 600 words*.

The abstract should state the problem under investigation (including goals and objectives of the proposed project) and the anticipated relevance of the project to public policy, practice, or theory. It should describe the proposed method and/or research design, including data to be used in addressing research questions, data collection procedures and instrumentation, access to data, and other methods or procedures of the proposed study. It should also describe procedures for data analysis and all expected products, including interim and final reports, instrumentation, devices, or data to be archived under NIJ's Data Resource Program.

When writing the 600-word NIJ abstract, *keep in mind some of the more common mistakes made in writing abstracts to any mission agency*; specifically, avoid an abstract that

- Does not clearly describe the research question or problem being addressed
- Does not **clearly state** the relevance, importance, and impact of the research
- Fails to make a compelling case for the value of the research to the agency mission
- Disproportionately emphasizes technical minutia over the significance and impact of the research, or its relevance to the agency's funding priorities
- Compresses technical details to a density impenetrable to all but the author
- Fails to make a composite argument melding and connecting ideas to key research goals and objectives
- Fails to clearly describe the research methods and design
- Threads together a series of disciplinary, "cutting-edge slogans," presenting them as the proposed research objectives—*slogans are not ideas*
- Appears poorly organized, poorly written, containing grammatical errors, spelling errors, ambiguity, and weak arguments—reviewers will assume these errors predict the quality of the proposed research
- Uses too much jargon
- Lacks specificity

Writing the Program Narrative

The main body of the **Program Narrative** should include the following sections (also see <u>NIJ Guidelines: How to Submit an Application</u> for other application sections; for assistance with

substantive issues related to a specific solicitation, contact the NIJ staff person listed on the cover page of the solicitation).

- **Purpose, goals, and objectives.** The Program Narrative should begin with a clear, concise statement of the purpose, goals, and objectives of the project and related questions to be explored.
- **Review of relevant literature.** Unless the solicitation defines an exception, the Program Narrative should discuss the relationship of the proposed work to the existing research literature.
- Research design and methods. This section should detail the study design and analytical methodologies or procedures. Proposed data sources, data collection strategies, and procedures for data analysis should be delineated carefully and completely (more on <u>Submitting Data Under the Data Resources Program</u>). If applicable, the research design and methods section should identify and describe all databases to be developed as part of the proposed project and discuss potential problems. (See NIJ's <u>Data Resources Program</u>, which archives data from NIJ-funded research, as well as the NIJ <u>Guide to Managing Grant Data</u> for additional details on the data submission process.)
- Implications for policy and practice in the United States. The Program Narrative should describe the issues and concerns that have prompted the proposed line of inquiry, discuss the anticipated contribution the project will make to criminal justice policy and practice, and suggest how the study will contribute to current knowledge.
- Management plan and organization. This section should list major milestones or events, activities, and products and contain a timeline for completing individual tasks. All project activities, including writing the final report, should be completed within the timeline. The amount of time for which staff are committed to the project should be included.
- **Dissemination strategy.** This section of the Program Narrative should describe a plan to disseminate the results of the project beyond the jurisdictions and individuals directly affected by it. The plan should identify specific methods, such as publication of articles, to inform the field about the project results.

Developing Your NIJ Budget

Although the degree of specificity of any budget will vary depending on the nature of the project and OJP agency requirements, NIJ makes clear that a complete, carefully considered budget serves to reinforce your credibility and *increases the likelihood that your proposal will be funded*. Your application must include both a *budget narrative and a budget detail worksheet* (NIJ strongly recommends that you use the <u>Budget Detail Worksheet Template</u>). For further information on developing the budget, review:

- The "OJP Financial Guide" for allowable costs.
- Grants 101 Develop a Budget
- OJP Financial Guide
- Budget Detail Worksheet

NIJ recommends that you start early to think about your budget requirements. Funding levels of grant programs change each year. If you are developing a budget in anticipation of a solicitation being announced and do not yet know the funding amount, review the same grant solicitation (if offered in past years) to project future funding levels. You can also use past solicitations to make lists of budget items needed for the project.

Although the degree of specificity of any budget will vary depending on the nature of the project and OJP agency requirements, a complete and carefully prepared budget serves to reinforce your credibility and increase the likelihood of funding.

Keep in mind the following NIJ points-

- A well-prepared budget should be reasonable and demonstrate that the funds being asked for will be used wisely.
- The budget should be as concrete and specific as possible in its estimates. Make every effort to estimate costs accurately.
- The budget format should be as clear as possible. It should begin with a budget narrative, which you should write *after* the entire budget has been prepared.
- Each section of the budget should be in outline form, listing line items under major headings and subheadings.
- Each of the major components should be subtotaled with a grand total at the end.

Your budget should justify all expenses and be consistent with the program narrative:

- Salaries should be comparable to those within the applicant's organization.
- If new staff is being hired, additional space and equipment should be considered, as necessary.
- If the budget lists an equipment purchase, it should be the type allowed by the agency.
- If additional space is rented, show support for the increase in insurance.
- If an indirect cost rate applies to the proposal, ensure that the division between direct and indirect costs is not in conflict, and that the aggregate budget totals refer directly to the approved formula. Indirect costs are those not readily assignable to a particular project but necessary to the operation of the organization and the performance of the project (like the cost of operating and maintaining facilities, depreciation, and administrative salaries).
- If matching funds are required, take the contributions to the matching fund out of the budget, unless otherwise specified in the application instructions.

NIJ Application FAQs

These questions and answers (<u>here</u>) will help you prepare your application for grant funds. Before beginning

- About Online Applications and the SF-424
- About the Program Narrative
- About the Budget
- About Human Subjects and Privacy Requirements
- About Selection and Awarding

Question and Answers for Specific Solicitations

NIJ posts on <u>this page</u> links to questions and answers related to specific solicitations. Select a solicitation title below to view associated questions and answers. If you do not see the specific solicitation to which you are applying in this list, then no questions and answers have been posted.

- Research on Firearms and Violence
- Applied Technology Research and Development to Optimize Criminal Justice Use of Social media in the "Web 3.0" Environment
- Evaluating the Efficacy of Lighting, Markings, and Paint Schemes in Reducing the Incidence of Law Enforcement Vehicle Crashes
- Identifying the Highest Priority Criminal Justice Technology Needs
- The Impact of Safety Equipment Modalities on Reducing Correctional Officer Injuries
- Applied Technology Research and Development for Criminal Justice Purposes
- Establishing a National Criminal Justice Technology Research, Test, and Evaluation Center
- Research and Evaluation on the Impact of Social Media on Policing

How Your Proposal is Reviewed at NIJ

Proposals received under an NIJ solicitation are reviewed by independent peer panels comprised of reviewers from academia, industry, and government organizations, along with practitioners from federal, state, and local agencies. Once reviewers have completed evaluations, NIJ Program Managers recommend individual proposals to the NIJ Director, who makes final award decisions.

Beginning in fiscal year 2012, NIJ tested new Standing Scientific Review Panels to provide external scientific peer reviews for research applications submitted to NIJ. The SSRPs are "standing panels" to which reviewers are appointed to serve for three years. Each SSRP is designed to have 12 scientific reviewers and six practitioner reviewers who meet in person each year to review research proposals. Individual SSRPs support the social and behavioral, physical, and forensic science programs of NIJ (Fiscal Year 2012 Members of the Standing Scientific Review Panels).

Based on preliminary assessments, NIJ used the new SRPs again in fiscal year 2013. The SRPs are larger than the panels NIJ traditionally uses; thus, they provide greater quality and breadth to the review process. In fiscal year 2012, NIJ invited SRP members to serve for two years with an option to serve for a third. NIJ plans to add new members each year so panelists serve overlapping three-year terms. This approach maintains greater consistency from year to year. Additionally, a new scoring procedure used by the SRPs brings greater transparency to the peer-review process (more on SRPs).

Although you may submit unsolicited proposals to NIJ, you are discouraged from doing so unless you have discussed the concept with NIJ staff and been asked to submit a proposal that does not fit into a specific solicitation. Unsolicited proposals may receive either an external peer review or an internal review. If the proposal fits into an already established solicitation category, it will be returned with a recommendation to resubmit it under that solicitation.

How Your NIJ Application Is Reviewed

Independent peer-review panels consisting of both researchers and practitioners review all proposals submitted to NIJ. Panel members read each proposal, assess the technical merits and policy relevance of the proposed research, and typically meet to discuss their assessments. Panelists are asked to base their reviews on criteria set forth in the solicitation. The panel assessments and any accompanying NIJ staff reports are submitted to the NIJ Director. All final grant award decisions are made by the Assistant Attorney General or the NIJ Director.

One excellent way to become more competitive for funding at any agency, including NIJ, is to volunteer to be a reviewer for the agency. NIJ offers this opportunity at: Interested in becoming a peer reviewer for NIJ? Learn how.

Using Reviewer Tips for NIJ Applications

Most proposals are evaluated in a highly competitive forum, with hundreds of grant proposals competing for the same funds, according to NIJ. Most grant proposals do not receive funding. Your proposal must meet at least two goals: *(1) inform the reader of your plans, and (2) persuade the reader that your project is worthy of funding* (more at OJP Grants 101).

Sell the reviewers on the following NIJ points-

- The need or problem that you will address or fix with the grant money is **significant** and worthy of funding.
- The project or program is **well planned**, both from the funding agency's and your point of view, to ensure a successful implementation should the funds be awarded.
- You are capable of successfully managing the funds, completing the proposed project on schedule, and meeting your goals and objectives.

Respond to reviewers' needs and expectations by-

- Including details that sufficiently clarify your plans for the reviewers who may be unfamiliar with them and who may be reading several grant proposals at the same time.
- Providing good reasons for funding the proposed project and making clear how it addresses the **solicitation's purpose and goals.**
- Ensuring that the proposal is well written and that important information is easily accessible. Reviewers who have trouble accessing or understanding important information will not be convinced that the proposed project deserves funding.

Develop Your Ideas for the NIJ Proposal

The first step in planning a proposal is to develop a clear, concise description of the proposed project. *The project must fit into OJP's philosophy and mission, and the need you are addressing must be well documented and clearly articulated.* OJP's funding agencies typically will want to know that a proposed activity or project *reinforces its overall mission and that the project is important to meeting the community's needs. To make a compelling case, include the following NIJ points in your proposal—*

• The nature of the project and its goals, needs, and anticipated outcomes.

- A description of how the project will be conducted.
- A list of proposed deliverables.
- A timetable for completion.
- A method for evaluating the results (performance measures).
- Staffing needs, including the use of existing staff and new hires or volunteers.
- A preliminary budget, covering expenses and financial requirements, to determine the level of funding to seek.

Becoming a Peer Reviewer for NIJ

NIJ is seeking reviewers to assess grant applications by serving on either an Ad Hoc Peer Review Panel or a Standing Scientific Review Panel (<u>more</u>).

Ad Hoc Peer Review Panels

NIJ seeks reviewers from diverse backgrounds and regions who have relevant expertise and experience in at least one of the following areas:

- Crime control and prevention research.
- Criminology, law enforcement or corrections.
- DNA analysis, research, and development.
- Information and sensor technologies.
- Investigative and forensic science and technology.
- Justice systems research.
- Law enforcement technologies.
- Violence and victimization research.

Some reviews are conducted remotely, whereas others involve in-person meetings. Reviewers score 10 to 15 applications within a two-to-four-week period. Before beginning their work, reviewers must participate in an orientation telephone call, which covers the role and responsibilities of the reviewers and the background and purpose of the grant program under review (more). Participants receive \$125 for each application reviewed. If you wish to be considered for peer-review panels, including future NIJ standing peer-review panels, register on <u>NIJ's Consultant Information System</u>.

Research Funding Snapshot: US Department of ED

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The U.S. Department of Education (ED) website offers an enormous amount of information about the agency, which, for the uninitiated, may seem like a tsunami of facts, figures, and background. But it is possible to find the key information you need to submit a proposal to ED and to distill it to a manageable size. For investigators both new to ED and experienced at the agency, as well as research professionals assisting them, it is often helpful to collect and condense in a more accessible and easily managed way the key information needed to submit a successful proposal to the agency. Such key information includes how to find ED grant opportunities; whether ED funds unsolicited proposals; how to sign up for ED email and RSS program alerts; how to gain a better insight into the ED mission and culture; how to identify the ED program areas and solicitations most relevant to your research interests; how to understand the application process, including how your proposal will be reviewed, etc. ED offers three kinds of grants: *Discretionary grants* awarded using a competitive process; *Student loans or grants* designed to help students attend college; and *formula grants*, using formulas determined by Congress with no application process.

In most cases, *university researchers will be most interested in ED discretionary grants that use a competitive review process rather than a pre-existing formula in making awards*. Most university faculty or other university-eligible PIs will respond to the various discretionary grant programs at ED (more). This focus on ED discretionary grants alone represents a major step towards identifying the information you need from the ED website and ignoring what you don't need.

To take the first step in this process, select an entry point to ED from its <u>Coordinating</u> <u>Structure Graphic</u>, or review the eight <u>principal offices</u> that administer the **discretionary grant programs**. For example, the Office of Postsecondary Education (<u>OPE</u>) formulates federal postsecondary education policy and administers programs that address critical national needs in support of postsecondary education. OPE does this through two major components: <u>Higher</u> <u>Education Programs (HEP)</u> and <u>International and Foreign Language Education (IFLE)</u>. (A complete list of ED programs can also be found at the <u>Catalog of Federal Domestic Assistance</u>, arranged by Agency.)

Of course, researchers are likely to begin by asking, "**How do I find grant opportunities at ED?**" The short answer is that all ED grants are posted to <u>Grants.gov</u>. From there, you can follow the links for <u>New Opportunities This Week</u>, and then follow the link on the left sidebar <u>Browse by Agency</u> to select <u>Department of Education</u> for a listing of open grants specific to ED. However, it is important that information on open funding opportunities be fully informed by more detailed information about the program itself in order to write a competitive application that matches your expertise with the objectives of the funding solicitation.

This leads to the other key information you will need to better understand the mission, culture, and various programmatic objectives of ED discretionary funding, such as information provided at the links below.

- <u>Grantmaking at ED</u> provides an overview of the grants process from start to finish. This is a must read for those who hope to be successful in the area of ED discretionary grants.
- <u>Programs website</u> lists all programs organized by subject, title, eligibility, and more.
- <u>Discretionary Grant Applications</u> lists the application packages currently available.
- <u>Forecast of Funding Opportunities for ED Discretionary Grant Programs</u> forecasts when grant competitions are expected to open. These are the dates to begin watching for the application materials. Contact information for each grant is also provided.
- <u>Guide to Education Programs</u> is an annual publication that provides information on financial assistance offered to state and local education agencies, institutions of higher education, other postsecondary institutions, public and private nonprofit organizations, and individuals.
- Supplemental Priorities for Discretionary Grant Programs
- Grant Application and Other Forms
- ED Applications Online
 - <u>G5:</u> ED's online application system
 - <u>G5 application packages</u>
 - **<u>EDPubs</u>**: list of downloadable application packages
- You can also learn about ED grant opportunities by connecting via <u>Twitter</u> (@edfedregister), or signing up for the <u>Federal Register RSS Feed</u>.

Institute for Education Research (IES)

A key ED office is the <u>Institute for Education Research</u>. Established in 2002, the mission of IES is to provide rigorous evidence on which to ground education practice and policy. This is accomplished through the work of its four centers. To learn more about IES programs and funding opportunities, register for the <u>IES Newsflash</u> for e-mail notifications about future webinars and upcoming funding opportunities.

Steps to Apply for IES Grants

- 1. Identify a <u>current funding opportunity</u> that matches your research interests and identify the relevant <u>Letter of Intent and application deadlines</u>.
- **2. Register** for a <u>funding opportunities webinar</u> to learn more about the application process and to choose an appropriate funding opportunity.
- **3.** Download the appropriate <u>Request for Applications</u>, <u>application submission guide</u>, and <u>application package</u>.
- 4. Submit your (optional but strongly encouraged) Letter of Intent.
- 5. Submit your application to <u>Grants.gov</u> before the application <u>deadline</u>.

In FY 2014, the Institute will support the following research and research training programs (announced in the <u>Federal Register</u> on April 23, 2013).

Research Programs

- Education Research Programs (84.305A)
- Education Research and Development Centers (84.305C) NEW

- <u>Statistical and Research Methodology in Education (84.305D)</u>
 - Statistical and Research Methodology Grants
 - o Early Career Statistical and Research Methodology Grants **NEW**
- Partnerships and Collaborations Focused on Problems of Practice and Policy (84.305H)
 - <u>Researcher-Practitioner Partnerships in Education Research</u>
 - o <u>Continuous Improvement Research in Education</u> **NEW**
 - o Evaluation of State and Local Education Programs and Policies
- The <u>Special Education Research Grants</u> (84.324A) competition will not be held by NCSER in FY 2014 (see link for further information).

Research Training Programs

- Research Training Programs in the Education Sciences (84.305B)
 - o Predoctoral Interdisciplinary Research Training
 - o Methods Training for Education Research NEW NAME
 - Training in Education Research Use and Practice NEW NAME
- The Research Training Programs in Special Education (84.324B) competition will not be held held by NCSER in FY 2014 (see the <u>NCSER homepage</u> for further information).

Other IES Funding Opportunities

- <u>Comprehensive Center Evaluation RFP</u>
- Grants for Statewide, Longitudinal Data Systems
- Unsolicited Grant Opportunities

Unsolicited Grant Opportunities at IES

The Institute of Education Sciences announces its willingness to consider unsolicited applications for research, evaluation, and statistics projects that would make significant contributions to it mission. The Institute's mission is to expand fundamental knowledge and understanding of education and to provide education leaders and practitioners, parents and students, researchers, and the general public with unbiased, reliable, and useful information about the condition and progress of education in the United States; about education policies, programs, and practices that support learning and improve academic achievement and access to educational opportunities for all students; and about the effectiveness of Federal and other education programs. Unsolicited applications are defined as those ineligible for funding under the Institute's current (FY2013) grant competitions.

To view the FY 2013 Unsolicited Grant Opportunities announcement, <u>click here</u>. (153 KB) To view the Institute's FY 2013 grant competitions' Requests for Applications, <u>click here</u>.

IES Peer Review of Grant Applications Procedures

The Standards and Review Office is responsible for the Institute's scientific peer review process. Standards and Review staff work with a contractor that handles the logistics and manages the electronic system for grant application submission and review. The review process includes (a) presubmission procedures that enable the Institute to plan for specific review sessions, (b) application processing procedures, (c) panel selection and appointment, (d) prereview panel procedures, (e) panel meeting, and (f) postreview process.

IES Grant Writing Workshop for Young Investigators

- IES Grant Writing Workshop (85 slides)
- IES Grant Writing Workshop 2010
- Institute Of Education Sciences Grants.Gov Application Submission Guide

IES Research Funding Webinars

If you have questions about the grant application process for research or research training grant competitions, the National Center for Special Education Research and the National Center for Education Research within the Institute of Education Sciences periodically host a series of webinars related to research funding opportunities. <u>Sign up</u> now to receive information on choosing the correct funding opportunity, grant writing, the application process, and more.

- For more information regarding webinar topics, dates, and registration process, <u>browse</u> <u>here</u>.
- To view slides from previous webinar sessions, browse here.

Education Resources Information Center

ERIC - the Education Resources Information Center - is an online digital library of education research and information. ERIC is sponsored by the <u>Institute of Education Sciences</u> (IES) of the <u>U.S. Department of Education</u>. ERIC provides unlimited access to more than 1.4 million bibliographic records of journal articles and other education-related materials, with hundreds of new records added multiple times per week. If possible, links to full text in Adobe PDF format are included. Within the ERIC Collection, you will find records for:

journal articles books research syntheses conference papers technical reports policy papers other education-related materials Using RSS Feeds at ERIC ERIC Featured Topics MSPnet

While not part of ED, MSPnet provides a high quality resources complement for those researchers who may find funding opportunities at both ED and the National Science Foundation, particularly on programs that advance STEM teaching and learning. MSPnet is an electronic learning community for the Math and Science Partnership Program. With the MSP program, the National Science Foundation implemented an important facet of the President's No Child Left Behind (NCLB) vision for K-12 education. A major research and development effort, the MSP program responds to concern over the performance of the nation's children in mathematics and science. Institutions of higher education partner with K-12 districts and others to effect deep, lasting improvement in K-12 mathematics and science education.

How Your Proposal will be Reviewed by NASA, USDA, HHS/ACF

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National Aeronautics and Space Administration (NASA)

When <u>NASA</u> receives a given set of proposals, it begins evaluating each proposal *based on the criteria prescribed in the solicitation*. These evaluations seek to **provide the NASA Program Officer with information to make selection recommendations to NASA.** The NASA Program Officer in charge of the soliciting program initiates the reviews. A review usually evaluates proposals responding to one solicitation. NASA will assign a proposal or a group of linked proposals to a specific solicitation for review.

The evaluation criteria below apply to all NRAs (NASA Research Announcement) released by NASA, unless otherwise stated in the individual NRA. *Evaluation factors include factors evaluated by peer review as well as factors evaluated by NASA program personnel.*

Unless otherwise specified in the NRA, the evaluation criteria (*of approximately equal weight*) considered in evaluating a proposal are its 1) relevance to NASA's objectives, 2) intrinsic merit, and (3) cost. The failure of a proposal to be rated highly in any one of these elements is sufficient cause for the proposal to not be selected.

(1) **Evaluation of a proposal's relevance to NASA's objectives** includes the consideration of the potential **contribution of the effort to NASA's mission** as expressed in its most recent NASA strategy documents and the specific objectives and goals given in the solicitation to which the proposal is submitted. If a solicitation includes a specific description of how it is relevant to NASA strategy documents (<u>2011 NASA Strategic Plan</u>; <u>Strategic Plan Addendum</u>, February 2012), it is not necessary for individual proposals to show relevance to NASA's broader goals and objectives. The proposal only needs to demonstrate relevance by discussing how the proposed investigation addresses the goals and objectives of the specific program element.

(2) Evaluation of intrinsic merit includes consideration of the following factors:

(i) **Overall scientific or technical merit** of the proposal and/or unique and innovative methods, approaches, concepts, or advanced technologies demonstrated by the proposal;

(ii) **Offeror's capabilities**, related experience, facilities, techniques, or unique combination of these which are integral factors for achieving the proposal's objectives;

(iii) **The qualifications**, capabilities, and experience of the proposed principal investigator, team leader, or key personnel critical in achieving the proposal objectives; and

(iv) **Evaluation against the state-of-the-art**. Review panels are instructed not to compare proposals to each other; all comparative evaluations are conducted by NASA program personnel.

(3) **Evaluation of the cost** of a proposed effort shall include the realism and reasonableness of the proposed cost, and the comparison of that proposed cost to available funds. Low cost, while desirable, does not offset the importance of realism and reasonableness

of the proposed budget. Review panels evaluate cost realism and reasonableness; however, comparison of the proposed cost to available funds is performed by NASA program personnel.

Note that the NRA itself provides the focused, program-specific objectives that will define precisely what is meant by the term "relevance" in item (1) above. The evaluation forms that are provided to both individual and panel reviewers, will generally list (perhaps in abbreviated form) all criteria for which their opinion is requested. Reviewers are instructed to judge each proposal against the stated evaluation criteria and not to compare proposals to which they have access, even if they propose similar objectives. Only the NASA Program Officer may make binding comparisons of proposals during the process of developing the recommendation for selection.

Review panels are instructed not to compare proposals to each other but to base all evaluation comments against the criteria and objectives as stated in the NRA. To help ensure uniformity of the reviews, NASA asks its reviewers to document their findings *using clear, concise language that is understandable to the non-specialist* by means of perceived major and minor strengths and weaknesses, where it is understood that a minor weakness is correctable if addressed early in the period of performance but that a major weakness is considered a serious if not fatal flaw or deficiency that would effectively prevent in part or wholly the proposed objectives from being accomplished, or that otherwise may render the proposal unsuitable for consideration for funding (e.g., the proposal fails to address the NRA's objectives, does not show promise of making a significant advance in its field, has an inadequate or flawed plan of research, or proposes an unrealistic level of effort). See: *Guidebook* For Proposers Responding to a NASA Research Announcement (NRA) Or Cooperative Agreement Notice (CAN). Edition: January 2013.

After all reviews and evaluations are completed, the Program Officer for the NRA develops a recommendation for selection based on the results of each proposal's intrinsic merit, its overall relevance to the program objectives as stated in the NRA (including programmatic factors such as balance between objectives or disciplines), and the reasonableness of the proposed costs as compared to the available budget. *The Program Officer then presents and defends this recommendation before the NASA Selection Official identified in the NRA, who then selects the proposals to be funded.*

Guidelines and Tips for NASA Proposal Preparation

NASA's extensive experience reviewing proposals submitted in response to a wide variety of program solicitations has shown *the value of the following guidelines to encourage the submission of a valid, competitive proposal*:

- Follow the instructions in the specific NRA of interest with care in order to respond to the opportunity *as published*, since NASA is legally obligated to review and select proposals in accordance with its published provisions.
- Clearly state the objectives of the proposal and its implementation plan so that both NASA and the peer reviewers can easily understand *what is proposed to be done and how it will be accomplished.*
- Make sure that the proposal clearly addresses the advertised objectives as stated in the NRA, since NASA is a program-oriented Agency obligated to sponsor only that

research that supports its goals and objectives as stated in its strategic plans and research solicitations.

- If proposing innovative work in a new or emerging field, *strive to achieve a balance between the provision of tutorial material and the description of the new activities being proposed*.
- Provide appropriate recognition of preceding accomplishments; demonstrate knowledge of the literature by citing key recent, significant publications in the field; and show how the proposed activity will extend and build on what has already been accomplished (whether by the Proposer or by others).
- Proofread the proposal carefully before submission, and, if at all possible, ask a colleague to critically review it for completeness and comprehensibility. *Strive for a quality and clarity of text comparable to that of an article submitted to a peer-reviewed journal.*
- Keep the proposal as short as possible consistent with completeness and understandability; use legible fonts and illustrations and a clear, simple organization. When designing graphics, remember that readers may be color blind; therefore, choose non-color-dependent ways of conveying critical information.
- Propose fresh, new ideas rather than slight modifications of proposals that may have been rejected in previous competitions. Simply revising a proposal to meet deficiencies identified in a previous review(s) does not necessarily guarantee a higher rating, since reviewers are rarely the same, NASA objectives evolve, and fields of research mature, all over a period as short as one year.
- Include all requested proposal information in its specified order and in compliance with stated page limits.
- Strive for realism as well as adequacy of the requested budget, and provide all the details necessary to justify and facilitate understanding of the proposed costs. A relatively low cost does not necessarily provide a competitive advantage to a proposal unless all other factors are equal; likewise, a proposal judged to be of especially high science/technical merit will not necessarily be rejected because it requests a budget beyond the norm advertised for the program.
- Familiarize yourself with the proposal submission process and website well before the deadline. Adhere to all proposal deadlines, and, if possible, submit proposals well in advance of the proposal submission deadline to minimize the effect of technical difficulties that may arise (*Guidebook*, January 2013).

USDA National Institute of Food and Agriculture (NIFA)

The NIFA Peer Review Process for Competitive Grant Applications

NIFA reviews all proposals accepted in the individual competitive programs through the peer review process. The following description of that process portrays general concepts that are shared among NIFA competitive grants programs. *However, specific details on the panel meeting, review format, and evaluation criteria will vary among programs* (example in

following text). Processes and procedures specific for the <u>Agriculture and Food Research</u> <u>Initiative</u> (AFRI) are noted.

The review process begins with the publication of the **Request for Applications** (RFA) for the NIFA competitive program of interest. The RFA includes all of the pertinent information for the current funding cycle, including program purpose, legislative mandates, award types, eligibility requirements, **evaluation criteria**, submission instructions, program goals and funding priorities, proposal submission deadlines, and application submission instructions. NIFA also conducts two grantsmanship workshops each year, covering the AFRI Integrated, Education and other Programs, to educate applicants regarding NIFA funding opportunities and provide a forum for potential applicants to talk directly with program leaders about their proposed projects.

Proposals that do not respond to priorities in the RFA are returned without review. Some individual AFRI program areas also now require submission of letters of intent prior to proposal submission. For these program areas, **proposals submitted without prior approval of the letter of intent by the program leader are returned without review**. NIFA program staff evaluates these letters for the suitability of the project to program goals and priorities and in relation to program scope and needs. **Invitations to submit** a full application are then issued by the program leader for letters describing proposed projects best fitting these criteria.

Selection of a panel manager. Many NIFA competitive programs utilize a panel manager who is selected by the program leader to assist with administration of the program. For example, all the AFRI programs select a panel manager. The panel manager is an active, established scientist possessing broad-based knowledge in the program area. The Panel Manager will have experience in research, education and extension as is appropriate for the program. The professional stature of the panel managers within their respective scientific communities brings additional visibility and recognition to the program. Panel managers become part-time, temporary (1-2 years) USDA employees. Duties of the panel manager include assisting program leaders in selecting panel members and ad hoc reviewers, assigning proposals to reviewers, chairing the panel meeting, and assisting program leaders with funding decisions. Panel managers (or their family members) cannot submit an application to the panel that they head, as either project director (PD) or co-PD.

Selection of panelists and proposal review. The program leader and panel manager aim to assemble a diverse panel active in research, education, and/or extension (as appropriate for the program) related to the subject matter in question. The goal is to create a balanced panel with the necessary expertise to cover the range of the proposals, while also maintaining diversity in geographical location, institution size and type, professional rank, gender, and ethnicity. *Programs also strive to have continuity on the panel from previous years by inviting at least 30 percent of the panelists to return for a subsequent year.* No more than one individual, including the panel manager, can serve from a single institution or, with a few exceptions, from a single state. As with the panel manager, panelists cannot submit an application to the panel on which they have agreed to serve.

The program leader and panel manager study the proposals and *assign them for review* to panel reviewers and, when additional expertise is needed, to ad hoc reviewers. Typically, three to four panelists review each proposal. If needed for additional expertise, up to three ad hoc reviewers may also evaluate a proposal. Each panelist is assigned 12 to 20 proposals, for which they provide written reviews. During the review panel meeting, each panelist also provides an oral evaluation of the assigned proposals.

Reviewers prepare reviews using the evaluation criteria, published in the RFA and available on the NIFA Web site, to assess the strengths and weaknesses of each proposal. Review criteria are specific for the NIFA competitive program. For the AFRI, proposals are evaluated for scientific merit; qualifications of project personnel and adequacy of facilities; and relevance to program priorities including importance of the topic for agriculture.

The review panel meeting. For many NIFA panels, such as the AFRI, panelists often are not assigned the same set of proposals for review. Some NIFA competitive programs, such as those administered by the Higher Education unit, assign the same set of proposals to three to four panelists for review. At the panel meeting, panelists are seated at separate tables with panelists reviewing the same set of proposals assigned to the same table. In this case, the panelists discuss only their assigned proposals and come to a consensus on a final score in an intimate environment. They do not participate in discussion or scoring of other proposals reviewed at other tables in the panel meeting.

The panel manager and program leader serve as chairs of the panel meeting and are responsible for assuring that every application receives a thorough and objective review. They do not provide an opinion or review of the proposal; the rating and ranking of the proposal is entirely the consensus opinion of the panel. The panel manager and program leader also ensure assure that different types of applications, such as research, integrated, and strengthening proposals, are discussed and ranked separately.

During the meeting, the panelists discuss the proposal and reviews and *arrive at a consensus ranking*. For the AFRI, ranking categories are "outstanding," "high priority," "medium priority," "low priority," and "do not fund." *Only proposals ranked in the first three categories may be considered for funding; those ranked in the latter two are ineligible for an award*. Applicants should refer to the Funding Opportunity web page for programs of interest to see the previous year's success rate and gauge the level of competition for that particular program. Following the evaluation and initial ranking of each proposal, a "panel summary" document is written by a panel member reflecting the panel consensus. It details the salient points of the panel's assessment of the strengths and weaknesses of the proposal. The panel summary also contains a section with synthesis comments, describing areas, and potentially providing suggestions, for improvement. *The synthesis also provides comments either to encourage or discourage resubmission of a revised application*. For panels such as those in the AFRI, on the final day of panel meeting, the panelists reassess the initial rankings of the proposals and rerank proposals, as needed, to ensure that they accurately categorize and order the proposals.

After the completion of the panel, the program leader and panel manager use the panel ranking to determine the proposals that will be recommended for funding. The program leader and panel manager also review both the budgets of these top proposals to make sure the request is appropriate and the funding the applicant has, or may receive, from other grant agencies to ensure that the project is not already funded. Generally proposals are funded according to the panel ranking until program funds are used up. In the AFRI, lower ranked proposals that fall below this funding line may be supported with "strengthening" funds, a

percentage of the AFRI budget set aside to support proposals from eligible small to mid-sized institutions or those in EPSCoR states (see the RFA for definitions and eligibility requirements). Following the funding decisions, applicants in most NIFA competitive programs receive copies of the written reviews of their proposal (with reviewer name removed to maintain reviewer confidentiality), the panel summary, and information on the relative ranking of their proposal. This information is commonly sent to the applicant through e-mail correspondence. Some NIFA programs only send applicants the panel summary through either U.S. postal service or e-mail correspondence.

Example Applicant Review Criteria

For example, the below is taken from the <u>FY 2012/2013 Food Safety RFA</u> addresses the review process specific to this RFA; however, *the core evaluation criteria among programs is very similar*, in most cases, and can be used to illustrate the evaluation criteria typical of most research grants to USDA/NIFA.

Each application will be evaluated in a two-part process. First, each application will be screened to ensure that it meets the administrative requirements as set forth in this RFA. Applications that do not fall within the guidelines, as stated in the RFA, will be eliminated from program competition and will not be reviewed. Second, a review panel will technically evaluate applications that meet these requirements. In addition to the review panel, written comments will be solicited from *ad hoc* reviewers when necessary. Prior to recommending an application for funding, the peer review panel and *ad hoc* reviewer comments will be presented and discussed.

Evaluation Criteria

Projects supported under this program shall be designed, among other things, to accomplish one or more of the purposes of agriculture research, education, and extension, subject to the varying conditions and needs of States. Therefore, in carrying out its review, the peer review panel will take into account the following factors.

Scientific Merit of the Application for Research

- Novelty, innovation, uniqueness, and originality;
- Where model systems are used, ability to transfer knowledge gained from these systems to organisms of importance to U.S. agriculture;
- Conceptual adequacy of the research and suitability of the hypothesis, as applicable;
- Clarity and delineation of objectives;
- Adequacy of the description of the undertaking and suitability and feasibility of methodology;
- Demonstration of feasibility through preliminary data; and
- Probability of success of the project is appropriate given the level of scientific originality, and risk-reward balance.

Qualifications of Project Personnel, Adequacy of Facilities, and Project Management

- Qualifications of applicant (individual or team) to conduct the proposed project, including performance record and potential for future accomplishments;
- Demonstrated awareness of previous and alternative approaches to the problem identified in the application;
- Institutional experience and competence in subject area;
- Adequacy of available or obtainable support personnel, facilities, and instrumentation; and
- Planning and administration of the proposed project, including: time allocated for systematic attainment of objectives; and planned administration of the proposed project and its maintenance, partnerships, collaborative efforts, and the planned dissemination of information for multi-institutional projects over the duration of the project.

Project Relevance

Documentation that the research is directed toward specific Program Area Priority(ies) identified in this RFA and is designed to accelerate progress toward the productivity and economic, environmental, and social sustainability of U.S. agriculture with respect to natural resources and the environment, human health and well-being, and communities.

Integrated Project Applications

These evaluation criteria will be used for the review of all multi-function Integrated Project applications.

Merit of the Application for Science Research, Education, and/or Extension

- Project objectives and outcomes are clearly described, adequate, and appropriate. All
 project components (i.e., research, education, extension) at least two are required –
 are reflected in one or more project objectives;
- Proposed approach, procedures, or methodologies are innovative, original, clearly described, suitable, and feasible;
- Expected results or outcomes are clearly stated, measurable, and achievable within the allotted time frame;
- Proposed research fills knowledge gaps that are critical to the development of practices and programs to address the stated problem or issue;
- Proposed extension leads to measurable, documented changes in learning, actions, or conditions in an identified audience or stakeholder group; and
- Proposed education (teaching) has an impact upon and advances the quality of food and agricultural sciences by strengthening institutional capacities and curricula to meet clearly delineated needs and train the next generation of scientists and educators.

Qualifications of Project Personnel, Adequacy of Facilities, and Project Management

• Roles of key personnel are clearly defined;

- Key personnel have sufficient expertise to complete the proposed project, and where appropriate, partnerships with other disciplines (e.g., social science or economics) and institutions are established;
- Evidence of institutional capacity and competence in the proposed area of work is provided;
- Support personnel, facilities, and instrumentation are sufficient;
- A clear plan is articulated for project management, including time allocated for attainment of objectives and delivery of products, maintenance of partnerships and collaborations, and a strategy to enhance communication, data sharing, and reporting among members of the project team; and
- The budget clearly allocates sufficient resources to carry out a set of research, education (teaching), and/or extension activities that will lead to desired outcomes, with no more than two-thirds of the budget focused on a single project component. Supporting funds for Community of Practice core functions and project-specific activities are included for partnerships with eXtension.

Project Relevance

- Documentation that the project is directed toward specific Program Area Priority(ies) identified in this RFA and is designed to accelerate progress toward the productivity and economic, environmental, and social sustainability of U.S. agriculture with respect to natural resources and the environment, human health and well-being, and communities;
- Project components (research, education, and/or extension) at least two are required – are fully integrated and necessary to address the problem or issue;
- The proposed work addresses identified stakeholder needs;
- Stakeholder involvement in project development, implementation, and evaluation is demonstrated, where appropriate;
- Plan and methods for evaluating success of project activities and documenting potential impact against measurable short and mid-term outcomes are suitable and feasible;
- For extension or education (teaching) activities, curricula and related products will sustain education or extension functions beyond the life of the project; and
- For extension or education (teaching) activities, the resulting curricula or products share information and recommendations based on knowledge and conclusions from a broad range of research initiatives.

Conference Grant Applications

- Relevance of the proposed conference to agriculture and food systems in the U.S. and appropriateness of the conference in fostering scientific exchange;
- Qualifications of the organizing committee and appropriateness of invited speakers to topic areas being covered; and
- Uniqueness, timeliness of the conference, and appropriateness of budget requests.

Sabbatical Grant, Equipment Grant, and Seed Grant Applications

- The merit of the proposed activities or equipment as a means of enhancing the capabilities and competitiveness of the applicant and/or institution;
- The applicant's previous experience and background along with the appropriateness of the proposed activities or equipment for the goals proposed; and
- Relevance of the project to long-range improvements in and sustainability of U.S. agriculture, the environment, human health and well-being, and rural communities.

USDA/NIFA Reasons for Well Reviewed Proposals

- Excite the reviewers
- Are easy to read and understand
- Have an appropriate literature review
- Have clear rationale and objectives fitted to program priorities [note: clearly differentiate vision, goals, objectives, rationale, outputs and outcomes, and metrics, i.e. consider logic model]
- Clearly stated hypotheses or research questions for research proposals
- Clearly stated learning objectives and expected outcomes/impacts for education and extension portion of the project (answers the question:
- What will be different as a result of the proposed work?)
- Have specific objectives, methods, work plan, etc. for research, education, and extension components for integrated proposals
- Excite the reviewers
- Are easy to read and understand
- Have an appropriate literature review
- Have clear rationale and objectives fitted to program priorities [note: clearly differentiate vision, goals, objectives, rationale, outputs and outcomes, and metrics, i.e. consider logic model]
- Clearly stated hypotheses or research questions for research proposals
- Clearly stated learning objectives and expected outcomes/impacts for education and extension portion of the project (answers the question:
- What will be different as a result of the proposed work?)
- Have specific objectives, methods, work plan, etc. for research, education, and extension components for integrated proposals

USDA/NIFA Reasons for Poorly Reviewed Proposals

- Project of little or no relevance to mission and/or program priorities
- Insufficient preliminary data or evidence from literature
- Exceeds page limit, poorly written, unclear objectives or hypotheses
- Poor record of results (e.g., publications) from previous funding
- Experiments or objectives not cohesive and lack synthesis
- Low scientific merit, basic flaws in logic, demonstrates lack of scientific understanding
- No hypotheses, research questions, or learning objectives
- Not innovative, little new information gained

- Inappropriate methods or methods too vague
- Not as exciting as other proposals (i.e., worth funding, but ran out of funds)
- Project Director(s) not qualified
- Evaluation factors are program-dependent and very important
- Understand evaluation criteria before writing the proposal
- Evaluation criteria are stated in the RFA Review
- Criteria always described in the RFA
- Differ across programs
- May differ within program by project type
- Used by reviewers to evaluate your proposal
- Stated criteria are given equal weight unless otherwise noted in the RFA

HHS/Administration for Children and Families

Understand the Review Process. Every grant application receives a comprehensive review, conducted by a panel of independent subject matter experts who volunteer, or are nominated, to become grant reviewers. Each application is reviewed by at least three reviewers, who separately score the application according to review criteria spelled out in the Funding Opportunity Announcement (FOA). A panel chairperson oversees each review panel.

After all applications are reviewed, reviewers meet to discuss the strengths and weaknesses of each application and arrive at a consensus score. The panel creates a rank ordered list, which ACF uses when considering which applications will receive funding. For each application, the panel develops a summary report that describes the applications strengths and weaknesses. Applicants receive their own summary report and can receive their cumulative score upon request. This information can be used as constructive feedback for future applications specific to that program.

Results of the competitive objective review are taken into consideration by ACF in the selection of projects for funding; however, objective review scores and rankings are not binding. They are one element in the decision-making process.

Review Criteria

Section V.1. of the FOA describes in detail the review criteria that will be used to evaluate and score applications. Review criteria vary for each FOA, but some common categories include:

- Needs assessment;
- Approach;
- Evaluative measures;
- Organizational Capacity; and
- Budget and Budget Justification.

Most funding opportunity announcements include more specific criteria for each category and many list additional review criteria.

Last-Minute NSF CAREER Checklist

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<u>NSF CAREER</u> proposals are due next week. Many of you have been working on your proposals for months and are now heading down to the final stretch. Below are some things you should check before you send in your proposal. Be particularly careful to follow the new GPG requirements described below. If you don't, NSF can return your proposal without review!

- ✓ Does your Project Summary follow the new GPG guidelines? NSF's new Grant Proposal Guide, effective January of this year, has <u>new requirements</u>* (Chapter II, C.2b) for the Project Summary. Your Summary must be divided into three sections: Overview, Intellectual Merit, and Broader Impacts. Be especially careful to follow the requirements for the Overview section, which state that it should include "a description of the activity that would result if the proposal were funded and a statement of objectives and methods to be employed." Did you give a true overview of your project, or did you make the common mistake of turning this section into an introduction where you just discuss the problem or need you're addressing? Also, the length allowed by Fastlane for the Project Summary is now a total of 4600 characters including spaces (divided among the three sections as you like).
- Are your goals, objectives, and tasks consistent throughout your Project Description? If you state your goals and objectives in your introduction, are they the same goals and objectives you describe in your Research Plan? Do you change or add new goals and objectives as you progress through your narrative? This will just confuse the reviewer. When you describe your research tasks, are these tasks clearly tied to your objectives, and are those the same tasks that you list in your project schedule or milestone chart?
- Are your project goals accurately stated? If your project goals were described too broadly or vaguely—for example, stating that you will solve a general problem in your field, understand a basic phenomenon, or "prove" a hypothesis—will you actually achieve that goal in the five years of your project? A common complaint of reviewers is that the research plan will not achieve the goals stated. If this is the case for your proposal, rewrite your goals so that they are specific and consistent with what you'll achieve if your research plan is successful.
- ✓ Did you put your project in the context of your long-term career goals? Remember that the purpose of the CAREER grant is to help promising researchers "build a firm foundation for a lifetime of leadership in integrating education and research." In order to assess how well your project will do that, reviewers need to understand what your long-term research and education goals are.
- Are all your figures and tables consistently numbered, and do you refer to each of them in your text? Last-minute edits to meet the page limit can result in misnumbered figures and tables. If you don't refer to your figures and tables in your text, it can be difficult for the reviewer to understand their context and relevance.

- Did you avoid including URLs in your Project Description? It states in the <u>GPG</u> that "PIs are cautioned that the Project Description must be self-contained and that URLs that provide information related to the proposal should not be used because 1) the information could circumvent page limitations, 2) the reviewers are under no obligation to view the sites, and 3) the sites could be altered or abolished between the time of submission and the time of review." However, you can cite them as you would a publication and include the URL in your References Cited section.
- Did you include a separate, titled Broader Impacts section in your Project Description? Previously, a separate Broader Impacts section was required only for the Project Summary. In the <u>new GPG</u>, PIs are also required to include a separate Broader Impacts section in their Project Description. Be sure to title this section so that it's easy to find.
- ✓ If you had NSF funding in the last 5 years, did you follow the new requirements for your Results of Prior NSF Funding section? You are required to include a Results of Prior NSF Funding section in your Project Description if you received any NSF funding in the last 5 years, no matter what your role on the project (you did not need to be a PI or co-PI). In this section, you are now required to separately describe (and label) the Intellectual Merits and Broader Impacts of the project. Go here (Section C.2.d.iii) for a full description of the requirements. If your previous project is not highly relevant to your proposed CAREER project, you don't have to spend a lot of space on this section, but be sure to fully describe your accomplishments on the previous project. Remember, this is your track record, and clearly describing strong results (including your broader impacts) will give you a competitive advantage with reviewers.
- ✓ Does your Education Plan include clear goals and a plan to assess your success in meeting those goals? If you'll be developing a new course or trying out a new teaching method, did you explain what you hope to accomplish by doing that? Did you describe how you'll determine if you actually accomplished your goals and objectives?
- ✓ Did you run spell check? Reviewers are highly irritated by typos, misspellings and grammar mistakes. They see it as a reflection of the quality of the work you would do if funded.
- ✓ Did you recruit others to read your proposal and give you feedback? There's still time to ask your colleagues and friends to read your proposal. Recruit both experts in your field (who can identify technical issues that may concern reviewers) and readers from outside your field (who can tell you if the main points of your proposal are clear to a technically literate non-expert). If your non-expert reviewers can't understand generally what you're going to do, why you're doing it, and why your approach is innovative, consider rewriting the first two or three pages to more clearly give an accessible overview of your project. This is particularly important if you're applying to a program that conducts only a panel review (which is particularly common in the Engineering Directorate) because you are more likely to have reviewers from outside your subfield.
- ✓ If you include collaborations in your project, did you get letters from those people? Reviewers usually look for letters confirming that you actually have in place the collaborations you describe in your proposal. This also applies to assistance you'll be getting for your education and outreach activities, even if you'll be working with others at your

institution. For example, if you'll be participating in a STEM summer camp that takes place every summer at your university, be sure to get a letter from the director of the program stating that they have agreed to your participation and describing your role.

- Did you include in the budget the resources you need to conduct your education and outreach activities? A common mistake is to describe ambitious education and outreach activities that clearly require funding, and then forget to include those funds in your budget. Reviewers will assume you're not really serious. Even worse, if the reviewers don't notice, you could be awarded the grant and then won't have the funds to do what you promised.
- ✓ If you have a postdoc on your budget, did you include a Postdoc Mentoring Plan? Even if your postdoc is not full-time on this project, if they are a line item on your budget Fastlane won't let you submit without a postdoc mentoring plan. For more info, go <u>here</u> (section C.2.j)
- ✓ Do you have all your other supplementary documentation ready? This includes your 2-page biosketch (be absolutely sure you follow <u>the required format</u> [section C.2.f] exactly!), your <u>Current & Pending</u> form (section C.2.h), <u>Data Management plan, Facilities, Equipment</u> and other <u>Resources</u> form (section C.2.i), and any letters.
- Do you have a plan to submit at least a day early? Due dates are staggered by Directorate: July 22nd for BIO, CISE, EHR and OCI; July 23rd for ENG; and July 24th for GEO, MPS, SBE, and OPP. Expect Fastlane to slow down, particularly in the afternoon of each due date. If you don't submit by 5 pm (in your time zone) on your due date, even if the reason was that Fastlane was slow, NSF will not accept your proposal and you'll have to wait until next year to try again if you're still eligible. Add to that the fact that your pre-award office will likely be submitting multiple CAREER proposals, and it should be clear that it's a good idea to submit at least a day before the deadline.
- ✓ Do you have plans to celebrate after your proposal has been submitted? After your proposal has successfully been submitted, go somewhere fun for the weekend, take your long-suffering spouse out to dinner, or get a massage. The pile of work that collected on your desk while you were working on your proposal will still be there when you get back!
- * The GPG links in this article should take you directly to the section of the GPG to which we are referring. Unfortunately, many of these bookmark links weren't working at time of publication and instead take you to the top of the appropriate chapter. In those cases, we have included the Section numbers. It may be easier to go to the <u>GPG index</u> and find the link to the section there.

Research Grant Writing Web Resources

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Step One to a Winning NIH Application: Conduct a Self-Evaluation, *NIAD Funding Newsletter*, May 1, 2013

As we wrote in our last issue, we're updating our <u>Ten Steps to a Winning R01 Grant Application</u>. We kick off the series with a look at conducting a self-evaluation. When applying for an independent research grant, you'll need demonstrable expertise in a scientific field, an area of science like AIDS or TB vaccines or a technology, such as imaging or bioinformatics. Your qualifications lay the foundation for your grant-seeking efforts: whatever you write in your application is immaterial unless your reviewers deem you able to complete the work you propose. They will scrutinize your application for your credentials, publications, and presentations at scientific meetings, to determine whether you are a new investigator or an experienced one breaking into a new field as well as to gauge your technical expertise and grasp of the research area. You may need outside collaborators to round out the technical expertise that your research demands, but you will still need to convince reviewers that you understand all aspects of your project.

Take Aim

When picking an area to study, most investigators stay in the field where they are already working or extend their interests to a highly-related field. A proven track record in a specific field builds the confidence of your peer reviewers in your ability to conduct the research. For a more experienced investigator, reviewers consider past successes to be indicators of whether he or she can successfully compete in a new area of research. To assess your qualifications to work in a certain area of research, we suggest following these steps.

- Evaluate your training, publications, and presentations at scientific meetings in the field.
- Be critical: look at yourself through the eyes of your future reviewers.
- Ask colleagues or advisors to make the same assessment of you.

To help you determine where your research might best fit at NIH, review mission statements of its institutes and centers (ICs) and be mindful that different NIH ICs can have overlapping research priorities. Find this information at NIH's <u>Institutes, Centers, and Offices</u>.

Got the Creds?

To get nods from reviewers, you'll need significant experience and a publication record (first or last author) in respected peer-reviewed journals. Though a history of overseeing projects in your field can be helpful, keep in mind that nothing, including review articles, can substitute for high quality peer-reviewed research papers. If you are trying for your first independent grant, your reviewers will also ask whether you will be able to lead a major research project in the proposed area. Experienced investigators wishing to enter a new field may want to start with a small grant type such as an exploratory/developmental research grant (R21) or a small grant (R03) before trying for an R01. These smaller awards could permit you to generate key

preliminary data (especially "proof of principle" data) for a later R01. Anyone needing more experience or wanting to change fields should also consider getting more training in the new area before preparing a grant application, unless the grant program is specifically designed to attract investigators new to a particular field of research. Such training can come from formal courses offered by (or through) professional societies or hands-on training gained in the laboratory of an experienced colleague. Also, if you're working in an area that's different from your previous one, it's worth taking the time to publish in this new area, possibly through a collaboration, before applying for a grant. You may also want to look into our career development awards, which are especially helpful for postdocs.

Workshop on Science Team Dynamics and Effectiveness

This July 1 workshop explored the large body of research on team dynamics and management that has important implications for the effectiveness of collaboration within large and small scientific teams. It will consider the research literature related to these topics, including the research focusing specifically on science teams and the research on teams in other types of organizational settings. It will address the following questions in the study charge:

- How do individual factors (e.g., openness to divergent ideas), influence team dynamics (e.g., cohesion), and how, in turn, do both individual factors and team dynamics influence the effectiveness and productivity of science teams?
- What factors at the team, center, or institute level (e.g., team size, team membership, geographic dispersion) influence the effectiveness of science teams?
- How do different management approaches and leadership styles influence the effectiveness of science teams? For example, different approaches to establishing work roles and routines and to the division of labor may influence team effectiveness.

Workshop Materials

<u>Presentation: Opening Remarks</u>

Education and Training for Team Science

- <u>Team Training for Team Science: Improving Interdisciplinary Research by Eduardo Salas</u> <u>and Christina Lacerenza</u>
- Presentation: Team Training for Team Science by Eduardo Salas and Christina Lacerenza
- <u>Response to "Team Training for Team Science: Improving Interdisciplinary Research" by</u>
 <u>Maura Borrego</u>

Exploring 3 Critical Factors

- Presentation: Social Relationships and Scientific Creativity by Jill Perry-Smith
- Understanding and Addressing Faultlines by Katerina Bezrukova
- Team Leadership
- <u>Science Team Leadership by David Day</u>

Virtual Science Teams

Improving Virtual Science Team Performance: What Can Be Learned from Virtual
 Organizational Teams Research by Bradley Kirkman

• <u>Presentation: Improving Virtual Science Team Performance by Bradley Kirkman</u> Multi-Team Systems

Innovation in Scientific Multiteam Systems: Confluent and Countervailing Forces by
 Leslie DeChurch and Stephen Zaccaro

More information about the study

How to Apply for a Grant

HHS/Administration for Children and Families

If you're interested in applying for ACF funding, please explore the following links:

- 1. Register and Get Ready
- 2. Find Funding Opportunities
- 3. Understand the Funding Opportunity Announcement
- 4. Decide Whether to Apply
- 5. Write a Strong Application
- 6. Submit an Application
- 7. Understand the Review Process

Past USDA/NIFA Grantsmanship Workshops

Dec. 11, 2012, National Grantsmanship Workshop: A Focus on Partnerships, **Greenville, NC** Topics covered: preparation and management of competitively awarded grants; thinking like a peer-review panelist; integrating research, education and extension; writing impact statements, and forming public-private partnerships. <u>Workshop web site</u>.

Sponsor: University of North Carolina Agricultural and Technical State University

August 9, 2011, Planning and Managing Systems-Based Trans-disciplinary Projects for USDA/NIFA Programs, Knoxville TN

NIFA competitive funding programs covered: No information provided for specific funding programs. Grantsmanship topics covered apply to many NIFA grant programs, but most particularly, NIFA Challenge Areas, Sustainable Agriculture Research and Education (SARE), the Specialty Crop Research Initiative (SCRI), the Organic Research and Extension Initiative (OREI), and Organic Transitions (ORG)

Sponsors: University of Tennessee-Knoxville AgResearch PowerPoint and Video Presentations

January 25 – January 26 2011, Crystal City, VA, Crystal Gateway Marriott.

Funding opportunities covered: all. <u>PowerPoint and Video Presentations</u>

November 30 – December 1, 2010, Crystal City, VA

Funding opportunities covered: all. <u>Workshop web site.</u> Sponsors: Virginia Tech PowerPoint and Video Presentations

September 8, 2010, Planning and Managing Systems Based Trans-disciplinary Projects for USDA/NIFA Program, Pullman, WA

NIFA competitive funding programs covered: Sustainable Agriculture Research and Education (SARE), the Specialty Crop Research Initiative (SCRI), the Organic Research and Extension Initiative (OREI), and Organic Transitions (ORG) only Sponsors: Washington State University, Agricultural Experiment Station <u>PowerPoint and Video Presentations</u> Resources for Applicants: see <u>More SCRI Information</u>

December 10, 2009, Planning and Managing Systems Based Trans-disciplinary Projects for USDA/NIFA Program, Ithaca, NY

NIFA competitive funding programs covered: Sustainable Agriculture Research and Education (SARE), the Specialty Crop Research Initiative (SCRI), the Organic Research and Extension Initiative (OREI), and Organic Transitions (ORG) only

Sponsors: Cornell University Cooperative Extension

PowerPoint and Video Presentations

Resources for Applicants: see More SCRI Information

March 9-10, 2009, Integrated Competitive Programs Grantsmanship Workshop, Las Vegas, NV

NIFA competitive funding programs covered: Integrated Research, Education, and Extension Programs only

Sponsors: University of Nevada Cooperative Extension

PowerPoint and Video Presentations

Resources for Applicants: see More Integrated Programs Information

September 30, 2008, Marriott Crystal Gateway, Arlington, VA

NIFA competitive funding programs covered: all Sponsors: The Southern Association of Agricultural Experiment Station Directors (SAAESD), Northeastern Regional Association of State Agricultural Experiment Station Directors (NERA) and National Institute of Food and Agriculture (NIFA) <u>PowerPoint and Video Presentations</u>

Upcoming Workshops

Educational Grant Writing Web Resources

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<u>Toward Reforming Non-Credit-Bearing Remedial Mathematics Courses in Four-Year</u> <u>Universities</u>

Over the past several decades, there has been a considerable increase in enrollments in noncredit-bearing remedial (NCBR) mathematics courses in both two- and four-year colleges and universities. These courses represent an important experience for many students entering college --proponents view these courses as critical for helping students who are unprepared for college mathematics courses make a successful transition from high school to higher education. These courses also serve two central higher-education policy objectives: mission differentiation and institutional access for students from underrepresented racial groups. However, recent scholarship indicates that Black- and Latina/o-identified students are continually overrepresented in NCBR mathematics courses. Moreover, such research reveals that these courses have negative effects on students' mathematics learning experiences and threatening psychosocial impacts on students. NCBR courses, particularly in four-year universities, accordingly should be improved in two primary ways: (1) The curriculum of NCBR mathematics courses should be aligned with contemporary practices in mathematics education at large, and (2) Higher education institutions should take the shift to "developmental" courses seriously and coordinate institutional support services (compensatory education) with NCBR mathematics courses.

Algebra and the Underprepared Learner

Algebra acts as a gatekeeper for high school graduation and post- secondary success. Students who pass Algebra 1 by the end of ninth grade are more likely to take advanced mathematics courses, graduate from high school, and succeed in college. Yet persistent inequities in access to rigorous algebra due to issues of placement, preparation, and quality of instruction have kept the gate closed for a large proportion of students, particularly minority and low- income students. In response, "Algebra for All" policies have been implemented whereby all students are required to take Algebra 1 by a designated grade level--typically eighth or ninth grade. While such policies are on target in their intention to increase the number of students who successfully complete Algebra 1 in a timely way, evidence also shows that for too many students, these policies by themselves have neither increased mathematics achievement nor advanced greater opportunity. Rather, they often result in the watering down of Algebra 1 content and significantly increase the number of students who fail the course. These consequences are concentrated among underprepared students, whom the policies were designed to serve in the first place. As such, the worthy goals of Algebra for All may only be realized when a rigorous approach to Algebra is maintained for all students, and when necessary systems are in place to prepare and support all students to be successful. The Common Core State Standards for Mathematics (CCSS-M) now provides clearer and more rigorous expectations for the algebra content all students should learn, but the articulation of such standards is only a starting point. Algebra policy, therefore, should include provisions for

equitably maintaining this level of rigor for all students, while providing a system of supports to: (1) better prepare students to succeed *before* taking Algebra 1; (2) enhance learning opportunities for underprepared learners *during* Algebra 1; and (3) enhance teaching capacity to support all learners, particularly those who are underprepared to succeed in Algebra 1.

The Nation's Report Card: Trends in Academic Progress 2012

This report presents the results of the National Assessment of Educational Progress (NAEP) long-term trend assessments in reading and mathematics administered during the 2011–12 school year to 9-, 13-, and 17-year-old students. Long-term trend assessments were first administered in the early 1970s; results are available for 12 reading assessments dating back to 1971 and 11 mathematics assessments dating back to 1973. This report provides trend results in terms of average scale scores, percentiles, and five performance levels. Item maps for each age group illustrate skills demonstrated by students when responding to assessment questions. Scale score results are included for students by selected background characteristics (e.g., race/ethnicity, gender, and type of school). Overall, the 2012 long-term trend results show 9- and 13-year-olds scoring higher in both reading and mathematics than students their age in the 1970s. At age 13, the overall average score in each subject was also higher in comparison to the last assessment in 2008. At age 17, however, the 2012 reading and mathematics average scores were not significantly different from those in the respective first assessment year.

<u>Criteria for High-Quality Assessment</u> (Stanford Center for Opportunity Policy in Education)

States and school districts across the nation are making critical decisions about student assessments as they move to implement the Common Core State Standards (CCSS), adopted by 45 states. The Standards feature an increased focus on deeper learning, or students' ability to analyze, synthesize, compare, connect, critique, hypothesize, prove, and explain their ideas. States are at different points in the CCSS transitions, but all will be assessing their K-12 students against these higher standards in the 2014-15 school year. Based on the changing demands of today's workforce, advances in other nations, and original analysis, this report provides a set of criteria for high-quality student assessments. These criteria can be used by assessment developers, policymakers, and educators as they work to create and adopt assessments that promote deeper learning of 21st- century skills that students need to succeed in today's knowledge-based economy.

Assessing Secondary Teachers' Habits of Mind

Boston University, Education Development Center, Inc., and St. Olaf College are collaborating on *Assessing Secondary Teachers' Algebraic Habits of Mind* (ASTAHM) to develop instruments to assess secondary teachers' mathematical habits of mind (MHoM). These habits can bring parsimony, focus, and coherence to teachers' mathematical thinking and, in turn, to their work with students. Indeed, we envision MHoM as a critical component of mathematical knowledge for teaching at the secondary level. Recognizing the need for a scientific approach to investigate the ways in which MHoM is an indicator of teacher effectiveness, we are researching the following questions:

- 1. How do teachers who engage MHoM when doing mathematics for themselves also bring MHoM to their teaching practice?
- 2. How are teachers' engagement with MHoM and their use of these habits in teaching related to student understanding and achievement?

Agency Research News

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Lymphoma Foundation Research Funding Opportunities

The Lymphoma Research Foundation (LRF) announces Requests for Proposals (RFP) two times per year *typically* in June with an early September deadline for Young Investigator Grants and in December with mid-February deadline for Disease Focus Area Awards. Young Investigator Grants RFPs are very similar from year to year, although they may be changed should the need arise. Disease Focus Area Awards are dependent on the success of fundraising efforts and major gifts often earmarked by donors to a particular form of lymphoma. Therefore they may vary significantly from year to year.

NOW OPEN: 2014 Young Investigator Grants (click for RFP)

- <u>Doctoral Fellowships</u> (2-year)
- <u>Clinical Investigator Career Development Awards</u> (3-year)
- Lymphoma Clinical Research Mentoring Program (New)

DCL: Assessing the Impacts of Recent and On-going Changes in Federal Science Policy

The core mission of the Science of Science and Innovation Policy Program (SciSIP) is to advance the scientific basis of science and innovation policies. One important avenue for doing so is the scientific analysis of the implementation and impacts of changes in federal science policy. A number of such changes have recently been announced or are currently being implemented. For example, in February 2013, the Office of Management and Budget announced plans to implement a policy of public access to data and scientific publications produced with federal funding.¹ Another recent initiative involves creation of a shared, voluntary researcher profile system to facilitate the preparation of research bio sketches. The Science Experts Network Curriculum Vitae (SciENcv) program is scheduled to begin a pilot project later this year. These and other recent initiatives offer an important laboratory for assessing the impacts of federal policy on science and innovation.²

The purpose of this Dear Colleague Letter is to advise you about funding opportunities at the National Science Foundation for the research community to propose research projects or workshops that will gather data on the implementation and impacts of recent science policy initiatives including, but not limited to those noted earlier. Especially encouraged are proposals that will:

Develop new, or improve existing, analytical frameworks for evaluating the impacts of federal science policy initiatives; Explore different agencies' approaches to the implementation of particular policies to examine how variations in approach affect the achievement of intended policy outcomes; Collect case-study or quantitative data that facilitate identification of best practices in science and innovation policy implementation.

Investigators are encouraged to e-mail a SciSIP program officer to discuss prospective topics. This is not a new program. Investigators should follow the guidelines of the SciSIP program description (<u>http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501084</u>) to ensure eligibility requirements are met. Proposals are to be submitted to and evaluated by SciSIP, which has a September 9 deadline annually. For projects that require time-sensitive data

collection, investigators may also consider submitting proposals using the Rapid Response Research (RAPID) funding mechanism. For full details of procedures for RAPID submissions, investigators should consult the relevant parts of the NSF Grant Proposal Guide (GPG) available at: <u>http://www.nsf.gov/pubs/policydocs/pappguide/nsf13001/gpg_2.jsp#IID1</u>.

WASTE: Waste Applications for Sustainable Technologies for Energy (RFI)

The Department of Energy seeks feedback from public and private sector stakeholders regarding the state of technology development and commercial readiness of emerging Waste-to-Energy (WTE) technologies. Information is also sought in identifying what barriers to commercialization remain and the appropriate role for DOE with regard to additional investment in research, development, demonstration and deployment (RDD and D) to promote broad adoption and commercial replication. This is a Request for Information (RFI) only. DOE will not pay for information provided under this RFI and no project will be supported as a result of this RFI. This RFI is not accepting applications for financial assistance or financial incentives. DOE may or may not issue a Funding Opportunity Announcement (FOA) based on consideration of the input received from this RFI. Information on where to submit questions regarding the content of this RFI and where to submit questions regarding submission of responses can be found in the full RFI posted on the EERE Exchange website. All responses to this RFI must be delivered electronically in Microsoft Word or PDF format as an attachment in an email sent to: <u>WasteToEnergy@go.doe.gov</u> by 8:00 PM Eastern Daylight Time on July 15, 2013. Emails should have the subject line 'Waste-to-Energy RFI Response.'

EPA School Integrated Pest Management Grants

EPA's Office of Chemical Safety and Pollution Prevention (OCSPP) has launched an initiative to promote expanded use of Integrated Pest Management (IPM) in schools. To provide greater protection for children's health by employing IPM as a pollution prevention tool, EPA is increasing its commitment to school IPM and redirecting resources to increase the attention and support given to school IPM programs. This effort is intended to accelerate the move from demonstration to the implementation of school IPM to ensure that the millions of children in our nation's schools will benefit from the protection afforded by quality IPM programs. IPM is a sustainable approach to managing pests that combines biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks. A school IPM program uses easily implemented strategies to reduce sources of food, water, and shelter for pests in school buildings and grounds. Verifiable school IPM is an ongoing activity that includes all of these documented elements: understanding pests; setting action thresholds for key pests, i.e., knowing when to take action against key pests; monitoring for pests, their locations and populations; removing conditions that allow pest infestation; and using one or more effective pest control methods including sanitation, structural maintenance, and nonchemical methods in place of or in combination with pesticides. As part of this commitment, EPA's Office of Pesticide Programs, in coordination with the EPA Regions, is initiating a grant program to support projects that, through research, development, monitoring, public education, training, demonstrations, or studies, will support recipients' efforts to increase IPM adoption by kindergarten to 12th grade public and tribal schools.

DOE Notice of Intent to Issue DE-FOA-0000821

The purpose of this Notice of Intent is to provide potential applicants advance notice that the Fuel Cell Technologies Office (FCTO), on behalf of the DOE Office of Energy Efficiency and Renewable Energy (EERE), intends to issue a FOA titled "Hydrogen Delivery Technologies" (DE-FOA-0000821). The Notice of Intent is posted on the EERE eXCHANGE website at <u>https://eere-exchange.energy.gov</u>. NO APPLICATIONS WILL BE ACCEPTED THROUGH THIS NOTICE. Please do not submit questions or respond to this Notice of Intent. Prospective applicants to the FOA should begin developing partnerships, formulating ideas, and gathering data in anticipation of the issuance of this FOA. DOE plans to issue the FOA in or around the July/August timeframe. 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 <u>http://eere.energy.gov/financing/exchangeExchange/Manuals.aspx</u> after logging in to the system.

Dear Colleague Letter: I/UCRC Innovation Fellows (IIF) Supplemental Funding

Many of the world's most pressing science and engineering challenges and opportunities are transnational in nature. Moreover, leading scientific and engineering facilities, resources, and expertise are found around the globe. In order to remain at the forefront of science, technology, engineering, and mathematics (STEM), the United States (U.S.) needs to nurture a globally engaged STEM workforce capable of performing in an international cooperative research environment spanning academe, industry, and government.

To help address this need, the Industry/University Cooperative Research Center (I/UCRC) Innovation Fellows (IIF) Program provides supplemental support for U.S. students to conduct high-quality, industrially relevant research abroad in collaboration with international investigators at university, public, and private sector labs that support the objectives of an I/UCRC's research roadmap. Such experiences expose U.S. students to the international research community at a critical early stage in their careers and build the collaborative relationships necessary for the successful establishment of an I/UCRC international site.

Projects must involve U.S. students conducting research at non-U.S. universities and industry sites with appropriate international expert mentorship. Projects are organized and proposed by U.S. I/UCRC-based Principal Investigators, who arrange the specific research topics, site placements, appropriate research mentorship abroad, and necessary local resources, and then recruit and prepare U.S. I/UCRC students to participate in these experiences. A key feature of IIF is that the primary research mentorship must come from the researchers at the non-U.S. host institution and include industry participation.

Dear Colleague Letter: FY 2013 Career-Life Balance (CLB) Supplemental Funding Opportunities in support of Postdoctoral Investigators funded by NSF awards

The purpose of this DCL is to announce a gender neutral supplemental funding opportunity for NSF research awardees that support postdoctoral investigators. NSF recognizes that dependent care responsibilities and other family considerations pose unique challenges for postdoctoral researchers. Principal Investigators (PIs) of research awards are invited to submit supplemental funding requests to support additional personnel (e.g., research technicians or equivalent) to

sustain research while the postdoctoral researcher is on family leave. These requests may include funding for up to 3 months of salary support, for a maximum of \$12,000 in salary compensation. The fringe benefits and associated indirect costs may be in addition to the salary payment and therefore, the total supplemental funding request may exceed \$12,000. Special instructions for use by PIs and Sponsored Projects Offices in preparation and submission of postdoctoral investigators-Life Balance Supplemental Funding Requests are included as an attachment (see below) to this DCL. Additional questions should be directed to the cognizant NSF program director identified in the award notice.

Dear Colleague Letter - FY 2014 Sustainable Chemistry, Engineering, and Materials (SusChEM) Funding Opportunity

In fiscal year (FY) 2013, NSF started an initiative to encourage and foster research in Sustainable Chemistry, Engineering, and Materials (SusChEM), partially in response to the mandate of the America COMPETES Reauthorization Act of 2010. The SusChEM initiative addresses the interrelated challenges of sustainable supply, engineering, production, and use of chemicals and materials. In FY 2014, the participating divisions are Chemistry (CHE); Chemical, Bioengineering, Environmental, and Transport Systems (CBET); Materials Research (DMR); Earth Sciences (EAR); and the Materials Engineering and Processing program in the Division of Civil, Mechanical and Manufacturing Innovation (CMMI).

Fundamental research topics of interest in SusChEM include the replacement of rare, expensive, and/or toxic chemicals/materials with earth-abundant, inexpensive, and benign chemicals/materials; recycling of chemicals/materials that cannot be replaced; development of non-petroleum based sources of important raw materials; the elimination of waste products and enhancement in efficiencies of chemical reactions and processes; discovery of new separation science that will facilitate recycling and production of valuable chemicals/materials; and development and characterization of low cost, sustainable and scalable-manufactured materials with improved properties.

Within these general guidelines, CHE and CBET have no specific priorities and restrictions. Of interest to DMR are proposals that promote the preservation and extension of natural resources aimed at improved material usage and overall lifecycle management. Relevant topics include enhanced recyclability; materials designed to be reclaimed, reused or repurposed; and/or new approaches to extend the lifetime of materials. In addition, the replacement, substitution, or elimination of toxic or critical materials will also be considered. Because DMR already funds a great deal of energy-focused proposals, these are discouraged under SusChEM. DMR also discourages the submission of more than one proposal (SusChEM proposals included) from the same Principal Investigator during the same submission window. For CMMI, only proposals addressing sustainable materials processing are welcome. Of interest are processes with reduced use of toxic components, such as solvents, carbon emissions, and pollutants; processes under ambient conditions, as opposed to extreme temperatures, pressures or other harsh conditions; and increased conservation of natural resources, such as water, raw material, and energy. SusChEM proposals to CMMI must be submitted to the Materials Engineering and Processing program.

EAR welcomes projects concerning fundamental geoscience related (but not limited) to the following: environmental remediation; environmental impacts of resource use; the geochemistry of critical elements, including phosphorus, rare earths, and precious metals; sustainable agriculture, including soil geochemistry.

Agency Reports, Workshops & Research Roadmaps

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The competitiveness of proposals can be enhanced by grounding the arguments you make in the proposal narrative, as appropriate, on national reports, agency research roadmaps, and research workshops that demonstrate your understanding of the national research agenda and how your research advances and maps to that agenda.

NSTC STEM Education Strategic Plan, May 2013

The Executive Office of the President recommended, and the President accepted, a FY2014 Budget Request for STEM education that would increase the total investment in STEM-ed programs by 6 percent over the 2012 appropriated level while reducing the number of programs spread across the 14 CoSTEM agencies from 226 to 110. The 78 programs that would be eliminated—with 38 others consolidated into the remaining 110—accounted in FY2012 for \$176 million of the spending by the nine agencies losing programs, amounting to 15 percent of their STEM-ed spending in that year. The savings would be redirected to flagship programs in the Department of Education and the National Science Foundation, plus a new one at the Smithsonian Institution, as follows:

The **Department of Education** will play an increased role in improving P-12 STEM instruction by supporting partnerships among school districts and universities, science agencies, businesses, and other community partners to transform teaching and learning. It will invest an additional \$80 million in support of the 100,000 new STEM-ed teachers goal and \$35 million for the launch of a pilot STEM-ed Master Teacher Corps, as well as in creation of new STEM Innovation Networks to better connect school districts with local, regional, and national STEM resources. The Department will also collaborate with all of the CoSTEM agencies to ensure that Federal scientific assets are utilized in the improvement of P-12 STEM education.

The **National Science Foundation** will increase its focus on improving the delivery of undergraduate STEM teaching and learning through evidence-based reforms, including a new \$123 million program aimed at improving retention of undergraduates in STEM fields. *NSF will also receive* \$325 million to expand and enhance its graduate fellowship programs, including creation of a new National Graduate Research Fellowship, using a common infrastructure at NSF to reach more students and offer a set of opportunities that address national needs and mission critical workforce needs for the CoSTEM agencies.

The **Smithsonian Institution** will receive \$25 million to focus on improving the reach of informal STEM education by ensuring that materials are aligned to what students are learning in the classroom. The Smithsonian will work with NSF, ED, the other CoSTEM agencies including the National Aeronautics and Space Administration (NASA), National Oceanic and Atmospheric Administration (NOAA), U.S. Department of the Interior (DOI), U.S. Department of Agriculture (USDA), National Institutes of Health (NIH), and other science partners to harness their unique expertise and resources to disseminate relevant, evidence-based materials and curricula, on-line resources, and delivery and dissemination mechanisms to reach more teachers and students both inside and outside the classroom.

All of the CoSTEM agencies will continue to be key players in the re-organized effort. All of these agencies depend upon the cultivation of a talented and well-trained workforce in order

to meet their STEM-related missions, and all of them play a critical role in inspiring and training the next generation of STEM workers. Whether it be through direct support, provision of expertise and content, mobilization of talented STEM role models and mentors, or by exposing students to real-world learning opportunities at Federal STEM facilities, these agencies inspire and inform future scientists, engineers, innovators, and explorers.

An Ecosystem Services Approach to Assessing the Impacts of the Deepwater Horizon Oil Spill in the Gulf of Mexico

As the Gulf of Mexico recovers from the Deepwater Horizon oil spill, natural resource managers face the challenge of understanding the impacts of the spill and setting priorities for restoration work. The full value of losses resulting from the spill cannot be captured, however, without consideration of changes in ecosystem services--the benefits delivered to society through natural processes. Approach to Assessing the Impacts of the Deepwater Horizon Oil Spill in the Gulf of Mexico discusses the benefits and challenges associated with using an ecosystem services approach to damage assessment, describing potential impacts of response technologies, exploring the role of resilience, and offering suggestions for areas of future research.

Nationwide Response Issues After an Improvised Nuclear Device Attack: Medical and Public Health Considerations for Neighboring Jurisdictions: Workshop Summary

Our nation faces the distinct possibility of a catastrophic terrorist attack using an improvised nuclear device (IND), according to international and U.S. intelligence. Detonation of an IND in a major U.S. city would result in tens of thousands to hundreds of thousands of victims and would overwhelm public health, emergency response, and health care systems, not to mention creating unprecedented social and economic challenges. While preparing for an IND may seem futile at first glance, thousands of lives can be saved by informed planning and decision making prior to and following an attack.

In 2009, the Institute of Medicine published the proceedings of a workshop assessing the health and medical preparedness for responding to an IND detonation. Since that time, multiple federal and other publications have added layers of detail to this conceptual framework, resulting in a significant body of literature and guidance. However, there has been only limited planning effort at the local level as much of the federal guidance has not been translated into action for states, cities and counties. According to an informal survey of community preparedness by the National Association of City and County Health Officials (NACCHO), planning for a radiation incident ranked lowest in priority among other hazards by 2,800 local health departments.

The focus of Nationwide Response Issues After an Improvised Nuclear Device Attack: Medical and Public Health Considerations for Neighboring Jurisdictions: Workshop Summary is on key response requirements faced by public health and health care systems in response to an IND detonation, especially those planning needs of outlying state and local jurisdictions from the detonation site. The specific meeting objectives were as follows: - Understand the differences between types of radiation incidents and implications of an IND attack on outlying communities.

-Highlight current planning efforts at the federal, state, and local level as well as challenges to the implementation of operational plans.

-Examine gaps in planning efforts and possible challenges and solutions.

-Identify considerations for public health reception centers: how public health and health care interface with functions and staffing and how radiological assessments and triage be handled. -Discuss the possibilities and benefits of integration of disaster transport systems.

-Explore roles of regional health care coalitions in coordination of health care response.

An Assessment of the Prospects for Inertial Fusion Energy

The potential for using fusion energy to produce commercial electric power was first explored in the 1950s. Harnessing fusion energy offers the prospect of a nearly carbon-free energy source with a virtually unlimited supply of fuel. Unlike nuclear fission plants, appropriately designed fusion power plants would not produce the large amounts of high-level nuclear waste that requires long-term disposal. Due to these prospects, many nations have initiated research and development (R&D) programs aimed at developing fusion as an energy source. Two R&D approaches are being explored: magnetic fusion energy (MFE) and inertial fusion energy (IFE).

An Assessment of the Prospects for Inertial Fusion Energy describes and assesses the current status of IFE research in the United States; compares the various technical approaches to IFE; and identifies the scientific and engineering challenges associated with developing inertial confinement fusion (ICF) in particular as an energy source. It also provides guidance on an R&D roadmap at the conceptual level for a national program focusing on the design and construction of an inertial fusion energy demonstration plant.

New Funding Opportunities

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New Funding Solicitations Posted Since June 15 Newsletter

Children of Incarcerated Parents: Arrest Through Pre-Adjudication

The National Institute of Corrections (NIC) is soliciting proposals from organizations, groups, or individuals to enter into a cooperative agreement for an 18-month period to begin no later than September 15, 2013. Work under this cooperative agreement will involve the development of a guiding framework document of promising practices regarding children of incarcerated parents. This project will examine the points of the criminal justice continuum from arrest and jail incarceration through the pre-adjudication phase; including: pretrial, release, diversion, guilty adjudication, and reentry from local jails and how each of the decisions made throughout the pre-adjudication phase in the criminal justice system impacts this population. The project will further identify and highlight innovations and promising practices that have shown to positively impact children of incarcerated parents. This project will be a collaborative venture with the NIC Community Services Division. **Due July 31.**

DoD Peer Reviewed Medical Discovery Award

The intent of the PRMRP Discovery Award is to support innovative, untested, high-risk/ potentially high-reward concepts, theories, paradigms, and/or methods. Studies supported by this award are expected to lay the groundwork for future avenues of scientific investigation. The proposed research project should include a well-formulated, testable hypothesis based on strong scientific rationale and study design. The proposed research project should be novel and innovative. Innovative research may introduce a new paradigm, challenge existing paradigms, look at existing problems from new perspectives, or exhibit other highly creative qualities. Research that is an incremental advance upon published data is not considered innovative and is not consistent with the intent of this award mechanism. **Due August 6.**

Capacity Building for Sustainable Communities

This NOFA is part of a cross-agency collaboration between HUD, the U.S. Department of Transportation (DOT), and the U.S. Environmental Protection Agency (EPA), known as the Partnership for Sustainable Communities. The Capacity Building for Sustainable Communities Program (Program), through this NOFA, will identify consortia comprised of intermediary organizations that can provide capacity building support for communities engaged in planning efforts that support community involvement and integrate economic and workforce development, housing, land use, land cleanup and preparation for reuse, transportation, and infrastructure investments. The grantee(s) selected will be expected to deliver capacity building support to communities across the United States. To support these activities, HUD expects to make an award to one to two winning consortia. **Due August 7.**

University Research Awards and Workforce Development for Hydropower

Since 2010, the Department of Energy has supported research fellowships for the hydropower industry. These fellowships have proven to be very impactful to the hydropower industry. Topic Area 1 University Research Awards for Hydropower The Department of Energy would like to solicit for a partner to administer 10 to 20 additional research fellowships for the hydropower industry. Topic Area 2 Workforce Development for Hydropower The Department of Energy would like to solicit for an organization to complete an analysis of the existing hydropower workforce, current and future workforce needs, available training/educational programs, and future training/educational needs of the U.S. hydropower industry. NOTE Letters of Intent are not required but are requested. Please see the Funding Opportunity Announcement document for additional information on Letters of Intent. Letters of Intent should be submitted by email to CHFOA832@go.doe.gov by 4:59 PM Eastern Time on 07/16/2013. 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 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 August 8.

2014 Charles B. Rangel International Affairs Fellowship and Summer Enrichment Program

The Charles B. Rangel International Affairs Program seeks to attract outstanding young people with an interest in pursuing a career in the Foreign Service of the U.S. Department of State. It encourages the application of members of minority groups historically underrepresented in the Foreign Service and those with financial need. The program is comprised of two major components. There is the International Affairs Graduate Fellowship Program and the undergraduate Summer Enrichment Program (SEP). The Graduate Fellowship Program provides support for graduate school, professional development and entry into the Foreign Service of the U.S. Department of State. The undergraduate Summer Enrichment Prograduate Summer Enrichment Program and entry into the Foreign Service of the U.S. Department of State. The undergraduate Summer Enrichment Program provides undergraduates with the opportunity to enhance their skills, knowledge and understanding about U.S. foreign policy. **Due August 9.**

NIST Advanced Materials Center of Excellence (\$50M)

NIST is soliciting applications to establish an Advanced Materials Center of Excellence in which NIST researchers collaborate with interdisciplinary researchers from academia and industry on advanced materials development through innovations in measurement science and in new modeling, simulation, data, and informatics tools. **Due August 12.**

Marine and Hydrokinetic (Wave) Testing Infrastructure Development

To potentially support the full-scale testing of MHK wave energy devices, the Water Power Program intends to evaluate site locations, designs, and estimated costs for an open water, fully energetic domestic wave test facility. It is expected that a viable grid-connected facility will be capable of testing both scaled prototypes and full-scale (utility-scale) wave energy conversion devices in order to evolve reliable, low cost, renewable energy alternatives to fossil fuel. Prototype testing is essential to mature existing wave technologies, validate performance against analytic models, demonstrate compliance with applicable design standards and thereby mitigate the technical and financial risk of developing and deploying mass-produced wave energy devices, plants, technologies and related products. Construction and operation of a fullscale domestic wave test facility will assist the U.S. industry by identifying design and manufacturing deficiencies early in the development cycle and validate modifications and improvements prior to commercial deployment. Ultimately, this new testing capability will improve the country's competitiveness in MHK energy technology, encourage domestic manufacturing, job creation, and provide a new technology that utilizes an untapped renewable resource to help achieve the nation's energy goals. This FOA is intended to identify possible site locations and evaluate the potential to establish a national wave testing facility within U.S. territorial waters. Letters of Intent are requested, but NOT required. The deadline for Letters of Intent is 7/26/2013 at 5 pm EST. Please submit Letters of Intent to Testing Infrastructure FOA@go.doe.gov. Due August 13.

EPA SBIR Phase 1 Solicitation

The Environmental Protection Agency (EPA) invites small businesses to submit research proposals under this Small Business Innovation Research (SBIR) Solicitation. Proposals must directly pertain to EPA's mission of protecting human health and the environment. The SBIR program is a phased process across the Federal Government of soliciting proposals and awarding funding agreements for research (R) or research and development (R&D) to meet stated agency needs or missions. EPA is interested in advanced technologies that address priority environmental issues. In this year's solicitation, an attempt has been made to focus and limit the topics in order to have more impact in specific areas. The proposed research must be responsive to the more focused topic descriptions in this year's solicitation. This year there are six general areas: Safe and Sustainable Water Resources (Topic A. Water), Chemical Safety for Sustainability (Topic B. Innovation in Manufacturing), Sustainable and Healthy Communities (Topic C. Waste), Air/Climate/Energy (Topic D. Air Quality), E. Homeland Security, and F. People, Prosperity, and the Planet (P3) Special Funding Opportunity. **Due August 13.**

NEH Fellowship Programs at Independent Research Institutions

Grants for Fellowship Programs at Independent Research Institutions (FPIRI) support fellowships at institutions devoted to advanced study and research in the humanities. FPIRIfunded fellowships provide scholars with research time and access to resources that might otherwise not be available to them. Fellowship programs may be administered by independent centers for advanced study, libraries, and museums in the United States; American overseas research centers; and American organizations that have expertise in promoting research in foreign countries. Individual scholars must apply directly to the institutions themselves. <u>A list of</u> <u>currently funded institutions is available.</u> **Due August 15.**

FY2014 Research Opportunities in High Energy Physics

The mission of the <u>High Energy Physics</u> (HEP) program is to understand how the universe works at its most fundamental level, which is done by discovering the elementary constituents of matter and energy, probing the interactions between them, and exploring the basic nature of space and time. This Funding Opportunity Announcement invites applications in six specific areas: 1. Experimental Research at the Energy Frontier, 2. Experimental Research at the Intensity Frontier, 3. Experimental Research at the Cosmic Frontier, 4. Theoretical Research, 5. Accelerator Science and Technology Research and Development, 6. Particle Detector Research and Development. **Due September 9.**

New Methods in 21st Century Exposure Science

In the recently released report, "Exposure Science in the 21st Century: A Vision and A Strategy," the National Academies' National Research Council (NRC) has called for scientific researchers and risk assessors to modernize data collection and study of exposure science. The report authors note that information about exposure is vital to understanding and preventing human and environmental risks. The NRC vision for exposure science calls for development and application of new technologies to efficiently collect data that will support a more comprehensive understanding of the science. The U.S. Environmental Protection Agency (EPA), as part of its Science to Achieve Results (STAR) program, is seeking applications proposing innovative research to advance methods for characterizing real-world human exposure to chemicals associated with consumer products in indoor environments. Current understanding of human exposure to the chemical constituents of consumer products is limited due to inadequate information on formulations, emissions, and persistence in indoor environments associated with the diversity of usage scenarios. Methodological limitations currently impede collection of robust exposure information that is necessary to provide context for the results of a growing body of high throughput toxicity testing results and to characterize risk to human health for the general population and vulnerable groups. Due September 13.

OCLC/ALISE Library & Information Science Research Grant Program (LISRGP)

OCLC Online Computer Library Center, Incorporated and OCLC Research, in collaboration with the Association for Library and Information Science Education (ALISE), announce the Library and Information Science Research Grant Program (LISRGP) for 2014 and invite research proposals. In recognition of the importance of research to the advancement of librarianship and information science, OCLC and ALISE promote independent research that helps integrate new technologies that offer innovative approaches and contributes to a better understanding of the information environment and user expectations and behaviors. Research related (but not limited) to the following areas is encouraged: Impact of digital technology on libraries, museums, and archives; Social media, learning, and information-seeking behavior; and New developments in knowledge organization (metadata, social tagging, linked data, etc.) **Due September 15.**

Air Force Fiscal Year 2014 Young Investigator Research Program (YIP)

The Young Investigator Research Program (YIP) supports young scientists and engineers in Air Force relevant disciplines and is designed to promote innovative research in fields such as: energy, power and propulsion, materials interactions in extreme environments, aero-structure interactions and control, hierarchical design and characterization of materials, space architecture and protection, thermal control, mathematical, information and computer sciences, biology, behavioral sciences, plasma and quantum physics, theoretical and experimental physics, microwave and photonic systems, information and signal process, and materials-processing techniques. The awards foster creative basic research, enhance early career development of outstanding young investigators, and increase opportunities to recognize Air Force mission and challenges in science and engineering. **Due September 15.**

Joint DMS/NIGMS Initiative to Support Research at the Interface of the Biological and Mathematical Sciences

The Division of Mathematical Sciences in the Directorate for Mathematical and Physical Sciences at the National Science Foundation and the National Institute of General Medical Sciences at the National Institutes of Health plan to support research in mathematics and statistics on questions in the biological and biomedical sciences. Both agencies recognize the need and urgency for promoting research at the interface between the mathematical sciences and the life sciences. This competition is designed to encourage new collaborations, as well as to support existing ones. **Due September 23**.

USDA FY-2014 SBIR

The USDA SBIR program is carried out in three separate phases. Phase I is to determine the scientific or technical feasibility of ideas submitted by applicants on research topic areas described in section 8.0 of this solicitation. This program solicitation is only for the preparation and submission of Phase I applications. Phase I awards may not exceed \$100,000.00 for a period normally not to exceed eight (8) months. However, longer grant periods, of up to 20 months, may be considered if the proposed research project will require more than 8 months to complete. The Phase I application should concentrate on research that will significantly contribute to proving the scientific or technical feasibility of the approach or concept and will be a prerequisite to further USDA support in Phase II. Similar to the changes USDA made last year, phase I award size has been raised to \$100,000 and the program is now managed by National Institute of Food and Agriculture (NIFA). NIFA has five societal challenge areas that relate to the overall topics. The NIFA Societal Challenge Areas are: 1) Global Food Security and Hunger, 2) Climate Change, 3) Sustainable Bioenergy, 4) Childhood Obesity, and 5) Food Safety. Special consideration will be given to applications that address one of these priorities under the Project Narrative, item (2) under subsection 3.3.3.-Field 8, Responsiveness to USDA SBIR Program Priorities and Societal Challenge Areas. Due September 26.

Dissertation Proposal Development Fellowship (DPDF) Faculty Field Competition

The Dissertation Proposal Development Fellowship (DPDF) Faculty Field Competition is open to tenured humanities and social sciences faculty interested in creating or reinvigorating

interdisciplinary fields of study through the training of the next generation of researchers. Selected research directors guide the development of effective doctoral dissertation proposals within innovative fields by helping fellows sharpen the focus of their research and identify appropriate methods of investigation and analysis. **Deadline October 1.**

Partnerships for Innovation: Accelerating Innovation Research- Technology Translation (PFI: AIR-TT)

The NSF Partnerships for Innovation (PFI) program within the Division of Industrial Innovation and Partnerships (IIP) is an umbrella for two complementary subprograms, Accelerating Innovation Research (AIR) and Building Innovation Capacity (BIC). In the final analysis, both programs are concerned with the movement of academic research discoveries into the marketplace although each focuses on different stages along the innovation spectrum. The subject of this solicitation is PFI: AIR Technology Translation (TT) only. The PFI: AIR-TT solicitation is intended to help bridge the funding gap between existing research discoveries that validate relevant science and engineering fundamentals and their translation through proof-of-concept, prototype, or scale-up along a path toward commercialization and engage faculty and students in entrepreneurial/innovative thinking. WEBINAR: A webinar will be held within 6 weeks of the release date of this solicitation to answer any questions about this solicitation. Details will be posted on the IIP website <u>http://www.nsf.gov/eng/iip/pfi/index.jsp</u>) as they become available. **Due October 7.**

Doctoral Dissertation Improvement Grants in the Directorate for Biological Sciences (DDIG)

The National Science Foundation awards Doctoral Dissertation Improvement Grants in selected areas of the biological sciences. Proposals must fall within the scope of any of the clusters in the Division of Environmental Biology (DEB) or the Behavioral Systems Cluster in the Division of Integrative Organismal Systems (IOS). These grants provide partial support of doctoral dissertation research for improvement beyond the already existing project. Allowed are costs for doctoral candidates to participate in scientific meetings, to conduct research in specialized facilities or field settings, and to expand an existing body of dissertation research. **Due October 10.**

The Digital Manufacturing and Design Innovation (DMDI) Institute

This effort pertains to applied research only. On behalf of the AMRDEC, ACC-RSA is soliciting concept papers and proposals which provide detailed examples of applied research project focus areas, technology transition plans for applications, proposed infrastructure and a sustainable business plan. The technical focus area of the Institute will be Digital Manufacturing and Design Innovation. Submissions must demonstrate that the proposed Institute has the potential to significantly advance manufacturing within the United States. Applicants shall address proposals to the contracting Point of Contact (POC) stated in Section VII of the Full Text Announcement. This is a restricted solicitation limited to a U.S. non-profit organization to serve as the award recipient to lead a Digital Manufacturing and Design Innovation (DMDI) Institute. The Government encourages small businesses to participate in any or all parts of this solicitation through teaming arrangements with the recipient. **Due October 11.**

Lightweight and Modern Metals Manufacturing Innovation (LM3I) Institute

The Government intends for this solicitation to support the establishment of a Lightweight and Modern Metals Manufacturing Innovation (LM3I) Institute that will advance the state of processing and fabrication technologies for lightweight and modern metals by facilitating the transition between basic/early research and full-scale production of associated materials, components and systems. This research activity generally falls within a manufacturing readiness level (MRL) range of 4 to 7. These manufacturing advancements in-turn spur the integration of new material, component and system designs for defense and commercial applications. The Government seeks proposals to this announcement that describe the proposed infrastructure, technical applications and sustainable business plan for the Institute, to include providing detailed example research project focus areas and technology transition plans supporting DoD and other high value governmental and commercial applications. **Due October 15.**

DOD FY13 Care for the Critically Injured Burn Patient II

The Combat Casualty Care Research Program (CCCRP) is focused on leveraging cutting edge research and knowledge to address existing and emerging gaps in combat casualty care. The objective of this Program Announcement/Funding Opportunity is to explore innovative approaches to accelerate the translation of advances in knowledge into new standards of care for the treatment of the injured warfighter who sustains burn injuries. The results of the research funded through FY13 Care for the Critically Injured Burn Patient II (CCIBPII) Program Announcement/Funding Opportunity are expected to increase the body of knowledge available to professionals and practitioners in health, medical science and related fields. To be considered for funding, applications for the FY13 CCIBPII must address one of the Topic Areas listed in this Program Announcement/Funding Opportunity. **Due October 16.**

<u>Special Program Announcement for 2013 Office of Naval Research Opportunity</u>: Select Topics in Materials Research Technology

This announcement describes a research thrust, entitled "Select Topics in Materials Research Technology," to be launched under the ONRBAA13-001, Long Range Broad Agency Announcement for Navy and Marine Corps Science and Technology which can be found at http://www.onr.navy.mil/Contracts-Grants/Funding-Opportunities/Broad-Agency-Announcements.aspx. The research opportunity described in this announcement specifically falls under the following sections of ONR BAA13-001: Topic #1 - Powder-Processing of Large Metal Structural Components: Section I, entitled "General Information", sub-section 6, entitled "Research Opportunity Description", the "Sea Warfare and Weapons Department (Code 33)" item, paragraph 2), subparagraph b, entitled "Structural Materials". Topic #2 - Applied Research in Scaling Promising Dielectric Films for Wound Film Capacitors: Section I, entitled "General Information", sub-section 6, entitled "Research Opportunity Description", the "Sea Warfare and Weapons Department (Code 33)" item, paragraph 2), subparagraph a, entitled "Functional Materials". **Due October 17.**

Programming Grants to Accompany NEH on the Road Exhibitions

These grants support ancillary public humanities programs to accompany NEH on the Road traveling exhibitions. Typical formats involve lectures, reading and discussion programs, film discussion programs, Chautauqua presentations by scholars, family programs, exhibition tours, and other appropriate formats for reaching the general public. **Due December 31.**

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.**

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.**

<u>Air Force BAA - Innovative Techniques and Tools for the Automated Processing and</u> <u>Exploitation (APEX) Center</u>

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 Reconnaisance (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**.

Links to New & Open Funding Solicitations

Links verified: Monday, July 08, 2013

- <u>American Cancer Society Index of Grants</u>
- <u>SAMHSA FY 2013 Grant Announcements and Awards</u>
- DARPA Microsystems Technology Office Solicitations
- Open Solicitations from IARPA (Intelligence Advanced Research Projects Activity)
- Bureau of Educational and Cultural Affairs, Open Solicitations, DOS
- <u>ARPA-E Funding Opportunity Exchange</u>
- 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
- <u>ARL Funding Opportunities Open Broad Agency Announcements (BAA)</u>
- HHS Grants Forecast
- <u>American Psychological Association, Scholarships, Grants and Awards</u>
- EPA 2013 Science To Achieve Results (STAR) Research Grants
- <u>NASA Open Solicitations</u>
- Defense Sciences Office Solicitations
- <u>The Mathematics Education Trust</u>
- EPA Open Funding Opportunities
- <u>CDMRP FY 2013 Funding Announcements</u>
- Office of Minority Health
- Department of Justice Open Solicitations
- DOE/EERE Funding Opportunity Exchange
- New Funding Opportunities at NIEHS (NIH)
- <u>National Human Genome Research Institute Funding Opportunities</u>
- <u>Army Research Laboratory Open Broad Agency Announcements (BAA)</u>

- 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
- <u>NIH Funding Opportunities Relevant to NIAID</u>
- <u>National Institute of Justice Current Funding Opportunities</u>
- Funding Opportunities by the Department of Education Discretionary Grant Programs
- EPA's Office of Air and Radiation (OAR) Open Solicitations
- NETL Open Solicitations
- DoED List of Currently Open Grant Competitions
- Foundation Center RFP Weekly Funding Bulletin

Solicitations Remaining Open from Prior Issues of the Newsletter

Nuclear Science and Nuclear Nonproliferation Research

The intent of this Funding Opportunity Announcement (FOA) is to award TWO separate fiveyear cooperative agreements to consortia of accredited U.S. Colleges and Universities to allow them to receive and administer funds for student and faculty research, fellowships, and scholarship funding awarded by the U.S. Department of Energy (DOE), National Nuclear Security Administration (NNSA), Office of Defense Nuclear Nonproliferation Research and Development (DNN R and D). Each cooperative agreement will be awarded to a consortium of Universities which will include the participation of a one or more DOE or NNSA National Laboratories as a consortium member. Individual consortium-member universities shall make specific contributions and shall receive specified portions of the funding. The consortium may include student and early career research fellowships and has a long-term objective of building expertise in nuclear nonproliferation detection. Research results should be incorporated readily into university curricula. Students, faculty, and researchers must be able to work unencumbered while moving across what are now organizational and bureaucratic boundaries of the academic and governmental facilities engaged in the consortium, while properly protecting critical information and materials. The consortium should establish reciprocal arrangements between the home academic institution and other degree-granting institutions as well as relationships with appropriate National Laboratories. Due July 31.

Harry Frank Guggenheim Foundation, Research Grant

Awards given to proposals in the natural and social sciences and the humanities that promise to increase understanding for the causes, manifestations, and control of violence and aggression. Highest priority is given to research that can increase that can increase understanding and amelioration of urgent problems of violence and aggression in the modern world. **Due August 1.**

The National Academies, Research Associateship Programs

The mission of the NRC Research Associateship Programs (RAP) is to promote excellence in scientific and technological research conducted by the U. S. government through the administration of programs offering <u>graduate</u>, postdoctoral, and senior level research opportunities at <u>sponsoring federal laboratories and affiliated institutions</u>. In these programs, prospective applicants select a research project or projects from among the large group of opportunities listed on this website. Prior to completing an application, prospective applicants should contact the proposed Research Adviser to assure that funding will be available if their application is recommended by NRC panels. Once mutual interest is established between a prospective applicant and a Research Adviser, an application is submitted through the NRC WebRap system. Reviews are conducted four times each year and review results are available approximately 6-8 weeks following the application deadline. **Due August 1 and November 1.**

Bluefin Tuna Research Program

The objective of the program is to provide a basis for advancing science-based fisheries management for Atlantic bluefin tuna. Such advancement will depend upon improvements in understanding of the fisheries harvesting and the biology of bluefin tuna, especially regarding the effects of mixing and movement between the eastern and western Atlantic stocks on monitoring stock abundance. Contracting Parties to the International Convention for the Conservation of Atlantic Tunas (ICCAT), of which the US is one, and other partners have embarked upon a \$25 million research program on bluefin tuna, expected to span 6 years as a step toward improving ICCAT's science based management approach for fisheries affecting bluefin. Research sponsored under this funding opportunity represents a contribution to this partnership. **Due August 5.**

America's Historical and Cultural Organizations: Planning Grants

America's Historical and Cultural Organizations grants provide support for museums, libraries, historic places, and other organizations that produce public programs in the humanities. Grants support the following formats:

- exhibitions at museums, libraries, and other venues;
- interpretations of historic places, sites, or regions;
- book/film discussion programs; living history presentations; other face-to-face programs at libraries, community centers, and other public venues; and
- interpretive websites.

Due August 14.

America's Historical and Cultural Organizations: Implementation Grants

America's Historical and Cultural Organizations grants provide support for museums, libraries, historic places, and other organizations that produce public programs in the humanities. Grants support the following formats:

- exhibitions at museums, libraries, and other venues;
- interpretations of historic places, sites, or regions;

- book/film discussion programs; living history presentations; other face-to-face programs at libraries, community centers, and other public venues; and
- interpretive websites.

Due August 14.

NSF/EPRI Collaboration on "Water for Energy"- Advanced Dry Cooling for Power Plants

The Directorate of Engineering at the National Science Foundation (NSF) and the Electric Power Research Institute (EPRI) have established a collaboration to jointly address the critical problem of water usage and consumption in power plant cooling. The "water-for-energy" issue is an important piece of the Energy-Water nexus. The goal of this collaboration is to leverage the complementary missions of applied research and commercialization (EPRI) and fundamental research and education (NSF) to foster enabling research and technology development that will lead to significant reductions or elimination of the use of water for cooling power plants. Through this joint collaboration, NSF and EPRI jointly solicit proposals with transformative ideas that meet the detailed requirements in this solicitation. **Due August 19.**

Data-Intensive Research to Improve Teaching and Learning - An Ideas Lab to Foster Transformative Approaches to Teaching and Learning

The goal of this activity is to foster novel, transformative, multidisciplinary approaches that address the use of large data sets to create actionable knowledge for improving STEM teaching and learning environments (formal and informal) in the medium term, and to revolutionize learning in the longer term. These approaches will involve the work of learning scientists, STEM disciplinary experts, computer scientists, statisticians, database experts and educational researchers who design and study learning environments. Among the potential benefits of integrating approaches from these disciplines are improving student learning and engagement, optimizing personalized instruction, and supporting rapid decision making to help educators respond more effectively to the learning needs of individuals and groups of learners in multiple settings. These approaches may be risky but should have the potential to rapidly advance the field. The scope of this activity does not include infrastructure development focused on data base design and development for education domains. The new approaches envisioned in this solicitation will require the generation and use of data that range from micro-level data on individual learners, to data from online learning sources (such as massively open online courses), to meso-level data from the classroom that provide information to students and teachers about how learning is progressing, to macro-level data such as school, district, state, and national data, including data from federal science and policy agencies. Participants in the Ideas Lab, selected through an open application process, will engage in an intensive five-day residential workshop, the development of multidisciplinary collaborative proposals through a real-time and iterative review process, and, for the participant teams invited to submit full proposals, the subsequent submission of full proposals. Required preliminary August 19; full December 9.

Bridging Cultures at Community Colleges

NEH *Bridging Cultures* at Community Colleges grants are intended to strengthen and enrich humanities education and scholarship at community colleges or community college systems. These projects must be planned and implemented in collaboration with another institution with appropriate resources, such as a college or university, museum, research library, or professional association. Grants may be used to enhance the humanities content of existing programs, develop new programs, or lay the foundation for more extensive endeavors in the future. **Due August 27.**

HFSP Postdoctoral Fellowships

HFSP postdoctoral fellowships encourage early career scientists to broaden their research skills by moving into new areas of study while working in a new country. Long-Term Fellowships (LTF) are for applicants with a Ph.D. in a biological discipline, who will broaden their expertise by proposing a project in the life sciences which is significantly different from their previous Ph.D. or postdoctoral work. Cross-Disciplinary Fellowships (CDF) are for applicants with a Ph.D. from outside the life sciences (e.g. in physics, chemistry, mathematics, engineering or computer sciences), who have had limited exposure to biology during their previous training. **Due August 29.**

Institute of Education Sciences (IES): Education Research and Development Centers CFDA Number 84.305C

Purpose of Program: The central purpose of the Institute's research grant programs is to provide parents, educators, students, researchers, policymakers, and the general public with reliable and valid information about education practices that support learning and improve academic achievement and access to education opportunities for all students. In carrying out its grant programs, the Institute provides support for programs of research in areas of demonstrated national need. The Institute's National Center for Education Research (NCER) will hold five competitions: One competition for education research, one competition for education research training, one competition for education research and development centers, one competition for statistical and research methodology in education, and one competition for partnerships and collaborations focused on problems of practice or policy. The Institute's National Center for Special Education Research (NCSER) will not hold competitions in FY 2014. **Due September 4.**

Institute of Sciences (IES): Research Training Program in the Education Sciences CFDA Number 84.305B

Purpose of Program: The central purpose of the Institute's research grant programs is to provide parents, educators, students, researchers, policymakers, and the general public with reliable and valid information about education practices that support learning and improve academic achievement and access to education opportunities for all students. In carrying out its grant programs, the Institute provides support for programs of research in areas of demonstrated national need. The Institute's National Center for Education Research (NCER) will hold five competitions: One competition for education research, one competition for education research training, one competition for education research and development centers, one

competition for statistical and research methodology in education, and one competition for partnerships and collaborations focused on problems of practice or policy. **Due September 4.**

Institute of Education Sciences (IES): Partnerships and Collaborations Focused on Problems of Practice or Policy CFDA Number 84.305H

Purpose of Program: The central purpose of the Institute's research grant programs is to provide parents, educators, students, researchers, policymakers, and the general public with reliable and valid information about education practices that support learning and improve academic achievement and access to education opportunities for all students. In carrying out its grant programs, the Institute provides support for programs of research in areas of demonstrated national need. The Institute's National Center for Education Research (NCER) will hold five competitions: One competition for education research, one competition for education research training, one competition for education research and development centers, one competition for statistical and research methodology in education, and one competition for partnerships and collaborations focused on problems of practice or policy. **Due September 4.**

Institute of Education Sciences (IES): Statistical Research Methodology in Education CFDA Number 84.305D

Purpose of Program: The central purpose of the Institute's research grant programs is to provide parents, educators, students, researchers, policymakers, and the general public with reliable and valid information about education practices that support learning and improve academic achievement and access to education opportunities for all students. In carrying out its grant programs, the Institute provides support for programs of research in areas of demonstrated national need. The Institute's National Center for Education Research (NCER) will hold five competitions: One competition for education research, one competition for education research training, one competition for education research and development centers, one competition for statistical and research methodology in education, and one competition for partnerships and collaborations focused on problems of practice or policy. **Due September 4.**

Water Sustainability and Climate

The goal of the Water Sustainability and Climate (WSC) solicitation is to enhance the understanding and predict the interactions between the water system and land use changes (including agriculture, managed forest and rangeland systems), the built environment, ecosystem function and services and climate change/variability through place-based research and integrative models. Studies of the water system using models and/or observations at specific sites, singly or in combination, that allow for spatial and temporal extrapolation to other regions, as well as integration across the different processes in that system are encouraged, especially to the extent that they advance the development of theoretical frameworks and predictive understanding. **Due September 10.**

Research in Quantum Computing

The U.S. Army Contracting Command – Aberdeen Proving Ground RTP Division, on behalf of the U.S. Army Research Office (ARO), is issuing a Broad Agency Announcement (BAA), W911NF-13-

R-0010, for the establishment of Research in Quantum Computing. There are two separate research topics covered in this announcement: 1. Quantum characterization, verification, and validation The Quantum Characterization, Verification, and Validation (QCVV) research topic seeks proposals addressing the development of theoretical and experimental techniques, procedures, and methods for characterizing few-qubit systems with a focus on metrics relevant to robust fault-tolerant quantum computation (FTQC). The ultimate goal is to develop a set of standards and procedures, together with experimental demonstration, that will aid in characterizing increasingly complex quantum information systems. 2. Advanced quantum computing measurement technology Quantum information systems utilize measurement in a variety of ways: for diagnostic purposes while calibrating a quantum information system, to tune up a process for optimal operation, and for final read-out when implementing a quantum information process. Three performance parameters characterize quantum computing measurement techniques: (1) speed, (2) fidelity, and (3) resources. The overall objective is to demonstrate novel qubit measurement techniques for existing gubits. This Broad Agency Announcement (BAA) which sets forth research areas of interest to the Army Research Laboratory- Army Research Office (ARL-ARO) is issued under paragraph 6.102(d)(2) of the Federal Acquisition Regulation (FAR), and 10 USC 2358 which provides for the competitive selection of basic research proposals. Due September 10.

Susceptibility and Variability in Human Response to Chemical Exposure

The U.S. Environmental Protection Agency (EPA), as part of its Science to Achieve Results (STAR) program, is seeking applications proposing research to study life stage and/or genetic susceptibility in order to better characterize the sources of human variability in response to chemical exposure. The adverse outcome pathways (AOP) concept has the potential to serve as a framework for using susceptibility indicators, biomonitoring, and high throughput screening (HTS) data in an integrated manner to predict population responses to novel, potentially harmful, chemicals. While much emphasis has been placed on improved biomonitoring and HTS approaches, research is needed to understand the underlying factors that influence human susceptibility and to develop tools and methods for the identification and use of susceptibility indicators in this context. This solicitation provides the opportunity for the submission of applications for projects that may involve human subjects research. **Due September 10.**

NEH Enduring Questions

The NEH Enduring Questions grant program supports faculty members in the teaching and development of a new course that will foster intellectual community through the study of an enduring question. This question-driven course will encourage undergraduates and teachers to grapple with a fundamental concern of human life addressed by the humanities, and to join together in a deep and sustained program of reading in order to encounter influential thinkers over the centuries and into the present day. **Due September 12.**

Digital Humanities Start-Up Grants

The National Endowment for the Humanities (NEH) invites applications to the Digital Humanities Start-Up Grants program. This program is designed to encourage innovations in the

digital humanities. By awarding relatively small grants to support the planning stages, NEH aims to encourage the development of innovative projects that promise to benefit the humanities. Proposals should be for the planning or initial stages of digital initiatives in any area of the humanities. **Due September 12.**

Enduring Questions

The NEH Enduring Questions grant program supports faculty members in the teaching and development of a new course that will foster intellectual community through the study of an enduring question. This question-driven course will encourage undergraduates and teachers to grapple with a fundamental concern of human life addressed by the humanities, and to join together in a deep and sustained program of reading in order to encounter influential thinkers over the centuries and into the present day. **Due September 12.**

High-End Instrumentation Grant Program (S10)

The ORIP High-End Instrumentation Grant (HEI) program encourages applications from groups of NIH-supported investigators to purchase a single major item of equipment to be used for biomedical research that costs at least \$750,000. The maximum award is \$2,000,000. Instruments in this category include, but are not limited to, biomedical imaging systems, NMR spectrometers, mass spectrometers, electron microscopes and supercomputers. **Due Sept. 13**.

Documenting Endangered Languages

The Documenting Endangered Languages (DEL) program is a partnership between the National Endowment for the Humanities (NEH) and the National Science Foundation (NSF) to develop and advance knowledge concerning endangered human languages. Made urgent by the imminent death of an estimated half of the 6000-7000 currently used languages, this effort aims also to exploit advances in information technology. Awards support fieldwork and other activities relevant to recording, documenting, and archiving endangered languages, including the preparation of lexicons, grammars, text samples, and databases. DEL funding is available in the form of one- to three-year project grants as well as fellowships for six to twelve months. At least half the available funding will be awarded to projects involving fieldwork. All DEL applications are submitted to NSF for review. Upon completion of the review process, the administration of awards is conducted separately by NEH or NSF. **Due September 16.**

NEH Summer Stipends

Summer Stipends support individuals pursuing advanced research that is of value to humanities scholars, general audiences, or both. Recipients usually produce articles, monographs, books, digital materials, archaeological site reports, translations, editions, or other scholarly resources. Summer Stipends support full-time work on a humanities project for a period of two months. Summer Stipends support projects at any stage of development. Summer Stipends are awarded to individual scholars. Organizations are not eligible to apply. **Due September 26.**

NEH Summer Stipends

Summer Stipends support individuals pursuing advanced research that is of value to humanities scholars, general audiences, or both. Recipients usually produce articles, monographs, books, digital materials, archaeological site reports, translations, editions, or other scholarly resources. Summer Stipends support continuous full-time work on a humanities project for a period of two months. Summer Stipends support projects at any stage of development. Summer Stipends are awarded to individual scholars. **Due September 26.**

Innovation in Archives and Documentary Editing

The National Historical Publications and Records Commission seeks projects that are exploring innovative methods to improve the preservation, public discovery, or use of historical records. Projects may also focus on techniques and tools that will improve the professional performance and effectiveness of those who work with such records, such as archivists, documentary editors, and records managers. Projects must anticipate results that will affect more than a single institution or a single state. Projects may focus on methods of working with records in any format, including born-digital records. Projects designed to publish historical records must focus on innovative methods of presenting archival records as primary sources. The Commission does not fund projects focused on artifacts or books. For a comprehensive list of the Commission's limitations on funding, please see <u>What We Do and Do Not Fund</u>. Applications that consist entirely of ineligible activities will not be considered. **Due October 3.**

Healthy Schools: Environmental Factors, Children's Health and Performance, and Sustainable Building Practices

The U.S. Environmental Protection Agency (EPA), as part of its Science to Achieve Results (STAR) program, is seeking applications proposing research that will inform school (K-12 educational facilities) building design, construction and operation practices in order to foster safe and healthy school environments and maximize student achievement and teacher and staff effectiveness. Specifically, the goal is to understand the relationship between environmental factors defined broadly and the health, safety and performance of students, teachers and staff. In addition to health-related concerns, the school environment may similarly impact the performance of students, teachers and staff, including lowering student achievement outcomes, and reducing teacher effectiveness. Accordingly, research is needed to better understand the negative impacts of the school environment on students' health, safety, and achievement, and to measure the positive potential benefits of effectively managing environmental factors and applying sustainable building practices. The results of this research will help ensure that the risks of environmentally-induced illness and injury to America's students, teachers and other school staff are diminished or avoided and that students, teachers and staff are provided with optimal learning environments in their schools. **Due October 8**.

DoD Duchenne Muscular Dystrophy Investigator-Initiated Research Award

All projects should adhere to a core set of reporting standards for rigorous study design. The standards are described fully in

<u>www.nature.com/nature/journal/v490/n7419/full/nature11556.html</u>. While these standards are written for preclinical studies, the basic principles of randomization, blinding, sample-size

estimation, and data handling derive from well-established best practices in clinical studies and should be applied to those projects as well. Studies proposed under this award mechanism should not include: Target discovery; Drug screening; Mechanism of action studies; Hypothesisdriven pathophysiology studies Applications must include preliminary data that are relevant to DMD and the proposed project. Clinical trials are supported by this award mechanism. Optional Qualified Collaborator: The FY13 DMDRP strongly supports collaborative research between laboratory scientists and clinical researchers, and between academic scientists and biotechnology/pharmaceutical industry scientists. Collaborations that bring new perspectives from other disciplines, or bring new investigators into the DMD field, are also strongly encouraged. **Due November 6.**

NSF/NIH/USDA Ecology and Evolution of Infectious Diseases (EEID)

The Ecology and Evolution of Infectious Diseases program supports research on the ecological, evolutionary, and socio-ecological principles and processes that influence the transmission dynamics of infectious diseases. The central theme of submitted projects must be quantitative or computational understanding of pathogen transmission dynamics. The intent is discovery of principles of infectious disease transmission and testing mathematical or computational models that elucidate infectious disease systems. Projects should be broad, interdisciplinary efforts that go beyond the scope of typical studies. They should focus on the determinants and interactions of transmission among humans, nonhuman animals, and/or plants. This includes, for example, the spread of pathogens; the influence of environmental factors such as climate; the population dynamics and genetics of reservoir species or hosts; or the cultural, social, behavioral, and economic dimensions of disease transmission. Research may be on zoonotic, environmentally-borne, vector-borne, or enteric diseases of either terrestrial or freshwater systems and organisms, including diseases of animals and plants, at any scale from specific pathogens to inclusive environmental systems. Proposals for research on disease systems of public health concern to developing countries are strongly encouraged, as are disease systems of concern in agricultural systems. Investigators are encouraged to involve the public health research community, including for example, epidemiologists, physicians, veterinarians, food scientists, social scientists, entomologists, pathologists, virologists, or parasitologists with the goal of integrating knowledge across disciplines to enhance our ability to predict and control infectious diseases. Due November 20.

NEH Collaborative Research Grants

Collaborative Research Grants support interpretive humanities research undertaken by a team of two or more scholars, for full-time or part-time activities for periods of a minimum of one year up to a maximum of three years. Support is available for various combinations of scholars, consultants, and research assistants; project-related travel; field work; applications of information technology; and technical support and services. All grantees are expected to communicate the results of their work to the appropriate scholarly and public audiences. **Due December 5.**

NEH Scholarly Editions and Translations Grants

Scholarly Editions and Translations grants support the preparation of editions and translations of pre-existing texts and documents of value to the humanities that are currently inaccessible or available in inadequate editions. These grants support full-time or part-time activities for periods of a minimum of one year up to a maximum of three years. Projects must be

undertaken by a team of at least one editor or translator and one other staff member. Grants typically support editions and translations of significant literary, philosophical, and historical materials, but other types of work, such as musical notation, are also eligible. **Due December 5.**

Long Range Broad Agency Announcement for Navy and Marine Corps Science and Technology

This BAA is intended for proposals related to basic research, applied research, or advanced technology development. **Open to September 2013.**

APS for Food Security, Nutrition, Biodiversity and Conservation

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

National Oceanic and Atmospheric Administration (NOAA)

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

National Geospatial-Intelligence Agency Academic Research Program

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

FY 2013 Continuation of Solicitation for the Office of Science Financial Assistance Program

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

U.S. Army Medical Research and Materiel Command Broad Agency Announcement for Extramural Medical Research

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

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

Long Range BAA for Navy and Marine Corps Science and Technology

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

FAA Center of Excellence for Environment and Energy

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

Research Interests of the Air Force Office of Scientific Research

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

Research Interests of the Air Force Office of Scientific Research

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

DARPA 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 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. **Open November 5, 2011, to September 8, 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 <u>http://erdc.usace.army.mil/</u> 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 <u>Army Research Laboratory</u> (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.**

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

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

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**.

	Academic Research Funding Strategies, LLC (<u>Page 1</u>)
	http://academicresearchgrants.com/home
	ph: 979-693-0825
	LDeckard@academicresearchgrants.com
	mjcronan@gmail.com
What We Do	
	We provide consulting for colleges and universities on a wide range of topics related to
	research development and grant writing, including:
•	Strategic Planning - Assistance in formulating research development strategies and
	building institutional infrastructure for research development (including special strategies
	for Predominantly Undergraduate Institutions and Minority Serving Institutions)
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•	Training for Faculty - Workshops, seminars and webinars on how to find and compete for
	research funding from NSF, NIH, DoE and other government agencies as well as
	foundations. Proposal development retreats for new faculty.
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•	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.)
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•	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.
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