

Research Grant Writing Resources

Fall Semester E-Compilation, September-December 2008

Office of Proposal Development

[Research and Graduate Studies](#)

Texas A&M University

Hotlink to SUBSCRIBE or UNSUBSCRIBE: MikeCronan@tamu.edu

OPD-Web (<http://opd.tamu.edu/>)

a resource for the development and writing of research and educational proposals to federal agencies and foundations

New funding opportunities are posted to OPD-Web daily and clustered by week

<http://opd.tamu.edu/funding-opportunities>

New Subscribe to OPD-Web Research Funding Opportunities RSS Feeds

<http://opd.tamu.edu/funding-opportunities/subscribe-to-rss-feeds-for-discipline-specific-funding-opportunities>

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New [New OPD Seminars](#) (Downloadable) **New**

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Miscellaneous

What's New in Federal Research Budget: R&D Budget & Policy Updates

New <http://www.aaas.org/spp/rd/new.htm> **New**

by Kei Koizumi, Director, R&D Budget and Policy Program

American Association for the Advancement of Science

FY09 Budget Presentation Slides, Downloadable

<http://www.aaas.org/spp/rd/present.htm>

RSS: Keeping Up with Research

New How can I find RSS feeds for research literature? **New**

<http://libraries.mit.edu/help/rss/feeds.html>

National Science Foundation ([Top](#))

Mentoring Requirement for Postdoctoral Research Fellows

http://www.nsf.gov/pubs/policydocs/pappguide/nsf09_1/gpg_sigchanges.jsp

Chapter II - Section C.2d(i), Project Description, has had entirely new guidance added regarding mentoring activities. This was done to address the mentoring requirement of the America COMPETES Act. Each proposal that requests funding to support postdoctoral researchers must include, as a separate section within the 15-page project description, a description of the mentoring activities that will be provided for such individuals. Examples of such activities are provided and the mentoring plan will be evaluated during the merit review process, under the Broader Impacts criterion. **Proposals that do not include a separate section on mentoring activities within the Project Description will be returned without review.**

Dear Colleague Letter: Joint NSF/EPSCRC "Sandpit" on Synthetic Biology

http://www.nsf.gov/pubs/2009/nsf09012/nsf09012.jsp?govDel=USNSF_25

<http://www.epsrc.ac.uk/CallsForProposals/JointSyntheticBiology.htm>

The purpose of this letter is to bring to your attention a new "Call for Participants" to take part in an intensive workshop ("sandpit") focused on grand challenge topics in synthetic biology, recently released by the Engineering and Physical Sciences Research Council of the United Kingdom.

Dear Colleague Letter: Alliances for Broadening Participation in STEM

http://www.nsf.gov/pubs/2009/nsf09015/nsf09015.jsp?govDel=USNSF_25

In Fiscal Year 2009, the Foundation will not accept letters of intent or new proposals under the Alliances for Graduate Education and the Professoriate (AGEP) program component of ABP (please refer to the Revision Notes on the first page of the ABP solicitation).

Research and Evaluation on Education in Science and Engineering (REESE), NSF Dear Colleague

http://www.nsf.gov/pubs/2009/nsf09007/nsf09007.jsp?govDel=USNSF_25

On behalf of the Division of Graduate Education (DGE) in the Directorate for Education and Human Resources (HER) we call your attention to an opportunity to **request support for research and evaluation projects focused on graduate education.**

Vertical Integration in Research and Education (VIGRE) Proposals

http://www.nsf.gov/pubs/2008/nsf08085/nsf08085.jsp?govDel=USNSF_25

NSF Dear Colleague: The purpose of this letter is to inform the mathematical sciences community that the Division of Mathematical Sciences (DMS) currently is

not accepting Vertical Integration in Research and Education (VIGRE) proposals. The VIGRE program is under review by a National Academy of Sciences committee and DMS is suspending the VIGRE program pending the outcome of that review.

NSF Emerging Frontiers

<http://www.nsf.gov:80/div/index.jsp?org=EF>

The Emerging Frontiers (EF) Division is an incubator for 21st Century Biology. EF supports multidisciplinary research opportunities and networking activities that arise from advances in disciplinary research. By encouraging synergy between disciplines, EF provides a mechanism by which new initiatives will be fostered and subsequently integrated into core programs.

Dear Colleague Letter: Division of Mathematical Sciences with the title "Mathematical and Statistical Research for Threat Detection"

http://www.nsf.gov/pubs/2009/nsf09010/nsf09010.jsp?govDel=USNSF_25

The Division of Mathematical Sciences (DMS) at the National Science Foundation (NSF) has a long history of supporting scientific research to develop technology in order to secure the national defense. We expect, beginning in FY 2009, to form a partnership with the Defense Threat Reduction Agency (DTRA) to develop the next generation of mathematical and statistical algorithms and methodologies in sensor systems for the detection of chemical and biological materials as an area of emphasis within the Computational Mathematics program. These new algorithms could be formed, but are not limited to, mathematical research areas such as mathematical modeling, signal processing, statistics, harmonic and geometric analysis, topology, numerical analysis, and optimal control.

Dear Colleague Letter: NSF Graduate Research Fellows Nordic Research

http://www.nsf.gov/pubs/2009/nsf09011/nsf09011.jsp?govDel=USNSF_25

The Division of Graduate Education and the Office of International Science and Engineering announce a new international research opportunity, available as a Supplemental Award, for NSF Graduate Research Fellows (GRFs) to enable Fellows to gain international research experience and establish collaborations with counterparts at Norwegian or Finnish research institutions. Through a pilot collaboration, the U.S. National Science Foundation, the [Research Council of Norway](#) (RCN), and the [Finnish Funding Agency for Technology and Innovation](#) (TEKES) will support on a competitive basis research visits of between two and twelve months to Norway, or between three and twelve months to Finland, respectively.

Six Merit Review Facts from NSF

<http://www.nsf.gov/bfa/dias/policy/meritreview/facts.jsp>

FACT 1: NSF Program Officers make recommendations to fund or decline a proposal. **DISCUSSION:** External review panels do not make funding decisions. The analysis and evaluation of proposals by external reviewers provide information to NSF Program Officers in making their recommendations to award or decline a proposal.

Why You Should Volunteer to Serve as an NSF Reviewer

<http://www.nsf.gov/bfa/dias/policy/meritreview/reviewer.jsp>

In addition to providing a great service to NSF and the science and engineering community, **reviewers benefit** from reviewing and serving on panels. Reviewers gain first hand knowledge of the peer review process; learn about common problems with proposals; **discover strategies to write strong proposals**; and, through serving on a panel, **meet colleagues and NSF program officers managing programs related to your interests**.

NSF Strategic Plan FY 2006-2011

<http://www.nsf.gov/pubs/2006/nsf0648/nsf0648.jsp>

NSF Human Capital Strategic Plan

http://www.nsf.gov/pubs/2008/hcsp2008/nsf_humancapitalstrategicplan_0803.pdf

NSF RSS Feeds and Podcasts

<http://www.nsf.gov:80/rss/>

US Scientific Committee on Antarctic Research

<http://usscar.tamu.edu:80/>

NSF GPG Summary of Significant Changes-- January 1, 2009

http://www.nsf.gov/pubs/policydocs/pappguide/nsf09_1/gpg_sigchanges.jsp

Life in Transition--Biological Sciences funding to support emerging areas of interdisciplinary research, NSF DCL Oct. 17

http://www.nsf.gov:80/pubs/2008/nsf08078/nsf08078.jsp?govDel=USNSF_25

The Biological Sciences Directorate is augmenting funding to support emerging areas of interdisciplinary research, many of which lie at the intersection of the life and physical sciences. Priority will be given to projects that address fundamental questions about Life in Transition (LiT) including: how the living world has and is adapting to and transforming the Earth's climate, the diverse strategies by which living systems obtain and use energy, and life's origins and indispensable properties.

Microbial Systems in the Biosphere (MSB), NSF DCL Oct. 17

http://www.nsf.gov/pubs/2008/nsf08077/nsf08077.jsp?govDel=USNSF_25

The Directorate for Biological Sciences is augmenting funding to programmatic areas throughout the Directorate for research in microbial biology. The Directorate invites investigators who would have submitted proposals to the recently ended Microbial Observatories and Microbial Interactions and Processes (MO/MIP) solicitation

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=6166&org=MCB

to submit proposals to relevant core programs/clusters as described on the BIO web site. Examples of programs to which proposals may be submitted include but are not limited to:

Biotic Surveys and Inventories:(<http://www.nsf.gov/div/index.jsp?div=DEB>)

Genes and Genome Systems:(<http://www.nsf.gov/div/index.jsp?div=MCB>)

Symbiosis, Defense and Self-recognition(<http://www.nsf.gov/div/index.jsp?div=IOS>)

Advances in Biological Informatics:(<http://www.nsf.gov/div/index.jsp?div=DBI>)

Topic Solicitation FY2010 Emerging Frontiers In Research & Innovation

http://www.nsf.gov:80/pubs/2008/nsf08071/nsf08071.jsp?govDel=USNSF_25

NSF Cost Sharing Dear Colleague Letter

<http://www.nsf.gov:80/pubs/2008/nsf08067/nsf08067.jsp>

NSF Workshop Report on Proactive Recruitment in the Lower Division

<http://www.math.tamu.edu/research/undergrad/PRLDworkshopReport.pdf>

A workshop panel consisting of 30 faculty members, researchers, and administrators from mathematics, statistics, science and engineering departments met in Washington on April 28-29, 2008 to advise the NSF on a potential new funding initiative targeted to the recruitment of students into mathematics and science through collaborative efforts between one or more disciplines.

**Role of HBCUs as Baccalaureate-Origin Institutions of Black S&E
Doctorate Recipients**

http://www.nsf.gov:80/statistics/infbrief/nsf08319/?govDel=USNSF_178

Funding for Social Scientists at the National Science Foundation

<http://www.ipsr.ku.edu/grantsup/NSFWorkshop/WinslowPPT.pdf>

Deborah Winslow, Program Officer, Cultural Anthropology Program
Directorate for Social, Behavioral, and Economic Sciences

NSF Proposal Review & Preparation

<http://www.ipsr.ku.edu/grantsup/NSFWorkshop/NagelPPT.pdf>

Joane Nagel, NSF Sociology Program Officer 2002-2004

How to get NSF funding: a view from the "inside"

<http://www.wvu.edu/depts/rsp/insideview.pdf>

Gisele Muller-Parker, Ocean Sciences, National Science Foundation

NSF Workshops for Hispanic Serving Institutions

<http://www.yorkmedia.com/nsf/index.html>

Downloadable NSF sponsored workshops for HIS's in order to highlight the inner workings of NSF; explain the proposal preparation and merit review processes; provide an overview of award management, compliance issues, and electronic initiatives; and answer pressing questions from the HSI community.

2008 IPSR NSF Grant Mentoring Workshop

<http://www.ipsr.ku.edu:80/grantsup/NSFWorkshop/index.shtml>

IPSR 2008 NSF Grant Mentoring Workshop at the University of Kansas

FY 2007 Report on the NSF Merit Review Process (August 2008)

<http://www.nsf.gov/pubs/2008/nsb0847/nsb0847.pdf>

Science and Engineering State Profiles: 2005-07, NSF August 2008

<http://www.nsf.gov/statistics/nsf08314/>

NSF Dear Colleague Letter - Broader Impacts, July 30

http://www.nsf.gov/pubs/2008/nsf08062/nsf08062.pdf?govDel=USNSF_25

Broadening Participation for Greater Diversity

<http://www.nsf.gov/mps/dmr/diversity.jsp>

Broader Impacts: <http://www.nsf.gov/pubs/gpg/broaderimpacts.pdf>

The Science, Technology and Society Program: Research at the Interface of the Mathematical and Physical Sciences and Society

http://www.nsf.gov/pubs/2008/nsf08065/nsf08065.jsp?govDel=USNSF_25

Fostering Learning in the Networked World: The Cyberlearning Opportunity and Challenge

<http://www.nsf.gov/pubs/2008/cyberlearning08/cyberlearning08.pdf>

A 21st Century Agenda for the National Science Foundation. Report of the NSF Task Force on Cyberlearning, June 24, 2008.

NSF Workshop Report on Proactive Recruitment in the Lower Division

<http://www.math.tamu.edu/research/undergrad/PRLDworkshopReport.pdf>

FAQs for Science and Technology Centers (STC): Integrative Partnerships Program

http://www.nsf.gov/pubs/2008/nsf08059/nsf08059.jsp?govDel=USNSF_25

Integrative Graduate Education and Research Traineeship (IGERT) 2006-2007 Annual Report

http://www.nsf.gov:80/pubs/2008/nsf0840/index.jsp?govDel=USNSF_124

NSF Future Challenges for the Science and Engineering of Learning

<http://www.nsf.gov/sbe/SLCWorkshopReportJan08.pdf>

Rodney Douglas - E. T. H. and University of Zurich

Terry Sejnowski - Salk Institute and University of California at San Diego

The goal of the workshop was to explore research opportunities in the broad domain of the Science and Engineering of Learning, and to provide NSF with this Report identifying important open questions, particularly in the context of the NSF Science of Learning Centers, and also to spur new technological developments.

NSF Budget Internet Information System Providing Statistical and Funding Information

<http://dellweb.bfa.nsf.gov:80/starth.asp>

NSF 08-064, Report of the Advisory Committee for GPRA Performance Assessment FY 2008

<http://www.nsf.gov/pubs/2008/nsf08064/index.jsp>

NSF Budget Internet Information System Providing Statistical and Funding Information

<http://dellweb.bfa.nsf.gov:80/starth.asp>

NSF 08-064, Report of the Advisory Committee for GPRA Performance

Assessment FY 2008

<http://www.nsf.gov/pubs/2008/nsf08064/index.jsp>

Science and Engineering State Profiles: 2005-07, NSF August 2008

<http://www.nsf.gov/statistics/nsf08314/>

National Institutes of Health ([Top](#))

Fundamentals of the NIH Grants Process

<http://www.jou.ufl.edu/research/grantdevres/NIH/Fundamentals%20of%20the%20NIH%20Grants%20Process.ppt>

**NIH Regional Seminar on Program Funding and Grants Administration
June 19-20, 2008**

Harold Perl, PhD, Center for the Clinical Trials Network, National Institute on Drug Abuse, David Curren, Division of Grants Policy, Office of Policy for Extramural Research Administration

NIH Policy on Submission of Resubmission (Amended) Applications

<http://grants.nih.gov/grants/policy/amendedapps.htm>

The most recent change in policy was announced in October 2008 (see NIH Guide Notice of October 8, 2008 and NIH Guide Notice of November 7, 2008). Beginning with original new applications (i.e., never submitted) and competing renewal applications submitted for the **January 25, 2009 due dates and beyond**, the NIH will accept only a single amendment (A1) to the original application. It is expected that this revised policy will lead to funding high quality applications earlier, with fewer resubmissions. Original new and competing renewal applications that were submitted prior to January 25, 2009 will be permitted two amendments (A1 and A2). For these “grandfathered” applications, NIH expects that any A2 will be submitted no later than January 7, 2011, and NIH will not accept A2 second resubmission applications after that date.

Announcing Initial Implementation Timeline for Enhancing Peer Review

<http://grants.nih.gov/grants/guide/notice-files/not-od-08-118.html>

The preliminary implementation plans for the 2009 through 2010 calendar years.

Enhancing Peer Review at NIH

<http://enhancing-peer-review.nih.gov/index.html>

NIH Peer Review Policies & Practices

<http://grants.nih.gov/grants/peer/>

NIH Parent Announcements

For Unsolicited or Investigator-Initiated Applications

http://grants.nih.gov/grants/guide/parent_announcements.htm

NIH and other agencies serviced by [eRA Commons](#) still want your investigator-initiated applications. Electronic grant applications must be submitted in response to a [Funding Opportunity Announcement](#)*. NIH developed Parent announcements for use by applicants who wish to submit what were formerly termed investigator-initiated or ‘unsolicited’ applications. Read [More About Parent](#)

[Announcements.](#)

**NIH Revised New and Early Stage Investigator Policies
November 3, 2008**

New Investigator policies, stemming from the NIH Enhancing Peer Review Initiative (see <http://enhancing-peer-review.nih.gov/index.html>), can be found in this [Revised New and Early Stage Investigator Policy Announcement](#). Under this new policy, the NIH intends to support New Investigators at success rates comparable to those for established investigators submitting new applications. Early Stage Investigators (ESIs), as previously described on September 26, 2008 at <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-08-121.html> should comprise a majority of the New Investigators supported. In addition, New Investigator applications will be clustered during review whenever possible.

This notice also advises New Investigators and ESIs that these NIH New Investigator Policies are limited to applications for traditional research project grant (R01) support. For more information, such as the following definitions, see this Guide Notice and the related links:

New Investigator: In general, a Program Director/Principal Investigator (PD/PI) is considered a New Investigator if he/she has not previously competed successfully as PD/PI for a significant NIH independent research award. For example, a PD/PI who has previously received a competing NIH R01 research grant is no longer considered a New Investigator. A complete definition of a New Investigator along with a list of NIH grants that do not disqualify a PD/PI from being considered a New Investigator can be found at http://grants.nih.gov/grants/new_investigators/resources.htm.

Early Stage Investigator (ESI): An individual who is classified as a New or First-Time Investigator and is within 10 years of completing his/her terminal research degree or is within 10 years of completing medical residency (or the equivalent) is considered an Early Stage Investigator (ESI). More information on ESIs is available at <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-08-121.html>.

Directory International Short-Term Travel Grants in Health Sciences
<http://www.fic.nih.gov/funding/travdic06.htm#aaas>

NCCR strategic plan: *strategy to Facilitate information sharing among biomedical researchers*
<http://researchremix.wordpress.com/2008/09/18/nccr-strategic-plan-strategy-to-facilitate-information-sharing-among-biomedical-researchers/>

NIH Extramural Training Mechanisms
<http://grants.nih.gov:80/training/extramural.htm>

K Kiosk - Information about NIH Career Development Awards
<http://grants1.nih.gov/training/careerdevelopmentawards.htm>

Writing A Grant as a Young [NIH] Investigator

<http://www.massgeneral.org/mgpa/docs/Grant%20Writing%20Seminar%201-29%202008%20kr.ppt>

Kay Ryan, Director, Clinical Research Operations
Massachusetts General Hospital Clinical Research Program

Grant Writing Tips: Preparing Your CV And Proving Your Expertise

http://grants.med.yale.edu/proposal_development/docs/howtowriteabettercv.doc

Sara Rockwell, Ph.D., Director, Office of Scientific Affairs
Yale University School of Medicine

How to win an NIH grant-A reviewer's perspective

http://statfund.cancer.gov/articles/Ryan_JSM_Aug2005.pdf

Louise Ryan, Harvard University

How To Write Your First Grant

http://grants.med.yale.edu/proposal_development/docs/firstgrant%5B1%5D.ppt

Penny Cook, Executive Director, Grants and Contracts; Sara Rockwell, PhD,
Director, Office of Scientific Affairs, Professor of Therapeutic Radiology and
Pharmacology, Yale University School of Medicine

Peer Review of NIH Research Grant Applications

http://ora.stanford.edu/supporting_files/peer_review.pdf

Anthony M. Coelho, Jr., Ph.D., Review Policy Officer, NIH Office of Extramural Research

Writing Scientific Manuscripts

<http://www.jyi.org/resources/320/Writing%20Scientific%20Manuscripts%20Presentation.ppt>

Constructing a Winning Grant

https://forms.bwfund.org:443/focus/spring_2007/grantwriting.html

Burroughs Wellcome Fund in partnership with Sigma Xi

NIH Roadmap for Medical Research

<http://nihroadmap.nih.gov:80/>

New The Transformative R01 Program (T-R01s) will allow highly creative, "out-of-the-box" projects to be supported in any area of research that falls within the NIH mission, and in particular, in areas of Highlighted Need. The NIH recognizes that new paradigms are needed in these areas and will highly encourage research that addresses these needs.

NIH Links

<http://report.nih.gov/links/index.aspx>

Links to a wide variety of data, statistics, strategic plans, policy studies, program evaluations, and other sources of reports on biomedical and behavioral research programs, as well as broader science-related information resources.

Clinical Research Study Investigator's Toolbox

<http://www.nia.nih.gov:80/ResearchInformation/CTtoolbox/>

NIGMS Administrative Supplements for Collaborative Science

<http://grants.nih.gov/grants/guide/notice-files/NOT-GM-08-130.html>

These funds are intended to enhance ongoing research by stimulating and supporting new multidisciplinary collaborations among NIGMS grantees and other members of the scientific community. Collaborations that bring together ideas and approaches from disparate scientific disciplines are particularly encouraged, as are those involving individuals from groups that are currently underrepresented in the biomedical sciences.

AHRQ Announces Interest in Career Development (K01, K02, K08) and Dissertation (R36) Grants focused on Health Information Technology

<http://grants.nih.gov/grants/guide/notice-files/NOT-HS-08-014.html>

Wow NIH Reviewers with Your Public Health Relevance Statement

<http://report.nih.gov/>

<http://report.nih.gov/crisp/index.aspx>

NIH requires applicants to submit public health relevance statements in grant applications in order to clearly explain the project's potential to improve public health. The public health relevance statement should be written in plain language that can be understood by a general, lay audience, as well as by your reviewers and colleagues. NIH uses these public health relevance statements for portfolio analyses, to identify research highlights to Congress, and to make the importance of the research clear to the public. Statements of public health relevance are highlighted in a new field, separate from the project abstract, on the [NIH CRISP](#) (Computer Retrieval of Information Scientific Projects) tool found on the new [NIH Report Web site](#).

(Source: <http://nexus.od.nih.gov/nexus/nexus.aspx?ID=66&Month=5&Year=2008>)

NIH Video & Pod Casting

<http://videocast.nih.gov/default.asp>

<http://videocast.nih.gov:80/FutureEvents.asp>

Schedule of upcoming video and pod-cast research topics and related events at the National Institutes of Health, along with archived videos on demand.

NIH OLAW Seminars Now Viewable Online

<http://grants.nih.gov/grants/olaw/e-seminars.htm>

<https://webmeeting.nih.gov/p14648513/>

NIH Office of Laboratory Animal Welfare has made the session called "Preparing for Animal Rights Extremist Activities at Your Institution" available online for those who could not participate in the live webcast.

NIH Director Announces Enhancements to Peer Review

<http://www.nih.gov/news/health/jun2008/od-06.htm>

NIH Will Commit \$1 Billion over Next Five Years to Investigator-Initiated High Risk, High Impact Transformative Research

<http://nihroadmap.nih.gov/>

New Listing of International Ethics Resources Available

<http://nexus.od.nih.gov/nexus/nexus.aspx?ID=67&Month=5&Year=2008>

<http://crpac.od.nih.gov/>

NIH's Bioethics Resources on the Web

<http://bioethics.od.nih.gov/>

<http://bioethics.od.nih.gov/internationalresthics.html>

The NIH Program on Clinical Research Policy Analysis and Coordination (NIH CRpac program) maintains a compendium of ethics resources available over the Internet.

These may be found on the NIH site titled, "Bioethics Resources on the Web."

Directory of Grants and Fellowships in the Global Health Sciences

<http://www.fic.nih.gov/funding/globaldir06.html>

NIH Announces the Posting of a Web-based Tutorial on Financial Conflict of Interest Requirements for All NIH-Supported Institutions

<http://grants.nih.gov/grants/guide/notice-files/NOT-OD-08-106.html>

Request for Information (RFI): AHRQ Requests Input to Develop an Innovations Research Portfolio

<http://grants.nih.gov/grants/guide/notice-files/NOT-HS-08-013.html>

Directory of International Travel Grants in the Health Sciences

<http://www.fic.nih.gov/funding/travdic06.htm>

Directory of Grants and Fellowships in the Global Health Sciences: Grants and Fellowships for Faculty

<http://www.fic.nih.gov/funding/facdir06.htm>

Roadmap-Relevant SBIR/STTR Opportunities

<http://nihroadmap.nih.gov/grants/sbir-sttr.asp>

DOD Agencies ([Top](#))

Defense Sciences Office within DARPA, Current Solicitations

<http://www.darpa.mil/dso/solicitations/solicit.htm>

Harnessing Infrastructure for Building Reconnaissance (HIBR)

<http://www.darpa.mil/STO/solicitations/BAA09-08/index.html>

DARPA is developing broad and diverse technologies necessary for external sensing deep inside buildings with the objective of providing a suite of sensing technologies for situational awareness both above- and below-ground suitable across a broad range of building environments. The component technologies must support all external ISR concepts of operations ranging from pre-mission planning through detailed assessment of targeted structures, and live updates during mission execution. The intent of this solicitation, **DARPA-BAA-09-08**, Harnessing Infrastructure for Building Reconnaissance, is to investigate individual technological approaches that leverage building infrastructure to opportunistically collect information for interior awareness. DARPA believes that opportunistic sensing may be exploited to infer urban interior building awareness

using exterior observations. Open to 10/9/2009.

DARPA Mathematical Challenges Open to 9/25/09

<http://www.darpa.mil/dso/solicitations/baa08-65.html>

DARPA Strategic Technologies

<http://www1.fbo.gov/spg/ODA/DARPA/CMO/BAA08%2D10/listing.html>

DARPA is soliciting proposals under this BAA for the performance of research, development, design, and testing that directly supports Strategic Technology Office (STO). This includes Space and Near-Space Sensors and Systems; Strategic and Tactical Networks; Information Assurance; Counter Underground Facilities; Weapons of Mass Destruction Defense; Small Unit Operations; Maritime Operations; and Core Strategic Technologies. Open to 2/12/09

DARPA Microsystems Technology Office-Wide BAA

<http://www.darpa.mil/mto/solicitations/index.html>

MTO supports revolutionary research in electronics, photonics, MEMS, algorithms, and combined Microsystems technology to deliver new capabilities to sense, communicate, energize, actuate, and process data and information for the war fighter. Open to 2/13/09

DARPA Reactive Material Structures

<https://www.fbo.gov/index?s=opportunity&mode=form&id=e8068d5029d0c7a9b9897d029eca8187&tab=core&cvview=0&cck=1&au=&ck=>

DARPA is soliciting innovative research proposals for the Reactive Material Structures program. The overall goal of the program is to develop and demonstrate reactive material structures that provide both structural integrity and enthalpic energy within the same material system, and the ability to rapidly release that energy to produce a high intensity blast upon demand. Open to 4/16/09.

FY2008-2010 Basic Research for Combating Weapons of Mass Destruction Broad Agency Announcement” (HDTRA 1-08-10-BRCWMD-BAA)

<http://www.dtra.mil:80/baa/index.cfm>

[http://www.dtra.mil/documents/newsservices/news-releases/pdf/080906 NewsRelease Grants Final.pdf](http://www.dtra.mil/documents/newsservices/news-releases/pdf/080906%20NewsRelease%20Grants%20Final.pdf)

NOTE Young Investigator Awards: Proposals that focus on exploratory aspects of a unique problem, a high risk approach, or innovative research in subjects with potential for high impact to C-WMD science from non-tenured faculty who received a Ph.D. or equivalent degree on or after 1 October 2003. Young Investigator Awards will average \$100K a year with a POP of up to two (2) years.

Long Range BAA for Research & Education Initiatives at the Naval Postgraduate School

<http://www.nps.edu/research/WorkingWithNPS.html>

NPS is interested in receiving proposals for research and education initiatives which offer potential for advancement and improvement in the NPS core mission of graduate education and research. Deadline: 3/31/09

Long Range Broad Agency Announcement (BAA 09-001) for Navy and Marine Corp Science and Technology

<http://www.onr.navy.mil/02/baa/>

This BAA is an announcement to declare ONR's broad role in competitive funding of meritorious research across a spectrum of science and engineering disciplines. Work funded under this BAA may include basic research, applied research and some advanced technology development. Open to 9/30/09.

Office of Naval Research Currently Active BAAs

<http://www.onr.navy.mil/02/baa/>

ONR's Education/University Research Initiative Programs

<http://www.onr.navy.mil/education/default.asp>

United States Army Medical Research and Materiel Command's Broad Agency Announcement (BAA) 08-1 (Open to 9/30/09)

<https://www.fbo.gov/index?s=opportunity&mode=form&id=8a632d0224aebc9e04aa1181c8351a3b&tab=core&cvview=0>

Army Research Office Broad Agency Announcement

<http://www.arl.army.mil/www/DownloadedInternetPages/CurrentPages/DoingBusinesswithARL/research/07r0003-02.pdf>

ARO solicits proposals for basic and applied scientific research in mechanical sciences, environmental sciences, mathematical and computer sciences, electronics, computational and information sciences, physics, chemistry, life sciences, and materials science. Open FY 2007 - FY 2011

Innovative Technologies and Methodologies for Reducing Various Environmental Problems, Open to March 2009

<https://www.fbo.gov/index?s=opportunity&mode=form&id=f939bdaf1a93d60ea5e662f0b58f258b&tab=core&cvview=1>

This announcement seeks out technologies and methodologies to reduce environmental impacts from current and past Air Force (AF) operations and apply to Air Force installations worldwide. The key focus of this effort is to further develop demonstration/field-tested remediation, contaminated site characterization and monitoring, and pollution prevention technologies and methodologies that serve as an innovative means to save money and time while achieving compliance with all air, soil, and water regulatory requirements and Air Force policies and technical guidance.

DOD CDMRP Research Funding for 2009

<http://cdmrp.army.mil/pubs/press/2008/08fundingann.htm>

Research topics under the FY09 Peer Reviewed Medical Research Programs are restricted to: Alcoholism, Autoimmune Diseases, Blood Cancer, Childhood Asthma, Drug Abuse, Epilepsy, Kidney Cancer, Listeria Vaccine for infectious disease and cancer, Lupus, Mesothelioma, Molecular Signatures in Tumors, Neuroblastoma, Osteoporosis and related bone disease, Paget's Disease, Pediatric Cancer, Polycystic Kidney Disease, Social Work Research, Tinnitus, West Nile Virus

Vaccine. Program Announcements are anticipated to be released this fall in 2008 and early in 2009 with detailed descriptions of funding mechanisms, evaluation criteria, submission requirements, and deadlines.

Upcoming EPA 2009 Environmental Research Grant Announcements

<http://es.epa.gov/ncer/rfa/>

- Research for Outcomes and Accountability: Development of Novel Environmental Health Outcome Indicators - *Opens: December 2008*
- Community-based Cumulative Risk Assessment Research - *Opens: January 2009*
- Targeted Measurements to Improve Air Pollution Emission Inventories - *Opens: January 2009*
- Air Research Centers - *Opens June 2009*
- Children's Environmental Health and Disease Prevention Research Centers: Formative Centers (with NIEHS) - *Opens: November 2008*
- Enhancing Ecosystem Services from Agricultural Lands: Developing Tools for Quantification and Decision Support - *Opens: January 2009*
- Nanotechnology Research Grants: Investigating Environmental Effects of Manufactured Nanomaterials: a Joint Research Solicitation - EPA, NSF & UK - *Opens: March 2009*
- SBIR Phase I - *Opens March 2009*

Center for Disease Control and Prevention Upcoming Grant Funding Opportunity Announcements

<http://www.cdc.gov/od/pgo/funding/FOAs.htm>

Presolicitation Notice of the BAA entitled "Personnel Security Thesis, Dissertation, and Institutional Research"

<https://www.fbo.gov/index?s=opportunity&mode=form&tab=core&id=2d0c50802449d712f26e9f942abef5c7>

A solicitation will be issued on or around 01 December 2008 for the Personnel Security Research Center (PERSEREC) to announce (through its contracting agency, the Department of Interior, National Business Center (DOI/NBC)) a program to help fund research addressing issues pertinent to personnel security policy. By providing financial support for master's theses, doctoral dissertations and institutional research, PERSEREC intends to respond to needs identified by the industrial and personnel security research communities and to reiterate the Department of Defense's commitment to fostering innovation within the field of personnel security.

Department of Defense Neurofibromatosis Research Program Funding Opportunities for Fiscal Year 2009

<http://cdmrp.army.mil/pubs/press/2008/09nfrppreann.htm>

The Fiscal Year 2009 (FY09) Defense Appropriations Act provides \$10 million to the Department of Defense Neurofibromatosis Research Program (NFRP) to find and fund the best research to eradicate the clinical impact of neurofibromatosis (NF) and Schwannomatosis. This program is administered by the US Army Medical Research and Materiel Command through the Office of the Congressionally Directed Medical Research Programs (CDMRP).

Defense Sciences Office within DARPA, Current Solicitations

<http://www.darpa.mil/dso/solicitations/solicit.htm>

Harnessing Infrastructure for Building Reconnaissance (HIBR)

<http://www.darpa.mil/STO/solicitations/BAA09-08/index.html>

DARPA is developing broad and diverse technologies necessary for external sensing deep inside buildings with the objective of providing a suite of sensing technologies for situational awareness both above- and below-ground suitable across a broad range of building environments. The component technologies must support all external ISR concepts of operations ranging from pre-mission planning through detailed assessment of targeted structures, and live updates during mission execution. The intent of this solicitation, **DARPA-BAA-09-08**, Harnessing Infrastructure for Building Reconnaissance, is to investigate individual technological approaches that leverage building infrastructure to opportunistically collect information for interior awareness. DARPA believes that opportunistic sensing may be exploited to infer urban interior building awareness using exterior observations. Open to 10/9/2009.

Humanities ([Top](#))

The Melbern G. Glasscock Center for Humanities Research

Texas A&M University

<http://glasscockcenter.blogspot.com/> (funding blog)

<http://glasscock.tamu.edu/>

Upcoming Grant Deadlines in the Humanities

<http://www.barnard.edu:80/grants/humanities.html>

Barnard Office of Institutional Support

Andrew W. Mellon Foundation

Research Universities and Humanistic Scholarship

http://www.mellon.org/grant_programs/programs/higher-education-and-scholarship/researchuniversities

The Foundation supports a wide range of initiatives to strengthen the institutions that sustain scholarship in the humanities and “humanistic” social sciences, primarily research universities but also a small number of centers for advanced study and independent research libraries. Particular emphases in this area include (but are not limited to) doctoral education, postdoctoral fellowships, faculty research, and discipline-related projects.

The Newberry Library Long-Term Fellowships

<http://www.newberry.org/research/felshp/long-term.html>

The Newberry Library Short-Term Fellowships

<http://www.newberry.org/research/felshp/short-term.html>

Bogliasco Foundation: Liguria Study Center for Arts and Humanities

<http://www.liguriastudycenter.org/english/fellowships.cfm>

The Liguria Study Center provides residential fellowships for qualified persons working on advanced creative or scholarly projects in the arts and humanities. The Study Center is one of the few residential institutions in the world dedicated exclusively to the humanistic disciplines: Archaeology, Architecture/Landscape Architecture, Classics, Dance, Film/Video, History, Literature, Music, Philosophy, Theater, and the Visual Arts. The Study Center was founded in 1996; during eleven years of activity it has hosted 450 fellows from 35 countries.

John Carter Brown Library Research Fellowships

[http://www.brown.edu/Facilities/John Carter Brown Library/](http://www.brown.edu/Facilities/John_Carter_Brown_Library/)

Approximately 25 short- and long-term fellowships awarded to scholars to pursue research at the John Carter Brown Library located on the campus of Brown University. Short-term fellowships are for periods of two to four months and long-term fellowships are for five to ten months.

International Grants & Research Resources: A Regional Listing

<http://www.vanderbilt.edu/vio/funding/regional.html>

Vanderbilt University International Office

Research Funding Relating to: Africa, Asia and Eurasia, Australia, New Zealand & Oceania, Europe, Middle East, North America, Central, South America and The Caribbean, Open / Unspecified Regions.

Research Fellowships, Dissertation Fellowships in American History

<http://www.gilderlehrman.org/historians/fellowship1.html>

Various submission dates.

The Gilder Lehrman Institute of American History invites applications for short-term fellowships in several categories: Research Fellowships for post-doctoral scholars at every faculty rank, Dissertation Fellowships for doctoral candidates who have completed exams and begun dissertation reading and writing, and Research Fellowships for journalists and independent scholars. For further information, visit www.nypl.org/research/sc/index.html.

Society for Historians of American Foreign Relations Prizes and Fellowships

<http://www.shafr.org/prizes.htm#Holt>

Subscribe to the RFP Bulletin of *Philanthropy News Digest*, a free listing of new RFPs delivered weekly by e-mail

<http://foundationcenter.org/newsletters/>

Hall Center for the Humanities Grant Development Links The University of Kansas

<http://www.hallcenter.ku.edu/~hallcenter/grants/development/links.shtml>

Resources for Junior Faculty/CAREER Awards ([Top](#))

Overview, Programs for Junior Faculty by OPD

<http://opd.tamu.edu/the-craft-of-writing-workbook/toolkit-for-programs-for-junior-faculty>

Grant Programs for New Investigators/Junior Faculty

<http://opd.tamu.edu/funding-opportunities/funding-opportunities-by-category/programs-for-junior-faculty.html>

New Faculty Research Funding Starter Kit

<http://opd.tamu.edu/resources-for-junior-faculty/new-faculty-research-funding-starter-kit.html>

NSF CAREER Proposal Writing Tips

<http://www.clarku.edu/offices/research/pdfs/NSFProposalWritingTips.pdf>

Edited by ZJ Pei, Kansas State University, January 2007

2008 NSF Sponsored CAREER Proposal Writing Workshop, Resources

<http://www.k-state.edu/career/2008/08resource.htm>

Dr. Jian Cao, Northwestern Univ., former NSF Program Director, '97 CAREER Awardee
Dr. Z.J. Pei, Kansas State Univ., 2004 CAREER Awardee

K Kiosk - Information about NIH Career Development Awards

<http://grants.nih.gov/training/careerdevelopmentawards.htm>

NIH New and Early Stage Investigators

http://grants.nih.gov/grants/new_investigators/index.htm

Grant Programs for New Investigators/Junior Faculty

<http://opd.tamu.edu/funding-opportunities/funding-opportunities-by-category/programs-for-junior-faculty.html>

New Faculty Research Funding Starter Kit

<http://opd.tamu.edu/resources-for-junior-faculty/new-faculty-research-funding-starter-kit.html>

Applying for Research Grants

http://www.nd.edu/~research/proposal/borkowski_howardapplying.pdf

John G. Borkowski & Kimberly S. Howard, University of Notre Dame

**A Beginner's Guide to the World of Research Grants for Sociologists
by Stewart Tolnay, University of Washington**

<http://faculty.washington.edu/tolnay/proposalguide.pdf>

“...Getting started to prepare a grant proposal is a lot like getting started to write a research paper. But, the scale of the enterprise is a little bit bigger because funders will usually expect you to produce more than one published article from a project that they support. It all begins with **A GOOD IDEA**. Where do “good ideas” come from? Basically, they come from previous work that has been done in a substantive area, and they identify unanswered questions that you will be able to answer when the funder gives you lots of money (or at least that’s the story). So, you must be familiar with the literature in the area within which

your project is situated; and you have to be creative enough to come up with a set of research questions (sometimes stated as hypotheses) that seem: (1) relevant to the substantive area, (2) scientifically important, and (3) answerable with the methodological approach you propose to use.”

The Art of Writing Proposals: Some Candid Suggestions for Applicants to Social Science Research Council Competitions

By Adam Przeworski and Frank Salomon

[http://fellowships.ssrc.org:80/art of writing proposals/](http://fellowships.ssrc.org:80/art%20of%20writing%20proposals/)

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NIH New Investigators Program

http://grants1.nih.gov/grants/new_investigators/index.htm

Common Mistakes in NIH Applications

http://www.ninds.nih.gov/funding/grantwriting_mistakes.htm

NIH Grant Cycle: Application to Renewal

<http://www.niaid.nih.gov/ncn/grants/cycle/default.htm>

NIH Early-Stage Investigator Portal

<http://www.niaid.nih.gov/ncn/grants/new/portal.htm>

Office of Proposal Development NSF CAREER Seminar & CAREER Links

<http://opd.tamu.edu/seminar-materials/seminar-materials-by-date/december-13-2007-nsf-career-seminar.html>

Program Information

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5262

NSF CAREER Proposal Writing Tips

<http://www.clarku.edu/offices/research/pdfs/NSFProposalWritingTips.pdf>

Edited by ZJ Pei, Kansas State University, January 2007

2008 NSF Sponsored CAREER Proposal Writing Workshop, Resources

<http://www.k-state.edu/career/2008/08resource.htm>

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Dr. Z.J. Pei, Kansas State Univ., 2004 CAREER Awardee

ACLS Competitions and Deadlines, 2008-09

<http://www.acls.org/grants/Single.aspx?id=352>

American Philosophical Society Fellowships & Research Grants

<http://www.amphilsoc.org:80/grants/>

Components of a Humanities/Social Sciences Research Proposal

Suad Joseph, University of California, Davis

[http://sjoseph.ucdavis.edu/Faculty Workshop/COMPONENTS%20HARCS%20&%20SS%202004.htm](http://sjoseph.ucdavis.edu/Faculty%20Workshop/COMPONENTS%20HARCS%20&%20SS%202004.htm)

"...The basic components of research proposals are the same in humanities and social sciences. How they are phrased and staged varies by discipline and by funding agency. The questions posed herein are required by most agencies in some form. If you answer the "maximal" components below, you should be able to write proposals for most funding agencies. The components may seem more "social science" than "humanities", but in fact, humanities funders ask the same questions, sometimes using different language. **Decode the language for your discipline.** Keep in mind, many agencies are interdisciplinary in their funding and have interdisciplinary review panels. Follow the guidelines of your funding agency, answer the questions the funder poses, use the funder's language for the components described herein."

Scholarly Arguments: Strategies for Writing Persuasive Proposals in the Humanities

Christina M. Gillis, Townsend Center for Humanities, UC-Berkeley

<http://townsendcenter.berkeley.edu/pubs/scholarly%20arguments.pdf>

[http://townsendcenter.berkeley.edu/scholarly arguments.shtml](http://townsendcenter.berkeley.edu/scholarly%20arguments.shtml)

Do's & Don't's for [NEH] Fellowship Applicants

by Guinevere L. Griest

Director, Division of Fellowships and Seminars, National Endowment for Humanities

<http://www.wm.edu/grants/PROP/fellhints.html>

Resources for the Development of Early-Career Scientists

<http://www.hhmi.org/resources/labmanagement/index.html>

Beginning scientists face a variety of challenges in launching their careers. The publications and links on this Web site can help new investigators "make the right moves" and assist those who take on the important task of providing early-career researchers with scientific management training.

NCURA NIH Training Grant Chat Transcript, July 2008

<http://research.unc.edu/osr/support/documents/TrainingGrants.pdf>

The Financial Research Administration Neighborhood of the National Council of University Research Administrators (NCURA) hosted an online chat on the topic of National Institutes of Health (NIH) Training Grants.

Research Funding Opportunities for New and Young Faculty
By Sponsored Projects Office, University of California, Berkeley
<http://www.spo.berkeley.edu/Fund/newfaculty.html>

Funding for New Faculty
By Office of Grant and Contract Administration, U. Massachusetts, Amherst
<http://www.umass.edu/research/ogca/funding/newfacultydisc.html>

Grant Programs for Young Investigators/Junior Faculty
By Lynnette Hentges University of New Hampshire
http://www.unh.edu/osr/funding/support/young_pi.pdf

Deadlines for New Investigators Programs
Office of Research, University of Notre Dame
<http://www.nd.edu:80/~research/funding/NewInv.htm>

Programs Supporting Research in the Behavioral and Social Sciences
http://www.decadeofbehavior.org/fundsource/dob_fdn_list.cfm
FundSource is a tool designed to help behavioral and social scientists find research funding. It has been designed to be specific to behavioral and social science research, freely available with no subscription costs, and responsive to your needs and feedback.

Research Funding Opportunities for New Biomedical Faculty
<http://www.sfsu.edu/~ptf/docs/NewInvestigatorAwards.pdf>

NIH Career Development Grants
<http://ctsi.ucsf.edu/training/advancement-for-faculty>

Social Science Research Council Current Funding Opportunities
<http://fellowships.ssrc.org/overview/>
The Art of Writing Proposals: Some Candid Suggestions for Applicants to Social Science Research Council Competitions, By Adam Przeworski and Frank Salomon
http://fellowships.ssrc.org/art_of_writing_proposals/

If at First You Don't Succeed, Cool Off, Revise, and Submit Again
http://sciencecareers.sciencemag.org:80/career_magazine/previous_issues/articles/2008_08_15/carecredit.a0800123

NSF CAREER Proposal Writing Tips
<http://www.clarku.edu/offices/research/pdfs/NSFProposalWritingTips.pdf>
Edited by ZJ Pei, Kansas State University, January 2007

Submitting A Grant Proposal: Risks, Benefits, and How to Succeed
An introduction to **grant development in the humanities** by Maria Carlson, Director, Center for Russian and East European Studies, The University of Kansas
<http://www.hallcenter.ku.edu/grants/development/pdf/SubmittingGrantProposal.shtml>
The tutorial is divided into the following sections: Scholars and the Grant Application Process; The Risks and Benefits of Grant Proposal Submission; The

"Theology" of Grant Proposal Writing; Frank Advice on Writing Research Grant Proposals in the Humanities; Abstract or Summary The Proposal Narrative; About Your Audience; Typical Review Panel Criteria; Identifying References and Recommendations; The Curriculum Vitae

**A Beginner's Guide to the World of Research Grants for Sociologists
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"...Getting started to prepare a grant proposal is a lot like getting started to write a research paper. But, the scale of the enterprise is a little bit bigger because funders will usually expect you to produce more than one published article from a project that they support. It all begins with **A GOOD IDEA**. Where do "good ideas" come from? Basically, they come from previous work that has been done in a substantive area, and they identify unanswered questions that you will be able to answer when the funder gives you lots of money (or at least that's the story). So, you must be familiar with the literature in the area within which your project is situated; and you have to be creative enough to come up with a set of research questions (sometimes stated as hypotheses) that seem: **(1) relevant to the substantive area, (2) scientifically important, and (3) answerable with the methodological approach you propose to use.**"

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[http://fellowships.ssrc.org:80/art of writing proposals/](http://fellowships.ssrc.org:80/art%20of%20writing%20proposals/)

Selected Proposal Writing Websites

<http://www.pitt.edu/~offres/proposal/propwriting/websites.html>

Excellent Compilation grant writing URLs by Office of Research, University of Pittsburgh

Tips For Proposal Writing

<http://people.whitman.edu/~weiler/cs/resources/Karentz.pdf>

Compiled by Deneb Karentz, University of San Francisco

Advice on Writing Proposals to the National Science Foundation

<http://www-2.cs.cmu.edu/~sfinger/advice/advice.html>

by Susan Finger, Carnegie Mellon University

This document focuses on writing proposals to NSF, but the general advice can be applied to writing any proposal.

Obtaining Federal Funding, by Caroline Wardle, NSF

<http://www.cra.org/Activities/craw/projects/mentoring/mentorWrkshp/funding.pdf>

An [**excellent and still timely**] guide to the art and science of writing competitive proposals for federal funding. While this guide may provide valuable information for proposal writing in general, it was prepared with research proposals in mind, not educational proposals.

NSF Proposal Writing Tips

<http://education.ncsa.uiuc.edu/projects/bpc/resources/BPC.Proposal.Writing.ppt>
presentation by Jan Cuny, NSF CISE

[NSF SBE] Guidelines for Writing Grant Proposals

<http://www.nsf.gov/sbe/bcs/ling/guidelines.jsp>

By Ann M. Peters, University of Hawaii & Lise Menn, University of Colorado

Written to help linguists, especially younger scholars, produce higher quality (and therefore more fundable) proposals for grants from NSF, this essay is an excellent overall introduction to writing proposals to NSF's Directorate for Social, Behavioral and Economics Sciences.

Twelve Steps To A Winning Research Proposal

by George A. Hazelrigg, National Science Foundation

http://www.usp.ac.fj/fileadmin/files/academic/pdo/Development/12_steps_for_grantwriting.pdf

"I have been an NSF program director for 18 years. During this time, I have personally administered the review of some 3,000 proposals and been involved in the review of perhaps another 10,000. Through this experience, I have come to see that often there are real differences between winning proposals and losing proposals. The differences are clear. Largely, they are not subjective differences or differences of quality; to a large extent, losing proposals are just plain missing elements that are found in winning proposals."

A Guide to NSF Success

By Lynnette D. Madsen, July 27, 2007

http://sciencecareers.sciencemag.org/career_development/previous_issues/articles/2007_07_27/caedit_a0700108

A Guide for Proposal Writing, an NSF booklet prepared by staff in DUE

<http://www.nsf.gov/pubs/1998/nsf9891/nsf9891.htm>

The staff of the Division of Undergraduate Education at the National Science Foundation often provide informal guidance to proposers. Staff members give workshops on proposal writing, answer questions by phone and e-mail, and talk to potential awardees at professional meetings and at NSF. This guide is the essence of the advice often given to inquirers. These suggestions for improving proposals were collected from a variety of sources, including NSF Program Directors, panel reviewers, and successful grantees. Ultimately, proposals are peer reviewed in panels consisting of colleagues in science, mathematics, engineering, and technology disciplines or related fields, and the success in obtaining funding depends in great measure on reviewers' judgments and their written reviews.

Grant Writing Links

<http://www.cvm.umn.edu/researchandgradprog/research/writing2.html>

Veterinary Research and Graduate Programs, College of Veterinary Medicine
University of Minnesota

The Science of Scientific Writing

<http://www.amstat.org/publications/jcgs/sci.pdf>

by George D. Gopen and Judith A. Swan

If the reader is to grasp what the writer means, the writer must understand what

the reader needs.

How to Get a FIPSE Grant

<http://www.ed.gov/about/offices/list/ope/fipse/howtoget.html>

by Eulalia Benejam Cobb, former FIPSE Program Officer

Fund for the Improvement of Postsecondary Education - Funding Your Best Ideas: A 12-Step Program

<http://www.ed.gov:80/about/offices/list/ope/fipse/steps.html>

Writing from the Winner's Circle: A Guide to Preparing Competitive Grant Proposals by Dr. David Stanley

<http://epscor.unl.edu/rfps/winnerscircle.shtml>

How to Write a Losing Proposal

<http://scheeline.scs.uiuc.edu/archives/How%20to%20Write%20a%20Losing%20Proposal%202005.pdf>

by Alexander Scheeline (with one item by Richard Hilderbrandt)

The Making of a Successful Proposal

<http://www.grad.berkeley.edu/publications/thegraduate/Reprints/proposal.pdf>

by The Graduate Division, University of California, Berkeley

A Guide to Proposal Planning and Writing

<http://www.wm.edu/grants/PROP/miner.pdf>

by Jeremy T. Miner and Lynn E. Miner

Engineering Education

http://free.ed.gov:80/resource.cfm?resource_id=1985

Provides video clips and interactive resources for learning about the design process, history and impact of technology, innovation and invention, what engineering is, materials and tools, biotechnology, information technology, construction technology, energy and power technology, manufacturing technology, and transportation technology.

Science Education Resource Center (SERC)

<http://serc.carleton.edu/serc/about.html>

SERC, with support from NSF, works to improve education through projects that support educators, particularly for undergraduate Science, Technology, Engineering, and Mathematics (STEM) education, across a broad range of disciplines and at all educational levels.

If at First You Don't Succeed, Cool Off, Revise, and Submit Again

By Lucas Laursen, August 15, 2008

http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2008_08_15/caredit.a0800123

The DoD SBIR & STTR Programs

<http://www.acq.osd.mil/osbp/sbir/>

Federal Agency SBIR Index

<http://www.sba.gov/SBIR/indexprograms-otaagency.html>

The Department of Defense SBIR and STTR programs fund a billion dollars each year in early-stage R&D projects at small technology companies -- projects that serve a DoD need and have commercial applications.

SBIR Proposal Writing Basics

[http://www.sbtcd.org:80/technology/newsletter/08-5/proposal writing tip.htm](http://www.sbtcd.org:80/technology/newsletter/08-5/proposal%20writing%20tip.htm)

The North Carolina Small Business Technology and Development Center's SBIR/STTR NEWS recently reprinted this article, by Gail & Jim Greenwood, Greenwood Consulting Group, Inc., Copyright © 2008-posted by the Research Group, University of North Carolina, Chapel Hill (http://research.unc.edu/rs/funding_tips.html#sbir_prop).

Funding for Social Scientists at the National Science Foundation

By Deborah Winslow, NSF Program Officer, SBE Directorate

<http://www.ipsr.ku.edu/grantsup/NSFWorkshop/WinslowPPT.pdf>

Presented at the 2008 IPSR NSF Grant Mentoring Workshop at The University of Kansas Institute for Policy & Social Research

<http://www.ipsr.ku.edu/grantsup/NSFWorkshop/index.shtml>

NSF Workshop on Scientific Foundations of Qualitative Research

<http://www.nsf.gov/pubs/2004/nsf04219/nsf04219.pdf>

<http://www.nsf.gov/pubs/2004/nsf04219/start.htm>

The purpose of the workshop was twofold: 1) provide guidance both to reviewers and investigators about the characteristics of **strong qualitative research proposals** and the criteria for evaluating projects in NSF's merit review process, and 2) provide recommendations to address the broader issue of how to strengthen qualitative methods in sociology and the social sciences in general. The workshop was intended to contribute to advancing the quality of qualitative research, and thus to advancing research capacity, tools, and infrastructure in the **social sciences**. See follow-on workshop below.

Workshop on Interdisciplinary Standards for Systematic Qualitative Research (pdf files downloadable)

<http://www.wjh.harvard.edu/nsfqual/papers.htm>

This workshop convened a multi-disciplinary group of approximately twenty-five anthropologists, political scientists, sociologists, and scholars in law and related disciplines. This workshop was sponsored by the **National Science Foundation's** Cultural Anthropology, Political Science, Sociology, and Law and Social Sciences Programs.

Strengthening Qualitative Research through Methodological Innovation and Integration, NSF SBE Directorate

<http://www.nsf.gov/sbe/ses/soc/sqrmii.jsp>

How to get Funding for Qualitative Research

http://www.socsci.uci.edu/~sgsa/info_help/funding_qual_research.pdf

ASA Annual Meeting 2004 in San Francisco - Session 316

Putting the Science in Qualitative Methodology

http://www.oired.vt.edu/sanremcrsp/menu_research/PuttingScienceQualitativeMethodology.htm

by Roberta Spalter-Roth, Research and Development Department, American Sociological Association, Executive Office

Designing Qualitative Research Projects

http://web.mit.edu/anthropology/faculty_staff/silbey/pdf/49DesigningQuaRes.doc

Prepared Susan S. Silbey for NSF Workshop on Qualitative Methods in Sociology

Resources for Post Docs ([Top](#))

National Academies - Research Associateship Program

<http://www7.nationalacademies.org/rap/>

[Electronic Application](#) opens **December 1**

The National Academy of Sciences (NAS) and the National Research Council (NRC) offer the Resident Research Associateship Program to provide **postdoctoral** and senior scientists and engineers with opportunities to conduct research on projects, largely of their own choice, which are compatible with the research interests of the sponsoring laboratories, thereby contributing to the overall research efforts of the federal government. Deadlines: Feb. 1, May 1, Aug. 1, Nov. 1 (annual). Environmental & Life Sciences; Physical Sciences & Engineering.

Mentoring International Postdocs

Working Together to Advance Science and Careers

http://www.ori.hhs.gov/education/products/chop_mentoring/CHOP_VideoGuide.pdf

Wendy Reed Williams, Ph.D., Director, Research Education
Office of Research Administration of the Joseph Stokes Jr. Research
Institute of the Children's Hospital of Philadelphia

Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty

<http://www.hhmi.org/resources/labmanagement/moves.html>

Based on courses held in 2002 and 2005 by the Burroughs Wellcome Fund and HHMI, this book is a collection of practical advice and experiences from seasoned biomedical investigators.

DHS Science and Technology Postdoctoral Fellowship Program 2008 Competition Guidelines and Materials

<http://www.orau.gov/dhspostdocs/>

The September 15, 2008 deadline for appointments has been **extended indefinitely**. Interested applicants should continue to explore opportunities they are developing on their own in collaboration with federal research facilities and review the list of projects and research topics on this web site. This list is updated as new hosting facilities are added. Applications will be accepted and appointment start dates are flexible. Interested hosting facilities should continue to submit projects and research topics as instructed on this web site.

NIH Academic and PostDoc Opportunities

<http://www.training.nih.gov/careers/careercenter/academ.html>

<http://www.training.nih.gov/careers/careercenter/advice.html#acad>

The Chronicle of Higher Education
Previous "Career Talk" Columns

http://chronicle.com/jobs/news/archives/columns/career_talk/

PhDs.org

Information for scientists and would-be scientists at all levels

<http://www.phds.org/postdoc/>

Oak Ridge National Laboratory Listing of Openings for Postdocs

<http://www.ornl.gov/ORISE/edu/ornl/postneeds.htm>

All positions are available through the Oak Ridge National Laboratory Postdoctoral Research Associates Program and/or the Postmaster's Research Participation Program.

Training, Fellowship, and Research Funding Opportunities

<http://www.nationalpostdoc.org/site/c.eoJMIWOBIrH/b.1389993/k.B38F/Career.htm>

NSF Survey of Graduate Students & Postdocs in Science & Engineering

<http://www.nsf.gov/statistics/srvygradpostdoc/>

Postdoc Participation of Science, Engineering, and Health Doctorate Recipients, NSF March 2008

<http://www.nsf.gov:80/statistics/infbrief/nsf08307/>

Alexander von Humboldt Foundation - 2-year Post-Doctoral Fellowships for U.S. Scientists and Scholars (to Study in Germany)

http://www.humboldt-foundation.de/en/programme/stip_au/tshp1.htm

The Alexander von Humboldt Foundation enables highly qualified, early-stage researchers from abroad, who hold doctorates, to carry out research projects of their own choice in Germany. Applications may be submitted for long-term research stays of at least 13 and at most 24 months. Researchers of all disciplines may apply to the AvH directly at any time. There are no quotas for individual disciplines. This fellowship program enables highly qualified scientists and scholars, aged up to 40 years, of all nationalities and disciplines resident outside of Germany who hold doctorates to carry out research projects of their own choice in Germany. Applications may be submitted at any time for research stays of up to two years. **Scholars from the disciplines of humanities, social sciences, and law** may apply to the AvH directly at any time.

Resources for Graduate Students ([Top](#))

Social Science Research Council - Dissertation Proposal Development Fellowship (DPDF) -- Graduate Students

<http://programs.ssrc.org/dpdf/>

Through the Dissertation Proposal Development Fellowship (DPDF), the Social Science Research Council supports early-stage graduate students in formulating

successful doctoral dissertation proposals that are also competitive in future fellowship competitions. Students in the humanities and social sciences may apply to one of five research fields, each led by two directors. Fellows participate in a spring workshop that prepares them for predissertation research and another in the fall, designed to help them synthesize their summer research into dissertation proposals and future fellowship applications. DPDF Fellows are eligible for up to \$5,000 from the SSRC to support summer predissertation research. Approximately 60 fellowships will be awarded. Deadline: Jan. 30, 2009.

2008-2009 Graduate Student Funding Opportunities Guide

<http://www.tc.columbia.edu/administration/osp/>

Office of Sponsored Programs, Teachers College, Columbia University

External Funding and Grants for Humanities Graduate Students

<http://humanities.osu.edu:80/studentinfo/grads/gradexternalfunding.cfm>

The Ohio State University College of Humanities

Proposal Writing: The Art Of Persuasion

<http://www.holycross.edu:80/departments/gradstudies/website/proposewrite.htm>

Holy Cross Office of Distinguished Fellowships and Graduate Studies

Cornell University Graduate School Fellowship Database

<http://www.gradschool.cornell.edu:80/?p=132>

Graduate Guide to Grants

http://www.gsas.harvard.edu:80/current_students/graduate_guide_to_grants_4.php

The Graduate Guide to Grants is an annual publication prepared by the Graduate School of Arts and Sciences, Harvard University.

A Guide to External Graduate Fellowships

http://www.gradschool.cornell.edu/pubs_and_forms/pubs/fellowshipbrochure.pdf

Cornell University Graduate Schools

Graduate Fellowships Data Base

<http://www.grad.nd.edu/gfd/>

University of Notre Dame

2008-2009 Graduate Student Funding Opportunities Guide

Teachers College, Columbia University OSP

http://www.tc.columbia.edu/i/a/document/7752_gradOPPS_2008-9.doc

Scholarly Pursuits: A Guide to Professional Development During the Graduate Years

http://www.gsas.harvard.edu/images/stories/pdfs/scholarly_pursuits.pdf?phpMyAdmin=6b9c477e53d3t291967f4

by Cynthia Verba, Harvard University Graduate School of Arts & Sciences

Graduate Fellowship Personal Statements and Essays

<http://www.wpi.edu:80/Academics/FS/essays.html>

Worcester Polytechnic University

Proposal Writing: The Art Of Persuasion Fulbright, Marshall & Rhodes
[http://www.uc.edu/global/Scholarships/Fulbright Grant Manual.pdf](http://www.uc.edu/global/Scholarships/Fulbright%20Grant%20Manual.pdf)
Institute for Global Studies & Affairs, University of Cincinnati

Writing Personal Statements and Scholarship Application Essays
<http://web.archive.org/web/20060908015518/www.personal.psu.edu/faculty/u/3/u3w/WPSSample.pdf>
by Joe Schall

Guide to Proposal Development in the Humanities for Graduate Students
http://www.hallcenter.ku.edu:80/~hallcenter/grants/development/proposal_guide.shtml
compiled by Beverly Joyce, Bill Moseley and Kathy Porsch, Hall Center for the Humanities

Developing Graduate Fellowship Proposals, A Guide for Students
<http://offices.colgate.edu:80/grants/graduate-fellowship.html>

Funding Opportunities For Environmental Graduate Studies
<http://www.environment.msu.edu/news/opportunities/Funding%20for%20environmental%20graduate%20studies%20-%20major%20grants.pdf>
Compiled by Michigan State University's Environmental Science and Policy Program

Funding Diversity: OPD Resources for Developing Grants
to Advance Diversity in Research & Education
<http://opd.tamu.edu/diversity>

It's time to apply our scientific thinking to designing diversity
programs. Here's how.
Clifton A. Poodry directs the Division of Minority Opportunities in Research at
the NIH's National Institute of General Medical Sciences
<http://www.the-scientist.com/article/home/36456/>

NICHD Procedure Change for Requests for Research Supplements to
Promote Diversity and Re-entry in Health-Related Research
<http://grants.nih.gov:80/grants/guide/notice-files/NOT-HD-08-007.html>

Association of American Colleges and Universities
Diversity, Learning, and Inclusive Excellence: Accelerating & Assessing Progress
<http://www.aacu.org:80/meetings/diversityandlearning/index.cfm>
Diversity, Learning, and Inclusive Excellence: Accelerating and Assessing
Progress will highlight curricular, co-curricular, and institutional models that
enable higher education leaders to develop, implement, assess, and continually
learn from the experience of fostering diverse learning environments—environments
in which all students develop, in increasingly sophisticated ways, critical
knowledge, skills, and capacities for work and citizenship. Network for Academic
Renewal Conference, **October 16-18, 2008**, Long Beach, California.

National Diversity Support Fellowships and Programs
<http://graduate.asu.edu/financial/diversity.html>

by the Graduate College, Arizona State University

How to Become a Grant Reviewer

By Karen M. Markin, The Chronicle of Higher Education, Chronicle Careers
<http://chronicle.com:80/jobs/news/2008/06/2008060201c/careers.html>

Learning the Ropes of Peer Reviewing

By Elisabeth Pain, August 15, 2008

http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2008_08_15/carecredit.a0800122

Science.gov is a gateway to over 50 million pages of authoritative selected science information provided by U.S. government agencies, including research and development results.

<http://www.science.gov/>

The University of the Future

In a world where economies are increasingly dependent upon high-level knowledge, higher education is a key national resource. But a Forward Look initiated by the European Science Foundation (ESF) shows that we need to know more about how universities, and other higher education institutions, are changing in the 21st century.

<http://www.esf.org:80/research-areas/social-sciences/news/ext-news-singleview/article/the-university-of-the-future-468.html>

National Graduate Fellowships, Grants, Scholarships & other support

<http://ase.tufts.edu/GradStudy/research/>

Office of Graduate and Professional Studies, Tufts University

AAUW Educational Foundation supports aspiring scholars

http://www.aauw.org/education/fga/fellowships_grants/index.cfm

View all deadlines: <http://www.aauw.org/About/deadlines.cfm>

One of the world's largest sources of funding exclusively for graduate women, the AAUW Educational Foundation supports aspiring scholars around the globe, teachers and activists in local communities, women at critical stages of their careers, and those pursuing professions where women are underrepresented.

Grant Writing Advice & Resources ([Top](#))

New Science.gov 5.0 - More Science for Your Query **New**

<http://www.science.gov/searchdbs.html#new>

Google Special Searches

<http://www.google.com/options/specialsearches.html>

[University Search](#) enables searching a specific school website. Try searching for things like admissions information, course schedules, or alumni news.

Federal agency searches: <http://www.google.com/unclesam>

The funding process for **investigator-initiated research projects** begins with the submission of an abstract to the IHSS. Topics for abstracts can address the mission areas above or other areas; for more information on research topics of interest to HF/BSD [click here \(6.8MB PDF\)](#). Abstracts should follow the guidelines on the “Abstract Submissions” page (visible only to registered users). Beginning with abstract submission, the steps for investigator-initiated research projects are included herein.

Welcome to IDEAS-EC!

<http://ideasec.nbc.gov/j2ee/login.jsp>

Your source of [business opportunities](#) for the Department of the Interior and other [participating agencies](#). To learn more about our site, click on [about us](#). Use our [quick search](#) to get started searching for opportunities, or use our [business opportunities](#) page for more options.

Department of Homeland Security Human Factors Division
Research – Transition – Innovation

<https://www.ihssnc.org/Portals/0/LeaveBehind Overview brief.pdf>
Science and Technology Directorate, June 26, 2008

Advanced Sensing Technologies For The Infrastructure: Roads,
Highways, Bridges And Water

<http://www.nist.gov/tip/cnn white paperfinal.pdf>

This area selected as the [NIST] Critical National Need is “Advanced Sensing Technologies for the Infrastructure: Roads, Highways, Bridges and Water Systems.” This CNN was selected from a larger field of areas where transformative research could be expected to have large societal impact. Input regarding potential areas of CNN was obtained from government agencies and advisory bodies (such as the National Research Council, the National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine), the Science and Technology Policy Institute (STPI), industry organizations, leading researchers from academic institutions, and others.

CRC Workshop, US Department of Education

Presented by Barbara Foorman, Florida State University

http://www.research.fsu.edu/crc/workshop/2007/documents/CRC%20Workshop US%20DoE May%203%202007_Foorman.ppt

“What Works Clearinghouse (WWC) Expert Panel Report”

<http://ies.ed.gov:80/director/board/reports/>

The National Board for Education Sciences (NBES), the advisory body to the Institute of Education Sciences, announces the release of the “What Works Clearinghouse (WWC) Expert Panel Report”. The NBES commissioned a panel to submit a report on a focused study addressing the fundamental question of the scientific validity of the Clearinghouse’s evidence review process and reports. The report also contains recommendations where improvements are possible.

National Plant Genome Initiative and

New Horizons in Plant Biology

http://dels.nas.edu/dels/rpt_briefs/plant_sciences_final.pdf

Achievements of the National Plant Genome Initiative and New Horizons in Plant Biology, National Research Council, 2008

http://dels.nas.edu:80/plant_genome/report.shtml

National Biofuels Action Plan, October 2008

USDA, DOE, BRDi

<http://www1.eere.energy.gov/biomass/pdfs/nbap.pdf>

NCES Announces DataLab

<http://nces.ed.gov/datalab/>

Datalab, a new website from the [National Center for Education Statistics](#), offers a wide range of survey data collected by NCES. Users can find a quick number or in-depth education data. The site will continue to add information and features over time.

Don't Overlook Contracts

<http://chronicle.com:80/jobs/news/2008/09/2008092601c.htm>

Karen M. Markin is director of research development at the University of Rhode Island's research office.

USDA & DOE Release National Biofuels Action Plan

<http://www.energy.gov/news/6633.htm>

Department of Agriculture Secretary Ed Schafer and Department of Energy Secretary Samuel W. Bodman released the National Biofuels Action Plan (NBAP) October 7, an interagency plan detailing the collaborative efforts of Federal agencies to accelerate the development of a sustainable biofuels industry.

International Cooperative Biodiversity Groups Program

<http://www.icbg.org/>

NOAA Launches New Education Web Site, Estuaries Curriculum

<http://www8.nos.noaa.gov:80/publicnerrs/news.aspx?id=295>

Estuaries 101, the new on-line science curriculum from NOAA's National Estuarine Research Reserve System, provides powerful ways for students to learn fundamental concepts in science and develop scientific thinking skills, as well as explore the nation's biologically rich and economically important estuaries.

National Estuarine Research Reserve System

Strategic Plan 2005 - 2010

http://nerrs.noaa.gov/Background_StrategicPlan.html

Advisory Committee on Water Information

Sustainable Water Resources Roundtable

<http://acwi.gov/swrr/>

Serve as a forum to share information and perspectives that will promote better

decision making in the U.S. regarding the sustainable development of our nation's water resources.

**Multi-Agency Tissue Engineering Science Interagency Working Group
Advancing Tissue Science and Engineering: A Foundation for the Future
A Multi-Agency Strategic Plan**

<http://www.fda.gov/Cber/genetherapy/invitro120607fh.pdf>

**U.S. Department of Education
Announcements; Application Notices, Requests for Comment, etc.**

<http://www.ed.gov/news/fedregister/announce/index.html>

**Education Research and Special Education Research Grant Programs
Notice inviting applications for new awards for fiscal year (FY) 2009**

http://ies.ed.gov/funding/pdf/IESFY2009_FR.pdf

AAUW to Launch Major STEM Study with Funding from NSF

http://www.aauw.org/About/newsroom/pressreleases/NSF_101608.cfm

Do This, Don't Do That: How to Get Your Proposal Funded

http://www.guidestar.org/news/features/do_this.jsp

Excerpt from "Thank You for Submitting Your Proposal": A Foundation Director Reveals What Happens Next

**Researcher Behavior that Leads to Success in Obtaining Grant Funding:
A Model for Success**

http://www.ncura.edu/content/news/rmr/docs/research_behavior.pdf

**The Evolution of Instruction in Grant Writing and Research in the
Libraries at the University of Utah**

<http://www.webpages.uidaho.edu:80/~mbolin/kraus.htm>

Peter L. Kraus, Associate Librarian, J. Willard Marriott Library, Univ. of Utah
In academic medicine and health sciences grant writing is a skill that is often self taught or acquired informally by trial and error. Nevertheless, it is a critical skill for graduate students, post-doctoral students, academic fellows, and new tenure-track faculty. Successful grantsmanship leads to research, research leads to an increase in publications, and an increase in earnings.

Why Academics Have a Hard Time Writing Good Grant Proposals

http://www.wpi.edu/Images/CMS/ORR/Article_on_Proposal_Writing.pdf

Robert Porter, Ph. D., Program Development Manager, Research Division, Virginia Tech
This paper discusses the **contrasting perspectives of academic prose versus grant writing**, and lists strategies grant specialists can use to help researchers break old habits and replace them with techniques better suited to the world of **competitive grant proposals**.

GrantSource Library, Proposal Writing Resources

http://research.unc.edu:80/grantsource/proposal_writing.php

UNC-Chapel Hill

Peer Review Process of Research Applications
Centers for Disease Control and Prevention

<http://www.cdc.gov/od/science/PHResearch/peerreview.htm>

Assessment Linked to Science Learning Goals: Probing Student Thinking
Through Assessment

<http://hub.mspnet.org:80/index.cfm/16069>

<http://www.project2061.org/publications/2061Connections/2008/media/Deboer%20chapter%20Assessment%20book.pdf>

Projections of Education Statistics to 2017

<http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2008078>

This publication provides projections for key education statistics. It includes statistics on enrollment, graduates, teachers, and expenditures in elementary and secondary schools, and enrollment and earned degrees conferred expenditures of degree-granting institutions.

Grant Writing Workshop for Young Investigators

<http://ies.ed.gov/funding/webinars/ppt/YIGWriting.ppt>

Institute of Education Sciences, U.S. Department of Education

EPA Tips On Writing a Grant Proposal

<http://www.epa.gov:80/ogd/recipient/tips.htm>

Water Information Center

<http://water.nationalacademies.org:80/>

A National Academies resource for scientists and researchers.

CSREES RSS Feeds

<http://www.csrees.usda.gov:80/newsroom/rss.html>

Grants 101: Navigating the EPA Grant Process

http://www.epa.gov/solar/documents/webcasts/epa_grants101.pdf

by Asher Weinberg, EPA Grants Coordinator, February 2008

EPA Research Topics URL List

<http://www.epa.gov/epahome/topics.html>

Grantmaking at ED, Answers to Your Questions About the **Discretionary
Grants Process**

<http://www.ed.gov/fund/grant/about/grantmaking/index.html>

U.S. Department of Education, Institute of Education Sciences

News Flash

<http://ies.ed.gov/newsflash/index.asp>

An e-mail-based alert service designed to inform you about all new content posted to the IES website including news from its four Centers and programs within Centers such as the Regional Educational Laboratory Program.

List of Foundations Funding Colleges of Education
<http://www.tc.columbia.edu:80/administration/osp/fdn.htm>
by Office of Sponsored Projects, Columbia Teachers College

How Your Proposal is Merit Reviewed at the Department of Energy
<http://www.sc.doe.gov/grants/process.html>

DOE Office of Science Merit Review System
<http://www.sc.doe.gov/grants/merit.html>

International Research Funding Opportunities
<http://www.vanderbilt.edu/vio/funding/regional.html>

by **Vanderbilt University International Office**

List of external funding & resources for research, scholarship and teaching designed for faculty and post-doctoral researchers in these regions: Africa; Asia and Eurasia; Australia, New Zealand & Oceania; Europe; Middle East; North America; Central, South America and The Caribbean.

CRISP on the Web Gets a Facelift

<http://nexus.od.nih.gov:80/nexus/nexus.aspx?ID=48&Month=4&Year=2008>

CRISP, the database of federally funded biomedical research projects, is undergoing a series of updates. The new public face of CRISP may be accessed by going to <http://report.nih.gov/> and clicking on "Search Funded Scientific Projects," or by going directly to <http://report.nih.gov/crisp.aspx>. Bookmarking this site will provide you access to the enhanced features as they come on-line.

NIH Parent Announcements (For Unsolicited or Investigator-Initiated Applications)

http://grants2.nih.gov/grants/guide/parent_announcements.htm

NIH and other agencies serviced by eRA Commons still want your investigator-initiated applications. Electronic grant applications must be submitted in response to a Funding Opportunity Announcement. **NIH has developed Parent Announcements for use by applicants who wish to submit what were formerly termed investigator-initiated or 'unsolicited' applications.**

University of Pennsylvania School of Medicine [NIH] Grant Writing Manual, 2007-2008

<http://www.med.upenn.edu/rpd/documents/gwm.pdf>

"We are delighted to provide the Grant Writing Manual, now in its 12th year of production, as a resource for School of Medicine faculty. It has been assembled over time based on the insight of senior faculty members, and with considerable effort to keep pace with changes in the funding environment...It is intended as a valuable resource for junior investigators who seek a foundation for successful grant writing."

This is Not Your Mentor's NIH! How to get Funded and Stay Funded

http://grants.med.yale.edu/funding_opportunities/not-your-mentors-nih.pdf

Scott Rivkees, M.D., Director, Yale Child Health Research Center

Associate Chair of Pediatrics for Research

Insider's Guide to Peer Review For Applicants (Center for Scientific Review)

<http://www.wm.edu/grants/guide%20to%20peer%20review.pdf>

To help new and established applicants submit better applications, Center for Scientific Review asked six current and retired study section chairs to share their personal insights on what makes a good NIH grant application. They responded with great enthusiasm. We present some of their responses in their own words to preserve their sprit and impact. **NIH Center for Scientific Review, January 18, 2008**

Writing the NIH Grant Application & Understanding the Review Process
NIH Grant Application Basics

http://grants.nih.gov/grants/grant_basics.htm

NIH Grants Process Overview

http://grants.nih.gov/grants/grants_process.htm

NIH All About Grants Tutorials

<http://www.niaid.nih.gov/ncn/grants/default.htm>

NIH Grant Writing Tips Sheets

http://www.grants.nih.gov/grants/grant_tips.htm

NIH Peer Review of Grants

http://ora.stanford.edu/supporting_files/peer_review.pdf

Guideline Reviewers and Chairs

<http://www.csr.nih.gov/guidelines/guidelines.htm>

Proposal Writing: The Business of Science, by Wendy Sanders, Whitaker Foundation

<http://www.wm.edu/grants/PROP/sanders.pdf>

The essence of a successful NIH grant application is the idea underlying it. How can we evaluate whether our idea is a good idea, the definition of a good idea being one with the potential to be funded?

Funding Sources in the Social Sciences

http://deanofthefaculty.vassar.edu:80/grants/announcements/sources_socsci.html

Vassar College Grants Office

GGSE Research Office List of Funding Opportunities in Education

<http://education.ucsb.edu/Faculty-Research/Research-Office/current-grant-opportunities.htm>

Gevirtz Graduate School of Education at UC Santa Barbara

Directory of International Travel Grants in the Health Sciences

<http://www.fic.nih.gov/funding/travdic06.htm>

This special addendum to the Directory of Grants and Fellowships in the Global Health Sciences contains information on nearly 100 additional funding opportunities that support short-term travel for the purpose of research or training. Opportunities span every nation of the world and range in duration from

a few days to a year or more. Verify current due dates at sponsor URLs.

ACLS Competitions and Deadlines, 2008-09
<http://www.acls.org/grants/Single.aspx?id=352>

American Philosophical Society Fellowships & Research Grants
<http://www.amphilsoc.org:80/grants/>

Submitting A Grant Proposal: Risks, Benefits, and How to Succeed

An introduction to **grant development in the humanities** by Maria Carlson, Director, Center for Russian and East European Studies, The University of Kansas

<http://www.hallcenter.ku.edu/grants/development/pdf/SubmittingGrantProposal.shtml>

The tutorial is divided into the following sections: Scholars and the Grant Application Process; The Risks and Benefits of Grant Proposal Submission; The "Theology" of Grant Proposal Writing; Frank Advice on Writing Research Grant Proposals in the Humanities; Abstract or Summary The Proposal Narrative; About Your Audience; Typical Review Panel Criteria; Identifying References and Recommendations; The Curriculum Vitae

A Beginner's Guide to the World of Research Grants for Sociologists
by Stewart Tolnay, University of Washington

<http://faculty.washington.edu/tolnay/proposalguide.pdf>

"...Getting started to prepare a grant proposal is a lot like getting started to write a research paper. But, the scale of the enterprise is a little bit bigger because funders will usually expect you to produce more than one published article from a project that they support. It all begins with **A GOOD IDEA**. Where do "good ideas" come from? Basically, they come from previous work that has been done in a substantive area, and they identify unanswered questions that you will be able to answer when the funder gives you lots of money (or at least that's the story). So, you must be familiar with the literature in the area within which your project is situated; and you have to be creative enough to come up with a set of research questions (sometimes stated as hypotheses) that seem: **(1) relevant to the substantive area, (2) scientifically important, and (3) answerable with the methodological approach you propose to use.**"

The Art of Writing Proposals: Some Candid Suggestions for Applicants to Social Science Research Council Competitions

By Adam Przeworski and Frank Salomon

[http://fellowships.ssrc.org:80/art of writing proposals/](http://fellowships.ssrc.org:80/art%20of%20writing%20proposals/)

Selected Proposal Writing Websites

<http://www.pitt.edu/~offres/proposal/propwriting/websites.html>

Excellent Compilation grant writing URLs by Office of Research, University of Pittsburgh

Tips For Proposal Writing

<http://people.whitman.edu/~weilercs/resources/Karentz.pdf>

Compiled by Deneb Karentz, University of San Francisco

Advice on Writing Proposals to the National Science Foundation

<http://www-2.cs.cmu.edu/~sfinger/advice/advice.html>

by Susan Finger, Carnegie Mellon University

This document focuses on writing proposals to NSF, but the general advice can be applied to writing any proposal.

Obtaining Federal Funding, by Caroline Wardle, NSF

<http://www.cra.org/Activities/craw/projects/mentoring/mentorWrkshp/funding.pdf>

An [excellent and still timely] guide to the art and science of writing competitive proposals for federal funding. While this guide may provide valuable information for proposal writing in general, it was prepared with research proposals in mind, not educational proposals.

NSF Proposal Writing Tips

<http://education.ncsa.uiuc.edu/projects/bpc/resources/BPC.Proposal.Writing.ppt>

presentation by Jan Cuny, NSF CISE

[NSF SBE] Guidelines for Writing Grant Proposals

<http://www.nsf.gov/sbe/bcs/ling/guidelines.jsp>

By Ann M. Peters, University of Hawaii & Lise Menn, University of Colorado

Written to help linguists, especially younger scholars, produce higher quality (and therefore more fundable) proposals for grants from NSF, this essay is an excellent overall introduction to writing proposals to NSF's Directorate for Social, Behavioral and Economics Sciences.

Twelve Steps To A Winning Research Proposal

by George A. Hazelrigg, National Science Foundation

http://www.usp.ac.fj/fileadmin/files/academic/pdo/Development/12_steps_for_grantwriting.pdf

"I have been an NSF program director for 18 years. During this time, I have personally administered the review of some 3,000 proposals and been involved in the review of perhaps another 10,000. Through this experience, I have come to see that often there are real differences between winning proposals and losing proposals. The differences are clear. Largely, they are not subjective differences or differences of quality; to a large extent, losing proposals are just plain missing elements that are found in winning proposals."

A Guide to NSF Success

By Lynnette D. Madsen, July 27, 2007

http://sciencecareers.sciencemag.org/career_development/previous_issues/articles/2007_07_27/career_credit_a0700108

A Guide for Proposal Writing, an NSF booklet prepared by staff in DUE

<http://www.nsf.gov/pubs/1998/nsf9891/nsf9891.htm>

The staff of the Division of Undergraduate Education at the National Science Foundation often provide informal guidance to proposers. Staff members give workshops on proposal writing, answer questions by phone and e-mail, and talk to potential awardees at professional meetings and at NSF. This guide is the essence of the advice often given to inquirers. These suggestions for improving proposals were collected from a variety of sources, including NSF Program Directors, panel

reviewers, and successful grantees. Ultimately, proposals are peer reviewed in panels consisting of colleagues in science, mathematics, engineering, and technology disciplines or related fields, and the success in obtaining funding depends in great measure on reviewers' judgments and their written reviews.

Grant Writing Links

<http://www.cvm.umn.edu/researchandgradprog/research/writing2.html>

Veterinary Research and Graduate Programs, College of Veterinary Medicine
University of Minnesota

The Science of Scientific Writing

<http://www.amstat.org/publications/jcgs/sci.pdf>

by George D. Gopen and Judith A. Swan

If the reader is to grasp what the writer means, the writer must understand what the reader needs.

How to Get a FIPSE Grant

<http://www.ed.gov/about/offices/list/ope/fipse/howtoget.html>

by Eulalia Benejam Cobb, former FIPSE Program Officer

Fund for the Improvement of Postsecondary Education - Funding Your
Best Ideas: A 12-Step Program

<http://www.ed.gov:80/about/offices/list/ope/fipse/steps.html>

Writing from the Winner's Circle: A Guide to Preparing Competitive
Grant Proposals by Dr. David Stanley

<http://epscor.unl.edu/rfps/winnerscircle.shtml>

How to Write a Losing Proposal

<http://scheeline.scs.uiuc.edu/archives/How%20to%20Write%20a%20Losing%20Proposal%202005.pdf>

by Alexander Scheeline (with one item by Richard Hilderbrandt)

The Making of a Successful Proposal

<http://www.grad.berkeley.edu/publications/thegraduate/Reprints/proposal.pdf>

by The Graduate Division, University of California, Berkeley

A Guide to Proposal Planning and Writing

<http://www.wm.edu/grants/PROP/miner.pdf>

by Jeremy T. Miner and Lynn E. Miner

Engineering Education

http://free.ed.gov:80/resource.cfm?resource_id=1985

Provides video clips and interactive resources for learning about the design process, history and impact of technology, innovation and invention, what engineering is, materials and tools, biotechnology, information technology, construction technology, energy and power technology, manufacturing technology, and transportation technology.

Science Education Resource Center (SERC)

<http://serc.carleton.edu/serc/about.html>

SERC, with support from NSF, works to improve education through projects that support educators, particularly for undergraduate Science, Technology, Engineering, and Mathematics (STEM) education, across a broad range of disciplines and at all educational levels.

If at First You Don't Succeed, Cool Off, Revise, and Submit Again
By Lucas Laursen, August 15, 2008

http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2008_08_15/caredit.a0800123

The DoD SBIR & STTR Programs

<http://www.acq.osd.mil/osbp/sbir/>

Federal Agency SBIR Index

<http://www.sba.gov/SBIR/indexprograms-otaagency.html>

The Department of Defense SBIR and STTR programs fund a billion dollars each year in early-stage R&D projects at small technology companies -- projects that serve a DoD need and have commercial applications.

SBIR Proposal Writing Basics

http://www.sbtcd.org:80/technology/newsletter/08-5/proposal_writing_tip.htm

The North Carolina Small Business Technology and Development Center's SBIR/STTR NEWS recently reprinted this article, by Gail & Jim Greenwood, Greenwood Consulting Group, Inc., Copyright © 2008-posted by the Research Group, University of North Carolina, Chapel Hill (http://research.unc.edu/rs/funding_tips.html#sbir_prop).

Funding for Social Scientists at the National Science Foundation

By Deborah Winslow, NSF Program Officer, SBE Directorate

<http://www.ipsr.ku.edu/grantsup/NSFWorkshop/WinslowPPT.pdf>

Presented at the 2008 IPSR NSF Grant Mentoring Workshop at The University of Kansas Institute for Policy & Social Research

<http://www.ipsr.ku.edu/grantsup/NSFWorkshop/index.shtml>

NSF Workshop on Scientific Foundations of Qualitative Research

<http://www.nsf.gov/pubs/2004/nsf04219/nsf04219.pdf>

<http://www.nsf.gov/pubs/2004/nsf04219/start.htm>

The purpose of the workshop was twofold: 1) provide guidance both to reviewers and investigators about the characteristics of **strong qualitative research proposals** and the criteria for evaluating projects in NSF's merit review process, and 2) provide recommendations to address the broader issue of how to strengthen qualitative methods in sociology and the social sciences in general. The workshop was intended to contribute to advancing the quality of qualitative research, and thus to advancing research capacity, tools, and infrastructure in the **social sciences**. See follow-on workshop below.

Workshop on Interdisciplinary Standards for Systematic Qualitative Research (pdf files downloadable)

<http://www.wjh.harvard.edu/nsfqual/papers.htm>

This workshop convened a multi-disciplinary group of approximately twenty-five anthropologists, political scientists, sociologists, and scholars in law and related disciplines. This workshop was sponsored by the [National Science Foundation's](#) Cultural Anthropology, Political Science, Sociology, and Law and Social Sciences Programs.

Strengthening Qualitative Research through Methodological Innovation and Integration, NSF SBE Directorate

<http://www.nsf.gov/sbe/ses/soc/sqrmii.jsp>

How to get Funding for Qualitative Research

http://www.socsci.uci.edu/~sgsa/info_help/funding_qual_research.pdf

ASA Annual Meeting 2004 in San Francisco - Session 316

Putting the Science in Qualitative Methodology

http://www.oired.vt.edu/sanremcrsp/menu_research/PuttingScienceQualitativeMethodology.htm

by Roberta Spalter-Roth, Research and Development Department, American Sociological Association, Executive Office

Designing Qualitative Research Projects

http://web.mit.edu/anthropology/faculty_staff/silbey/pdf/49DesigningQuaRes.doc

Prepared Susan S. Silbey for NSF Workshop on Qualitative Methods in Sociology

Grant Writing Articles

Office of Proposal Development, Texas A&M University

Article 1, ([Top](#))

Writing Proposals to Programs for Early Career Investigators

If you are a new or junior faculty member, it can seem a daunting prospect to compete with senior researchers with long track records for research funding. Agencies understand that it can be difficult for new researchers to win funding when competing against more established researchers, but the agency must fund promising new researchers in order to ensure that the next generation of researchers will flourish. Therefore, many agencies offer funding programs specifically for early-career researchers. For a list of programs that fund early career investigators, go to

<http://opd.tamu.edu/funding-opportunities/funding-opportunities-by-category/programs-for-junior-faculty.html>.

These kinds of programs are investing not only in the research proposed but also in the researcher and his or her career, and writing those proposals often requires a somewhat different approach compared to writing standard research proposals. In addition to focusing on the particular research project proposed, reviewers for these programs are looking for signs that the PI, if given the chance, will become one of the leaders in her or his field and will conduct important research in the funder's area of interest. Some agencies have additional criteria; for example, NSF wants to encourage junior faculty to engage in innovative education and outreach activities that integrate with their

research. Usually, these criteria will be clearly expressed in the solicitation.

When evaluating whether to apply to a particular program for early-career researchers, first check the eligibility rules. These vary significantly from program to program. Some programs fund only postdoctoral fellows, some fund only researchers in tenure-track positions, some fund researchers who earned their degrees within the last five years, and so on. Second, make sure that you understand the funder's research interests. These may be very broad (for example, the Camille & Henry Dreyfus Foundation New Faculty Awards program funds new faculty in chemistry, biochemistry or chemical engineering) or quite narrow (Crohn's & Colitis Foundation of American Career Development Awards, which funds research related to inflammatory bowel disease).

Even when research interests of an agency cover a broad range of fields, however, program directors and reviewers will tend to fund research in areas they view as dynamic and "leading edge." It is therefore important to make a strong case that your selected research area holds the potential for years of continued advancement and discovery. Research topics that have been well-researched and promise only incremental advancements are unlikely to help a new researcher to rise to the top of his or her field.

Although these programs are targeted specifically at "new" investigators, don't make the mistake of thinking that funders will be happy to fund researchers with little or no track record. Reviewers will be looking for evidence that an applicant is likely to be successful, and an important part of that evidence will be previous publications and preliminary data related to the proposed research project. One exception, however, is the NIH Career transition award, which is specifically aimed at helping researchers transition from one field (e.g., clinical work or basic science research) to biomedical research. In that group of programs, one or more mentors must be named, and their track record and publications are extremely important in the review process.

The largest of these early career programs is the NSF Faculty Early Career Development (CAREER) program. NSF awards over 400 CAREER grants each year in a wide range of disciplines.

Next month, we will discuss the NSF CAREER program in detail.

By [Lucy Deckard](#)

Article 2, ([Top](#))

DARPA Research Funding Tutorial

A compilation of information from <http://www.darpa.mil/>

All of DARPA's research is performed by outside researchers at large and small businesses, universities, non-profit institutions, government laboratories and other outside research organizations. **DARPA funds these researchers based on a competitive review of proposals that are submitted in response to a solicitation calling for research ideas.**

DARPA research runs the gamut from conducting basic, fundamental scientific investigations in a laboratory setting to building full-scale prototypes of military systems. They fund research in a wide variety of scientific disciplines — **biology, medicine, computer science, chemistry, physics, engineering, mathematics, material sciences, social sciences, neuroscience, and more.**

DARPA solicitations are published in the U.S. government's one-stop virtual marketplace, Federal Business Opportunities, also known as FedBizOpps. [Click here](#) to go to the FedBizOpps site that will allow you to view DARPA solicitations issued in the last 365 days. You can also [register](#) with FedBizOpps to receive notifications when new DARPA-related content is posted. Once you have registered and logged in, you can set up a "Saved Search" that will periodically review all newly posted information and send an email notification. Each technical office also maintains a list of its [current and past solicitations](#).

Obtaining Funding: Step 1

The first step in obtaining research funding from DARPA is to review DARPA's research interests. Each DARPA technical office maintains a list of current programs and research thrust areas. In addition, [DARPA's Strategic Plan](#) includes information on DARPA's overarching strategic focus areas. Lastly, DARPA holds a Systems and Technology Symposium ([DARPA Tech](#)) approximately every 18 to 24 months, to share our priorities for future programs that will help bridge the gap between far-side possibilities of tomorrow and the near-side capabilities of today. Dates of the upcoming DARPA Techs are advertised on the website as soon as dates are available.

Obtaining Funding: Step 2

[DARPA solicitations](#) most often take the form of a Broad Agency Announcement (BAA), but can also be called Special Notices, Research Announcements, Requests for Proposals, or something similar. DARPA issues BAAs, each for a specific DARPA research program, throughout the year. DARPA BAAs are published in the U.S. government's one-stop virtual marketplace, Federal Business Opportunities, also known as FedBizOpps (www.fbo.gov). DARPA also publishes BAAs on www.grants.gov, the central storehouse for information on federal grants. In addition to program-specific BAAs, each DARPA office issues what we call an "Office-Wide" BAA. These BAAs solicit proposals across a broad range of technology areas.

What is a BAA?

Each DARPA BAA includes general information about the DARPA program, outlines the research being solicited and provides detailed information on how to submit a proposal. DARPA's BAAs are "open" (i.e., proposals can be submitted) for a full year, **but many BAAs impose an earlier deadline** (often 45 days after issuance) for researchers interested in having their proposals reviewed during an initial review period. Many DARPA BAAs require or encourage the submission of a proposal, abstract or white paper prior to the submission of a full proposal. All of these details will be outlined in the BAA.

Small Business Funding Opportunities

For information on opportunities available only to small businesses, please visit the Department of Defense Small Business Innovation Research (SBIR) / Small Business Technology Transfer (STTR) [website](#), or DARPA's [Small Business Support Center \(SBSC\)](#). SBIR and STTR solicitations are available [online](#).

Getting Your Ideas Considered by a DARPA Program Manager

Don't constrain your great ideas by how you think DARPA may react. Even though DARPA may not appear active in a particular area doesn't mean the Agency won't be interested in a great

technological idea in a new arena. In fact, your idea could lead to new areas of research. **The key to working with DARPA is through a program manager.**

To maintain an entrepreneurial atmosphere and the flow of new ideas, DARPA hires program managers for 2 to 6 years; the best way to foster innovations is to bring in new people with fresh outlooks. DARPA program managers:

- Provide feedback regarding whether an idea is suited to DARPA.
- Help shape ideas to synchronize with an ongoing or new DARPA program.
- In some cases, a program manager may substantially alter what he or she plans to do based on a new idea.
- **A big part of a program manager's job is to find great ideas upon which to build new programs.**
- Information exchanges with DARPA program managers are the foundation for "Doing Business with DARPA."

Some of the best opportunities to pitch ideas for DARPA programs are when DARPA program managers are starting new programs. When considering an idea, DARPA program managers will ask:

- What are you trying to do?
- How is this done now? What are the limitations?
- How will this approach remove those limitations and improve performance? By how much?
- If an idea is successful, what difference will it make?

DARPA program managers often fund studies ("**seedlings**") as initial research to determine if a more formal program is appropriate. This brochure provides guidance for transforming your ideas into agreements with DARPA.

Notices of DARPA Business Opportunities

DARPA provides information about research areas of interest to the Agency by the following means:

- For information on DARPA programs and areas of research by individual technical offices, go to www.darpa.mil and click on "DARPA Offices."
- To find solicitations, go to www.darpa.mil and click "Solicitations." Another option is the official Federal acquisition opportunities Web site at www.fedbizopps.gov.
- DoD Small Business Innovation Research (SBIR) program solicitations can be found at <http://www.acq.osd.mil/osbp/>. Current DARPA SBIR programs are described at <http://www.darpa.mil/sbir>.
- Federal grants—awards of financial assistance from a Federal agency to carry out a public purpose of support or stimulation authorized by a law of the United States—are listed at www.grants.gov.

DARPA Methods of Soliciting Business

DARPA uses requests for proposals (RFPs) and broad agency announcements (BAAs) to solicit business. Both types of solicitations can be found on the DARPA Web site at www.darpa.mil.

Because DARPA understands that creating proposals involves a great deal of time and effort, **many DARPA solicitations encourage the submission of a white paper or abstract to determine**

whether an idea is likely to be selected. DARPA does not tend to think in terms of individual contracts, but rather collections of contracts or projects. It is the program manager's job to develop projects, so be sure to demonstrate how your idea will fit as part of a larger project. As a Government contractor, it is helpful to be familiar with the Federal Acquisition Regulations (FAR) from the Government Printing Office or at www.arnet.gov/far/.

Requests for Proposal (RFPs)

An RFP provides a specific statement of work, contract deliverables, and evaluation criteria for Government selection. It lists the Government requirements, solicitation provisions, proposal preparation instructions, and the evaluation method for the review of proposals. An RFP serves as the basis for award selection. If the proposed award is for a cost-type contract, the awardee must have an approved cost accounting system to audit costs.

Broad Agency Announcements (BAAs)

A BAA is a competitive solicitation procedure used to obtain proposals for basic and applied research and that part of development not related to the development of a specific system or hardware procurement. The type of research solicited under a BAA attempts to increase knowledge in science and/or to advance the state of the art compared to practical application of knowledge. BAAs are described in FAR 6.102, "Use of Competitive Procedures," and FAR 35.016, "Broad Agency Announcements."

Each DARPA technical office has an office-wide BAA that covers a broad range of topics and is usually open for 1 year. Program-specific BAAs are targeted specifically to a particular area of research. DARPA BAAs describe:

- The Agency's research interest for either an individual program requirement or broadly defined areas of interest covering the full range of the Agency's requirements;
- Criteria for selecting proposals, their relative importance, and the method of the evaluation;
- Specific time available for submission of proposals; and
- Specific instructions for the preparation and submission of proposals.

Preproposal Information

DARPA industry days are held after publication of a program notice and prior to the submission of proposals. They provide the opportunity to hear program managers and meet potential industry partners for teaming. **DARPA industry days are not limited to the promotion of BAAs; they are used for all methods of soliciting business.**

White papers are the initial ideas submitted to a DARPA program manager and are not considered proposals. They permit the presenter to make a detailed, written explanation of the idea/concept. A white paper allows for feedback from a DARPA program manager and, if appropriate, may result in a formal proposal submittal.

Evaluation and Award

BAA proposals are evaluated on technical merit and are not compared to other proposals. There is no common statement of work. DARPA identifies general areas of interest, but does not tell organizations how to propose work or how to solve problems. The basis for the selection of proposals is the technical importance with respect to Agency programs and funding availability.

Cost realism and reasonableness are also considered, to the appropriate extent, in the evaluation of a proposal. The award may be in the form of a contract, assistance agreement, or an other transaction. The proposal can list the type of preferred agreement; however, the appropriate type of award is subject to negotiation.

Compilation by [Mike Cronan](#)

Article 3, ([Top](#))

Grants for Instrumentation and Equipment

There are a significant number of federally-funded programs that specifically fund the purchase or development of research instrumentation. You can find a list of such programs at <http://opd.tamu.edu/funding-opportunities/funding-opportunities-by-category/instrumentation-and-equipment> . When writing proposals for these kinds of grants, it's important to understand that the requirements and expectations for these programs are quite different from general research grants. Instrumentation grants generally come in two types: instrument acquisition grants (programs that fund the purchase of an instrument from a vendor), and instrument development grants (which fund the development and fabrication of a new type of instrument). Because the objectives, requirements and review criteria for acquisition programs differ significantly from development programs, they are discussed separately below.

Instrument Acquisition Programs

The motivation of agencies funding acquisition of instruments is to use those grants to enhance projects already funded by the agency or to support projects in areas that will likely be funded by the agency in the near future. Therefore, an instrumentation proposal will generally be more competitive if the PI and co-PIs have projects funded by the agency and can convincingly describe how the proposed instrument will significantly enhance those projects. However, exact expectations in this regard vary by agency and program. NSF may fund an instrumentation grant even if no one on the grant is currently funded by NSF, assuming the research is of interest to NSF. In contrast, for the Department of Defense instrument programs such as the DURIP, it is extremely important to have one or more Program Officers within a DoD agency act as champions for the proposal; these will usually be Program Officers who are currently funding research projects that will benefit from the acquisition of the instrument. NIH's Shared Instrumentation Grant program explicitly states that at least 75% of total usage of the instrument must be on NIH peer-reviewed research grants.

For most instrumentation acquisition programs, the agency is looking for maximum impact for the money spent, which usually means having multiple users of the instrument, and may mean having users from multiple institutions and disciplines. In addition, one of NSF's goals is to enhance the research infrastructure for predominately undergraduate institutions and for minority-serving institutions. Proposals to NSF's instrumentation acquisition programs will often be more competitive if they present a plan explaining how the instrument will be made available to researchers from those types of institutions.

Common features of most instrument acquisition programs are:

- The proposed instrument should enhance projects already funded by the agency
- The agency is looking for maximum impact for the money spent, which may include having multiple users or users from multiple disciplines, as well as having an impact on research and education
- The sponsor wants to be sure the instrument will be taken care of, so the proposal must describe the infrastructure that is available to support the instrument (space, facilities such as power, funds for maintenance, availability of a technician, etc.)
- The sponsor wants to make sure the instrument will be used, so proposals should describe users with a record of active funded research, publications, and pending proposals
- Most programs will require a "Management Plan," which should describe who will be in charge of managing the instrument, the infrastructure and expertise available to keep the instrument running, how instrument time will be allotted among users, any user fees, etc., and other plans for maintaining and managing the instrument.
- Most instrument programs will fund expenses directly related to acquisition and commissioning of the instrument, but will not fund costs related to research conducted on the instrument after it is commissioned. It is therefore important to read budget guidelines for the program carefully.
- Proposals should clearly explain what specific research will be enabled by having the proposed instrument that would not otherwise be possible; generic descriptions of research projects that will use the instrument are not sufficient.

Instrument Development Programs

Equipment development programs focus on developing new instruments that will significantly enhance research capabilities in research areas of interest to the funding agency. Proposals to these types of programs must explain how development of the new instrument will enable new types of measurement or information gathering. In contrast to acquisition programs, instrument development programs are actually research projects requiring a detailed work plan, discussion of the scientific basis for the work, and a description of the qualifications of the personnel who will design and build the instrument. Instrument development programs generally allow funds for support of researchers, students, and technicians who are directly involved in development of the instrument. Depending on the type of instrument, it may also be appropriate to team with a corporate partner who can eventually commercialize the instrument.

By [Lucy Deckard](#)

Article 4, ([Top](#)) Advice on Contacting Program Officers

All too often, investigators are hesitant to contact a program officer or director out of concern they may be "bugging" them or uncertainty about what kinds of questions to ask. Keep in mind that these people are the primary liaisons between you as an investigator and the funding agency. While responsibilities of program officers or managers vary somewhat from agency to agency, their foremost role is to provide technical assistance to applicants.

The whole process of extramural research funding keeps individuals on both sides of the table quite busy, and program officers are no exception. Not only are they administrators, they are often researchers as well. A good strategy is to make contact via email first, asking if you can either

schedule a phone conference or if it would be preferable to send a “white paper” or overview of your research plan.

Contact with a program official is especially important when you are pursuing an investigator-initiated opportunity, e.g. submitting a proposal that is not in response to a specific funding announcement. The program manager will be able to confirm whether or not your idea is a good match for the particular agency or directorate/division; if not, sometimes they can point you to another program/directorate.

When you are responding to a specific request for proposals, carefully read the solicitation before you make contact. If, for example, you have a question about the budget, make certain to pay close attention to all details under the solicitation’s “Budget” heading. It’s also a good idea to look for other headings, such as “Unallowable Costs,” that may be in a different section. The point is not to ask a question that is already spelled out for you in the solicitation. It’s also a good idea to check for any FAQ sections referred to on the program’s homepage – it could well be that you’re not the only person with a similar question about the budget or another section.

An added benefit of thoroughly reading the solicitation prior to making contact with the program manager is that you can prepare a list of questions to be asked at one time, rather than making three or four separate phone calls or email inquiries. This will save valuable time for both you and the program official.

What kinds of questions should you ask a program manager? Obviously, the first one is whether your project objectives are aligned with the programmatic objectives. You can ask about traits of successful proposals – is there any particular activity or strategy that you could employ to enhance your success? Ask if there are any “red flags” or sections of your proposed research that could decrease your chances of being funded. The program manager may also let you know about common oversights or problems that may have contributed to non-funded applications.

Ubiquitous throughout the literature about writing a strong proposal is the advice to read abstracts from previously awarded grants. Ask the program officer if there is a funded proposal available to review, or if there is a webpage that consolidates information about the program itself (awardees, performance reports, news/publications, etc.). The program officer should be able to tell you if someone else has already been funded for a project that is similar to your own, and if so, you may need to revise your research objectives. It may be helpful to know how many submissions are usually received per funding cycle, and how many are typically funded. How many of these awards been made in your state?

Your program manager can also give you important information regarding the review process. Will the panelist be drawn from a pool of experts, or will they represent a variety of disciplines? Will there be more senior-level investigators serving as reviewers, or will the panel primarily consist of researchers just starting their careers? You may be curious to learn how many people will review your proposal, and how many submissions each reviewer is typically required to read. You can ask the program officer if the proposal rating sheets used by reviewers are available prior to submission. Find out what role the program manager plays during the actual review process, and clarify that you can ask questions about review comments you receive once the grant awards are announced.

In closing, asking for assistance from the program manager can be invaluable when you are seeking extramural funding, whether it's your first proposal or your fiftieth proposal. In some cases, you may want to schedule a face-to-face meeting with program staff. Developing a healthy rapport with program administrators in your discipline may give you an added advantage when new opportunities are forthcoming since you've already opened up a line of communication and made the program officer aware of your research interests. By reaching out to program officers, you are making their jobs easier and your own grantwriting process more efficient.

By [Robyn Pearson](#)

Article 5, ([Top](#)) Eight Components of a Good "White Paper"

When you contact a program manager to ask if your project objectives are aligned with the programmatic objectives, it is helpful to have a concept paper or summary of your research plan already prepared. The very act of writing your thoughts down in a concise, logical order can facilitate a more productive conversation with your program official. Also, a white paper may be requested before you are even able to ask specific questions of the program officer, so having a document at hand is a good plan. One page is ideal, two pages are acceptable, and three pages should be the maximum length. Below are eight components to include in a strong concept paper.

1. Title: The title of your proposed idea should be succinct, clear, and preferably a single line in length. For example, while "Social and Economic Benefits and Disadvantages of Ecotourism in Three Ecozones of Central America" is certainly descriptive, the simpler title "Ecotourism in Central America" is amply sufficient for a white paper. Save the details for the body of your paper.
2. Purpose: Why are you seeking this grant? State your plan and how it relates to the agency's or foundation's mission.
3. Background: What are the "knowns" and "unknowns"? Is there a particular gap in knowledge or a critical need your project will fill? Again, this gap or critical need should be relatable to the funder's priority areas.
4. Significance: Why is your project important? How does it advance the field or help address a critical need? If you've done previous work in this area, show how you intend to build upon prior results.
5. Methods: State your research question or hypothesis in clear, concise, and scientific terms. Describe how you will collect and analyze your data.
6. Resources: Identify the resources you have at hand that are needed to bring your project to successful completion. If you are requesting additional resources, provide a thorough justification of how such resources will be used in your proposed program.

6. Expected Outcomes: State what you plan to achieve. When possible, state your outcomes as a measurable parameter; e.g., "I will collect 50 samples each from the control group and the test group." Then relate these expected outcomes to your research question: "These results will be applied to my research question examining the prevalence of factors X and Y." If you see any potential problems or challenges, bring these to light and propose possible solutions.

7. You and Your Team: Tell why you are qualified to conduct this project, and do the same for any collaborators or partners. Describe the roles of each individual and the responsibilities of any outside committees or special management considerations.

8. Closing: Close with a strong summary statement that relates the importance of your research to the agency's mission. For example: "The proposed project supports the XYZ Foundation's mission to reduce health disparities among under-represented populations and addresses the national need for nutritional education and outreach among rural populations."

By [Robyn Pearson](#)

Article 6, ([Top](#)) **Identifying Research Funding Opportunities**

A key first step in developing and writing proposals is to find research funding opportunities that match your interests. The better the fit between your research interests and the funding opportunity, the more likely it is that your efforts will result in a "*win-win*" situation for both you and the research sponsor.

Federal agencies that fund university research and related educational initiatives have developed very comprehensive and well-organized web sites to facilitate the search for funding. **These sites are often complemented by electronically distributed funding alerts, RSS feeds, newsletters, and research reports from the agency.** These automatically generated documents typically include listings of new and upcoming funding opportunities, URLs to program announcements, and other information essential to preparing a competitive proposal.

The [Grants.gov](#) web site serves as a single point of access for all federal agency grant announcements. New funding announcements from federal agencies are posted to this site daily, and a range of other features allows users to subscribe to email funding alerts, link to agency web sites, and search for funding at a selected agency, or by keyword and topic across all agencies.

To begin the process of finding funding opportunities to match your research interests:

- Develop search protocols that reflect your research interests based on keywords, phrases, or disciplinary topics, and use these to search *Google* and *Yahoo*, federal agency or foundation web sites, *Grants.gov*, and any other useful websites you have found;
- Identify agencies that are likely to fund research in your area of interest by conducting internet searches, soliciting advice from other researchers who conduct research in similar areas, and familiarizing yourself with funding agency web sites;
- Identify the grant cycles of those agencies most likely to fund research in your domain;

- Identify agencies and programs that allow you to submit *investigator initiated* or *unsolicited proposals*.

To develop search protocols reflecting your research interests:

- Define your broad disciplinary domain of interest (e.g., science, social science, humanities, education, health and biomedical sciences, engineering, etc.);
- Characterize the nature of your research interests within the broader disciplinary domain, e.g., basic, applied, applications, or contract research;
- Define keywords, phrases, and topics that describe your broad domain of research interest, and then choose a range of more specific keywords that describe your research topic in increasing detail.

To identify agencies that may fund your research:

- Identify funding agencies (federal and/or foundation, associations, etc.) whose mission, strategic plan, investment priorities, and funding opportunities are aligned with your defined research interests; this information is often available at agency web sites;
- Focus on this subset of agencies in the search for funding; you may need to modify your keywords and go through several search iterations until you find agencies and programs that align well with your research interests;
- Learn as much as possible about promising agencies and further evaluate if they are likely to fund your research by reviewing current funding solicitations, agency mission statements, agency roadmaps and strategic plans, research investment plans and priorities, abstracts of funded projects in areas related to your research interest, and organization charts.

The search for funding opportunities can be further refined by developing funding search skills that allow the researcher to:

- Identify research opportunities that have regular grant cycles within a particularly agency (e.g., NIH, NSF, NEH, DoEd have regular grant cycles for specific research programs that remain open for many years);
- Identify new research opportunities and investment directions at funding agencies; and
- Expand the base of potential research funding sources.

These are easy tasks! It is preferable, for you as a researcher, to become self-sufficient in conducting searches for funding opportunities that fit your research interests rather than depending on others to find those opportunities for you. Self-directed searches of funding agency web sites, combined with the complementary use of Google, Yahoo, or other search engines, are highly effective and efficient ways of identifying research and educational funding opportunities. You have the best understanding of your own research interests, directions, and capacities, and therefore it is most productive if the searches for research opportunities are filtered primarily through your own perspective. Furthermore, regular reading of agency websites and being aware of funding trends will, over time, enhance your understanding of funding trends in your research area and the evolving interests of your selected funding agencies.

Some institutions may subscribe to fee-based research funding database services. However, fee-based subscription services are merely a compilation of funding information readily available in the

public domain free of charge on web sites maintained by individual federal agencies and *Grants.gov*, individual foundations, the Foundation Center, and other funders such as museums, collections, academic and disciplinary associations, national academies, and the like, as well as Google.

Subscriptions to federal agency and foundation email funding alerts, RSS feeds, Google searches, and the like provide the most robust, comprehensive, and timely system for staying current on research funding opportunities available to the researcher. Automated email alerts, combined with RSS (*really simple syndication*) capacities on many agency web sites, allow a continuous flow of funding opportunities from federal agencies and foundations to be sent daily **directly to the researcher's email inbox and browser** (RSS).

Simply signing up for daily email & RSS alerts from Grants.gov gives access to the most comprehensive database of federal funding opportunities available-- and its free!

http://www.grants.gov/applicants/email_subscription.jsp

<http://www.grants.gov/help/rss.jsp>

This can be complemented by checking out funding opportunities posted at Texas A&M University

<http://opd.tamu.edu/funding-opportunities>

Check Out Google Special Searches

<http://www.google.com/options/specialearches.html>

By [Mike Cronan](#)

Article 7, ([Top](#)) **Funding Related Quick Tips**

Solicited & unsolicited proposals

Proposals may be initiated in two general ways by the university researcher:

- in response to a published solicitation (solicited proposal, RFP, BAA, PA); or
- initiated by the investigator (unsolicited proposal).

Unsolicited/Investigator Initiated Proposals

- Program Description or Program Announcement instead of a solicitation
 - More general statement of interests of funding agency or program
- Typically the main source of research funding for individual researchers funded **by NSF, NIH, DoD**
 - Majority of external research funded by NSF (~50%) and NIH (~80%) result from unsolicited proposals
- Formatting guidelines often in a separate document
 - NSF Grant Proposal Guide
 - NIH SF424 Application Guide
 - DoD long-term Broad Agency Announcements

Funding unlikely to pan out

- Grand visions
- Ambitious plans to improve the world
- Support for administrative infrastructures
- Bricks & mortar
- Unfocused ideas & enthusiasm **disconnected from the agency mission**

If you don't write grants, you won't get any

- Target the proposal at the intersection where:
 - research dollars are available;
 - your research interests are met;
 - a competitive proposal can be written within the time available.

Searching for funding

- Develop search protocols to fit research interests;
- Know relevant agencies;
- Visit web sites/follow links
- Learn grant cycles;
- Sign up for email alerts and RSS feeds—

OPD RSS Feeds

<http://opd.tamu.edu/funding-opportunities/electronic-funding-alert-services-email-alerts>

<http://opd.tamu.edu/funding-opportunities/subscribe-to-rss-feeds-for-discipline-specific-funding-opportunities>

NSF RSS Feeds

<http://www.nsf.gov:80/rss/>

CSREES RSS Feeds

<http://www.csrees.usda.gov:80/newsroom/rss.html>

NIH RSS Feeds

<http://www.nih.gov/news/rss.htm>

<http://videocast.nih.gov/rss/>

EPA RSS Feeds

<http://www.epa.gov/newsroom/rssfeeds.htm>

Search in the right places

- Talk to funded colleagues in your discipline
- Read research publications for references crediting funding sources

Searching for research funding

- Define a general disciplinary domain of interest (e.g., science, social science, humanities, education, health and biomedical sciences, engineering, etc.);
- Characterize the nature of the research interests within the disciplinary domain (basic,

applied, applications, contract, mission agency);

- Identify funding agencies whose mission, strategic plan, and investment priorities are aligned with the specific research interests;
- Further align research interests with funding agency funding opportunities by:
 - reviewing past funding solicitations,
 - reviewing agency mission statements,
 - reviewing strategic investment plans and related documentation

Grants.gov

The Grants.gov web portal serves as a single point of access for all federal agency grant announcements. New funding announcements from federal agency are posted to this site daily, and a range of other features allow subscribing to email funding alerts, linking to agency web sites, and searching for funding among agencies.

Solicitation Modifications

- RSS feeds and email alerts also post modifications to program announcements that are made prior to the due dates
- This is particularly important for DoD BAAs that have long open periods, or RFPs from mission agencies
- [Grants.gov New/Modified Opps by Agency](#)
 - http://www07.grants.gov/rss/GG_OppModByAgency.xml
 - http://www07.grants.gov/rss/GG_OppModByAgency.xml

By [Mike Cronan](#)

Article 8, ([Top](#))

Role of the Evolving Proposal Narrative

The fundamental requirement of the proposal narrative at the time of submittal is that it be a well written document that responds fully, clearly, and persuasively to the research goals and objectives and review criteria defined by the sponsor in the funding solicitation. **However, long before the proposal narrative is submitted to a funding agency it plays a key role in the conceptual development of the proposed research.**

The proposal development process itself is often somewhat akin to a slowly lifting fog whereby a **continuous and relentless process of draft text iterations** is necessary to gradually transform initially diffuse ideas into a tightly crafted proposal narrative. An equally important role of the evolving proposal narrative is that it serves as an incubator of ideas, particularly in the early stages of proposal development, and acts as a structure that imposes rigor, clarity, and simplicity on evolving ideas and concepts and their connectedness to operational and performance details. At the beginning of the proposal process there is often a significant amount of (pick your adjective) chaos, uncertainty, vagueness, ambiguity, false starts, and indecision, among many other indeterminacies of one kind or the other, about how to best meet the funding agency research objectives.

In much the same way as mathematics, or a computer program, help impose rigor, clarity,

sequence, and simplicity on our understanding of the behavior of the physical world, language plays a similar role in the evolving proposal narrative. The key point is that ideas evolve, and do not appear magically fully and perfectly formed in the project description. Most often the ideas that evolve during the development and writing of a proposal originate in discussions among researchers at research development meetings. Sometimes these “brainstorming” discussions are predicated on and informed by a thorough understanding of the research solicitation by all participants, and sometimes they are not. Regardless, if it is determined that a solicitation is appropriate for the research interests of potential proposers and that a competitive proposal can be written in the time available, **the path to the end product, a competitive proposal narrative, is often far from clear at this early stage of proposal development.**

Bringing clarity to the proposal development process typically starts with ideas, concepts, and directions expressed verbally among researchers related to meeting the research objectives of the solicitation. Depending on the type of proposal, initial discussions, or even “brainstorming,” resulting in ideas expressed verbally can range from somewhat to very illusive, and become a real challenge when it comes time **to translate ideas expressed verbally into language by a principal author**, particularly since verbal “understandings” among participants can be both illusive and transitory. In fact, in the initial stages of drafting the proposal narrative there are often many uncertainties about the form the final proposal will take, **thereby making the proposal writing process itself a one of iterative exploration that hopefully converges on a competitive narrative over time, i.e., before the due date.**

What seems like a “good idea” at the start of this narrative exploration process can often be illusory. Epiphanies are deceptive because they lack connectedness and the appropriate balance and synthesis of ideas with detail. **It is this conjoining of ideas with the performance details that is the real challenge in crafting a competitive proposal narrative.**

However, this often painful process of translating ideas into the strict structure imposed by language in the narrative serves many important functions—

- it helps tame the conceptual excesses and unwarranted effusiveness that may occur among some members of a research team at the early stages of proposal development,
- it helps define the clear boundaries and scope of the initiative,
- it sharpens the focus and tightens the descriptions of concepts and ideas,
- and **it forces connectedness among ideas, and between the ideas and operational details that transition ideas to research or educational outcomes.**

In effect, the evolving proposal narrative helps transform ideas and anchor them in a common reality—the **proposal narrative**—a reality shared by research colleagues, program officers, and review panelists. In this regard, a proposal narrative is not unlike a novel or a movie. It creates its own, self-contained reality. It contains all the funding agency and review panel will know about your capabilities and your capacity to perform. With few exceptions, an agency bases its decision to fund or not fund entirely on the proposal narrative and the persuasive reality it creates. The construction of this common reality through a process of writing and rewriting draft after draft of text helps test ideas in a “language lab” in a way not unlike experimentalists test ideas.

Moreover, this process of defining a common reality and a common language through **multiple**

draft iterations of the narrative is particularly important in multidisciplinary efforts and collaborations where a common structure is needed to meld disciplinary strands and make ideas accessible among collaborators of potentially synergetic but differing disciplines. One of the more common challenges in multidisciplinary research initiatives is the sponsor required vision statement, or similar integrative and synthesizing statement, that unifies the effort and makes the case to the sponsor that there are critical synergies inherent in several research strands funded under one research effort that would not be possible if the research strands were funded separately as discrete projects. **The crafting of a vision statement or other unifying statement is as critical to a proposal's competitiveness as it is challenging to write.**

In summary, the competitive proposal narrative:

- Synthesizes ideas and detail
- Connects ideas to performance details
- Develops order, logic, transitions, and connectedness
- Helps the timing, logistics, and collaborations of proposal development
- Integrates collaborators' ideas
- Provides a common structure to meld disciplinary strands
- Makes ideas accessible to others
- Converges on a common language
- Requires persistence, continuous revisions, and many draft iterations to converge on perfection

Written by Mike Cronan; edited by Lucy Deckard & Robyn Pearson

Article 9, ([Top](#))

Writing the Proposal Introduction

Always take the time to craft a well-written proposal introduction. It will serve as a focal point not only for the proposal itself but also for project development and writing the proposal narrative. The proposal introduction is a means of translating into language the ideas and arguments that may as yet be unrefined and unconnected in the early stages of development, or not fully developed and structured on a logical narrative framework.

Writing and rewriting the introduction continuously refines how you think about the proposal, the arguments developed, the ideas, the goals and objectives, and the logical connectedness of it all. Start the introduction early in the grant writing process and keep coming back to it as ideas are put forth, or revised, or abandoned.

Continuously revise the introduction as a place where abstractions, concepts, and ideas are fused and sequenced with performance objectives and operational detail. **The introduction needs to be a point of synthesis and clarity, that is concisely crafted during project development and grant writing.** Over a period of weeks, or months on larger efforts, the introduction will start to take on a life of its own, representing a pattern of connectedness that maps to the following project description, the major part of the narrative. Return to the introduction when you have new information and revise it; return to it when you are stymied and the logic and direction of your efforts momentarily seems illusive, return to it to sharpen your vision.

The introduction gives the reviewers a "conceptual snapshot" that they will carry with them through the remaining text.

A well-written proposal introduction--

- Serves as a "mini-proposal" that concisely captures your core arguments for funding
- Serves as a roadmap to the more detailed project description
- Introduces and connects the vision, ideas, goals, research objectives, and outcomes
- Makes a compelling case for research significance and uniqueness
- Organizes the conceptual framework of the narrative
- Tells who you are; what you are going to do; why it is significant; how you are going to do it; who is going to do it; why you are going to do it; and demonstrates your capacity to perform
- Inspires reviewers to read closely and with interest the more detailed narrative
- Wins the reviewers' support with a tightly crafted and compelling proposal introduction

By Mike Cronan

Article 10, ([Top](#))

"OPD Quick Tips" on Grant Writing

"If I had more time, I would have written you a shorter letter."

Mark Twain

Writing to reviewers

- Sell your proposal to a good researcher but not an expert
- Some review panels may not have an expert in your field, or panels may be blended for multidisciplinary initiatives
- Agencies & reviewers fund compelling, exciting research, not just correct research
- Proposals are not journal articles—proposals must be user friendly and offer a narrative that tells a story that is compelling and memorable to reviewers
- Synthesize key concepts and articulate the links--
 - ✓ between the overarching goal and the specific objectives,
 - ✓ between the specific objectives and the hypotheses,
 - ✓ between the hypotheses and the approach,
 - ✓ between the approach and the expected outcomes, and
 - ✓ between the expected outcomes and the significance and broader impacts of the project
- Reviewers will assume errors in language and usage will translate into errors in the research

Role of the Project Summary

- Captures the interest of reviewers
- Defines the significance of the core idea quickly, clearly, and concisely
- Describes the connectedness of the core idea to specific research activities and outcomes
- Serves as a conceptual and relational roadmap to the proposal narrative

Charles Mingus on grant writing ;-)

- Making the simple complicated is commonplace; making the complicated simple, awesomely simple, that's creativity.

The proposal is the only reality

- A proposal is not unlike a novel or a movie. It creates its own, self-contained reality. The proposal contains all the funding agency and review panel will know about your capabilities and your capacity to perform. With few exceptions, an agency bases its decision to fund or not fund entirely on the proposal and the persuasive reality it creates.
- Good writing lies at the core of the competitive proposal. It is the framework for crafting and structuring the arguments, ideas, concepts, goals, performance commitments, and the logical, internal connectedness and balance of the proposal.
- Agencies will not fund an idea not embedded in a convincing pattern of narrative detail and performance specificity tightly mapped to the funding agency's research objectives.
- "There is no amount of grantsmanship that will turn a bad idea into a good one, but there are many ways to disguise a good one." William Raub, former Deputy Director, NIH
- "Contrary to what some people seem to believe, simple writing is not the product of simple minds. A simple, unpretentious style has both grace and power. By not calling attention to itself, it allows the reader to focus on the message."--Richard Lederer and Richards Dowis, *Sleeping Dogs Don't Lay*, 1999.

Albert Einstein on grant writing :-)

- If you can't explain something simply, you don't understand it well
- Most of the fundamental ideas of science are essentially simple, and may, as a rule, be expressed in language comprehensible to everyone

Good writing is more than mechanics

- Strong, comprehensive, integrated knowledge base
- Organizational clarity (stepwise logic/connections; sequencing)
- Structural clarity (integrative logic; logical transitions)
- Argumentative clarity (reasoning; ordering; synthesis)
- Capacity for synthesis
- Descriptive clarity (who, what, how, when, why, & results)
- Clear, consistent vision sustained throughout text
- Establishes confidence in your performance and excitement for your ideas by reviewers
- A competitive proposal must be internally consistent by language, structure, and argument
- All internal ambiguities must be resolved.
- The competitiveness of a proposal increases exponentially with the capacity of the author to synthesize information
- Synthesis represents the relational framework and conceptual balance of the proposal
- It is the synaptic connections among concepts, ideas, arguments, goals, objectives, and performance.

Why grammar is important

- Proposals are not graded on grammar. ***But if the grammar is not perfect, the result is ambiguities left to the reviewer to resolve***

- Ambiguities make the proposal difficult to read and often **impossible to understand**, and often result in low ratings
- Be sure your grammar is perfect
 - George A. Hazelrigg, National Science Foundation

Ideas matter (Slogans are not Ideas!)

- Shaping ideas by language is hard work.
- Do not confuse slogans, effusive exuberance, and clichés with substantive ideas.
- Show the reviewers something new by developing ideas that are clear, concise, coherent, contextually logical, and insightful.
- Capitalize on every opportunity you have to define, link, relate, expand, synthesize, connect, or illuminate ideas as you write the narrative.
- Connect, connect, connect! (E.M. Forrester).

Beware of “boiler plate”

- Boiler plate refers only to the application forms required by the agency, **not the narrative**
- Thinking of the proposal narrative as “boiler plate” will result in a mediocre proposal
- Begin each proposal as a new effort, not a copy & paste from prior efforts;
- Be cautious integrating text inserts
- Strong proposals clearly reflect a coherent, sustained, and integrated argument grounded on good ideas

By Mike Cronan

Article 11, ([Top](#)) Why Read Abstracts

Reviewing abstracts of recently funded projects is yet another way to gain information about the research interests of a funding agency from the perspective of what review panels and program officers viewed as successful applicant proposals. Typically, abstracts from the two most current past funding cycles are the most informative. This is particularly true when reading abstracts of research and educational initiatives funded by programs that have long running annual solicitations. The abstracts serve as an excellent complement to the program solicitation by giving examples of successful responses to the research objectives defined in the RFP. In some cases, particularly on institutional and educational initiatives, reviewing the abstracts of projects funded during the past two years reveals a core of programmatic elements and activities that are a common denominator to all successful proposals.

In some cases, abstracts include contact information on the principal investigators, including email addresses, and on educational and institutional grants in particular the PI may be willing to share observations related to developing a competitive proposal to the particular program, perhaps even sharing a copy of the funded proposal, reviewers comments, and outcomes of annual performance reviews. On educational and institutional grants PIs are more often willing to share information than they might be on a research grant. In many cases, e.g., NSF educational grants, there is an expectation by the funding agency of dissemination of results related to “best practices” in such areas as K-12 education, undergraduate research, and the like.

Finding Abstracts Hotlinks (CTRL+Click to follow link)

- [NIH Computer Retrieval of Information on Scientific Projects \(CRISP\)](#)
- [NIH Extramural Awards By State and Foreign Site](#)
- [NSF Award Data](#)
- [NASA NSPIRES Past Solicitations and Selections](#)
- [Agency for Healthcare Research and Quality \(AHRQ\) Grants On-Line Database \(GOLD\)](#)
- [USDA Current Research Information System](#)
- [Department of Defense \(DoD\): Congressionally Directed Medical Research](#)
- [Department of Defense \(DoD\) SBIR/STTR Awards](#)
- [Department of Education \(ED\) Grant Awards](#)
- [Department of Energy \(DoE\) Project Summaries](#)
- [Department of Health and Human Services](#)
- [Environmental Protection Agency \(EPA\) Grants Information and Control System](#)
- [Institute of Museum and Library Services \(IMLS\) Grants Awarded](#)
- [National Endowment for the Humanities \(NEH\) Recent Grant Awards](#)
- [Federal R&D Project Summaries and Awards](#) (NIH, NSF, EPA, DoE, USDA, & SBA)
- [Health Services Research Projects in Progress](#)
- [Substance Abuse and Mental Health Services Administration](#)

Learn About Proposals Funded By Foundations

- Foundation Center (Find Funders)
 - <http://foundationcenter.org/findfunders/>
- Foundation Finder
 - <http://lnp.foundationcenter.org/finder.html>
- 990 Finder
 - <http://foundationcenter.org/findfunders/990finder/>
 - <http://foundationcenter.org/findfunders/990pffly.pdf>
 - <http://foundationcenter.org/getstarted/tutorials/demystify/>

By Mike Cronan

Article 12, ([Top](#))

Know the Context of Your Research

Successful proposals represent an accumulation of marginal advantage

Funding success occurs at the boundaries of excellence

"Good" is not good enough!

If the mantra of real estate is "location, location," then the **mantra of developing and writing a competitive proposal is "context, context."** Funding agency strategic plans and research road maps, national academy reports, agency sponsored research workshops, and similar documents all play a key role in helping frame the proposal narrative in a way that is more compelling and represents a more persuasive argument for the importance of the research, not only in the context of the specific solicitation, but in the larger context of the overall research objectives of the agency (see listing at end of this article of agency strategic plan URLs).

Moreover, reviewing strategic plans and research road maps, along with other research reports in your domain, helps you better map your research directions to the **investment priorities of the funding agencies**, an important competitive factor over time. Successful proposals represent an accumulation of marginal advantage that complements the core research idea in a proposal narrative. This is important because funding success at federal research agencies occurs at the boundaries of excellence, particularly in the peer review process. In this environment a good proposal is not good enough. **An excellent proposal narrative that is competitive for funding requires getting everything right**, including a persuasive argument on why your research advances the research objectives of the funding agency, from the fine grain context (solicitation) to the larger contexts (agency wide and national). Clearly stated and persuasive arguments placing your research in these important contexts represents just one more element needed to gain competitive advantage.

Why context is important--

- Understanding the research culture and context of the funding agency helps you to more knowledgably **embed your proposed research plan within the research focus and context of the agency**.
- Understanding the context of an agency's mission, strategic plan, research culture, investment priorities, and the **rationale behind them** helps you weave a compelling and competitive proposal narrative.
- Understanding context helps you better describe how your research plan maps to the research goals detailed in the RFP and advances the agency's larger research plan.
- Convincing program officers and reviewers that your research advances the agency's research objectives is a key factor in the decision to fund or not fund your proposal.
- Understanding research context helps you better understand several key elements common to every competitive proposal narrative:
 - ✓ Who is the audience?
 - ✓ How do you best address that audience?
 - ✓ What is a fundable idea within the context of the agency's research priorities?
 - ✓ How are claims of research uniqueness and innovation best supported in the proposal text?
 - ✓ What arguments are likely to be most compelling in communicating your passion, excitement, commitment, and capacity to perform the proposed research to reviewers and program officers?
- A good idea is required but alone is not sufficient--agencies only fund good ideas that are clearly developed and tightly linked to their mission, vision, and strategic plan as represented by the research objectives stated in the RFP and in the **broader context of agency strategic plans and research road maps**, which in turn are embedded in the context of the national research enterprise.

The following examples of agency strategic plans and research road maps represent one good starting point for developing a knowledge base that allows placing the research proposal narrative specific to a solicitation in the broader context of an agency's strategic plan.

What's New in Federal Research Budget: R&D Budget & Policy Updates

<http://www.aaas.org/spp/rd/new.htm>

Investing in America's Future, NSF Strategic Plan FY 2006-2011

<http://www.nsf.gov/pubs/2006/nsf0648/nsf0648.jsp>

NSF Human Capital Strategic Plan

http://www.nsf.gov/pubs/2008/hcsp2008/nsf_humancapitalstrategicplan_0803.pdf

NIH Roadmap for Medical Research

<http://nihroadmap.nih.gov:80/>

NIH Workshops and Seminars

<http://grants1.nih.gov/grants/outreach.htm>

**Investing in Discovery: National Institute of General Medical Sciences
Strategic Plan 2008–2012**

<http://www.nigms.nih.gov/About/StrategicPlan/>

NCRR Strategic Plan 2009-2013

http://www.ncrr.nih.gov/strategic_plan/online_version/initiative4.asp

**National Center for Research Resources
New Strategic Plan**

http://www.ncrr.nih.gov/strategic_plan/

**DoD Strategic Plan
for Research and Engineering**

http://www.dod.mil/ddre/doc/Strategic_Plan_Final.pdf

**EPA Strategic Plan
Developing the 2009-2014 EPA Strategic Plan**

<http://www.epa.gov/ocfo/plan/plan.htm>

**EPA's Office of Research and Development
Multi-Year Research Plan**

<http://www.epa.gov/ord/htm/multi-yearplans.htm>

EPA Research Strategies and Plans

<http://www.epa.gov/ORD/htm/researchstrategies.htm>

**U.S. Department of Education
Strategic Plan For Fiscal Years 2007–12**

<http://www.ed.gov/about/reports/strat/plan2007-12/2007-plan.pdf>

U.S. Department of Energy Strategic Plan

<http://www.cfo.doe.gov/strategicplan/doestrategicplan.htm>

**Department of Energy Office of Science
Genomics:GTL Strategic Planning**

<http://genomicsgtl.energy.gov/strategicplan/index.shtml>

USDA/CSREES

Strategic Plan for 2007-2012

http://www.csrees.usda.gov/about/offices/pdfs/csrees_stratic_plan.pdf

Agricultural Research Service

Strategic Plan for FY 2006-2011

<http://www.ars.usda.gov/SP2UserFiles/Place/00000000/ARSStrategicPlan2006-2011.pdf>

Research Interests Air Force Office of Scientific Research

<http://www.wpafb.af.mil/shared/media/document/AFD-080212-048.pdf>

Defense Sciences Office Strategic Thrusts

<http://www.darpa.mil/dso/thrusts/index.htm>

Army Research Office Basic & Applied Research Interests

FY 2007 – FY 2011

<http://www.arl.army.mil/www/DownloadedInternetPages/CurrentPages/DoingBusinesswithARL/research/07r0003-02.pdf>

Federal Laboratory Consortium For Technology Transfer

Strategic Plan For 2009

http://www.federallabs.org/pdf/FLC_Strategic_Plan.pdf

National Endowment for Humanities Strategic Plan

Fiscal Year 2007 – Fiscal Year 2012

<http://www.neh.gov/whoweare/strategicplan.html>

National Endowment for the Arts

Strategic Plan: FY 2006 – 2011

<http://www.nea.gov/about/Budget/StrategicPlanFY06-11.pdf>

NOAA Research Strategic Plan

for FY 2003- FY 2008 and Beyond

http://www.seagrant.noaa.gov/GreenBook/gb_documents/pdf_otherfiles/oar_strat_plan_062703.pdf

By Mike Cronan

Article 13, ([Top](#))

Overview of DoD Funding Agencies

The Department of Defense agencies that fund external research include--

- Air Force Office of Sponsored Research (AFOSR),
- Office of Naval Research (ONR),
- Army Research Office (ARO)

- Defense Advance Research Projects Agency (DARPA)
- US Army Medical Research & Materiel Command, which oversees the Congressionally Directed Medical Research Programs (CDMRP)
- Army Corps of Engineers
- National Security Agency (NSA)
- Important web sites for each of these agencies are listed at the end of this section.

Culture and Mission

All of the Department of Defense agencies are **highly mission-oriented**. The missions of AFOSR, ONR and ARO are related to the management of research that supports the goals and operations of their respective services (Air Force, Navy and Army, respectively). DARPA's mission is to oversee high risk, high pay-off research that has the potential to greatly benefit any of the DoD's branches. These DoD agencies therefore are **looking for research that has a close connection to defense**, and particular technologies and problems of interest are identified by the various funding agencies in Broad Agency Announcements (BAAs). The Congressionally Directed Medical Research Program's mission is to support medical research "to eradicate diseases and support the warfighter." As such, the CDMRP differs significantly in mission, culture and procedures from the other DoD agencies and will be discussed in a separate section below.

Usually, time horizons for research to be translated into applications is relatively short.

Program Officers in the various DoD agencies are given a large amount of discretion in making funding decisions, and having a **relationship with the Program Officer is extremely important to potential applicants**. Establishing a relationship with a Program Officer is not difficult; they are often receptive to phone calls and e-mails and are usually happy to discuss a potential applicants' research and whether it fits the agency's needs; they also attend professional conferences on research topics of interest to their organizations. One caveat to this is that once a Request for Proposals (RFP) has been issued, Program Officers are usually not allowed to discuss the program in order to avoid the appearance of giving any of the applicants an unfair advantage. This is another reason that it is **important to be engaged with the Program Officer early**, before the RFP is issued.

DoD Disciplinary Areas Funded (% of total research funding)--

- Physics (9%)
- Chemistry (9%)
- Mathematics (7%)
- Electronics (13%)
- Materials Science (8%)
- Mechanics (13%)
- Terrestrial Sciences (3%)
- Ocean Sciences (13%)
- Atmospheric Sciences and Space Sciences (9%)
- Biological Sciences (9%)
- Cognitive and Neural Science (4%)

Funding Opportunities (AFOSR, ONR, ARO and DARPA)--

The Department of Defense classifies research according to how basic or applied it is.

- **6.1** - the most basic research and is usually the type of research that may be funded at a university
- **6.2** - applied research and may be a continuation of 6.1 research as it comes closer to application in a defense system. This type of research is often funded at a defense company, which may partner with a university for the more basic aspects of the research.
- **6.3** - application research, where a new technology is applied to a defense system and tested. This type of research is usually performed by a defense company, perhaps in partnership with the potential user.

Like many mission agencies, ARO, AFOSR and ONR fund both intramural (internally conducted) and extramural (externally conducted) research. **It is always a good idea for researchers aspiring to win funding from these agencies to get to know the internal DoD researchers who are working in their research areas.** It is often expected that externally funded projects will be conducted in a collaborative fashion with DoD scientists; e.g., building on their results, utilizing specialized testing equipment at DoD labs, or designing components or systems based on criteria specified by DoD scientists. **Furthermore, these DoD scientists are often involved in the proposal review process; therefore, having prior connections can enhance competitiveness of a proposal.**

The defense agencies (with the exception of the CDMRP) announce funding opportunities in a variety of ways, including **Broad Agency Announcements (BAAs)** – each agency typically issues a “Long Range BAA,” which outlines technical research interests and priorities of the agency over a several-year range covered by the BAA, as well as targeted BAAs, which address more specific competitions and other targeted solicitations. University research is often funded through unsolicited proposals based on the Long Range BAA. Web sites for the Long Range BAAs for each Research Office are given below by agency. Solicitations for programs targeted specifically or predominately for University researchers are listed in the section on targeted programs below.

DARPA differs from ARO, AFOSR and ONR in that its mission benefits all areas of defense. DARPA's mission, according to its website, is “to maintain the technological superiority of the U.S. military and prevent technological surprise from harming our national security by sponsoring revolutionary, high-payoff research that bridges the gap between fundamental discoveries and their military use.” DARPA does not conduct intramural research, but each of its Program Managers is given an extraordinary amount of autonomy in setting research priorities and making funding decisions. The Program Managers are often well-known researchers in the technical field they are overseeing and very often rotate into and out of their position at DARPA from academia or industry. As in dealing with the other research offices, it is extremely important to develop a relationship with the DARPA Program Manager before submitting a proposal. Furthermore, since DARPA's interests lie in transitioning new technology into military use as quickly as possible, faculty researchers are well-advised to team with defense industry or defense lab researchers when proposing new research.

Unsolicited Proposals

Typically, a researcher who would like to propose a research project addressing research priorities outlined in the Long Range BAA contacts the Program Officer to discuss his/her project idea. If the Program Officer is interested, he or she will request a **white paper** (also called a preliminary proposal). White papers are short summaries of the project idea, and rules for white paper length and format can be found in the agency long range BAA or will be designated by the Program Officer. If the Program Officer likes the white paper, he or she will request a full proposal.

Targeted Programs

The programs listed below are aimed specifically or predominately at university researchers or at partnerships that may include university researchers. In competing for most of these programs, it is extremely helpful to have already developed a relationship with a DoD program officer and preferably to have been funded by the DoD on a related research project. It should be noted that one of the best ways to connect with an defense agency is to participate in a summer faculty research program at that agency, if they offer one.

Programs for universities--

- Multidisciplinary University Research Initiative (MURI)
- Defense University Research Instrumentation Program (DURIP)
- ONR Young Investigator Program (YIP)
- AFOSR Young Investigator Program
- DARPA Microsystems Technology Office Young Faculty Award
- Faculty Exchanges and Summer Faculty Positions in DoD Labs
- Summer Faculty Research Program (ONR)
- University Resident Research Program (AFOSR)
- U.S. Army Summer Faculty Research and Engineering Program
- U.S. Navy –ASEE Summer Faculty Research Program
- Fellowships and Summer Research Appointments for Students
- Defense Experimental Program to Stimulate Competitive Research (DEPSCoR) – for selected states only
- Historically Black Colleges and Universities Program (see also Funding Opportunities pages for each agency)

DoD Links--

- Defense Advance Research Agency (DARPA)
 - www.darpa.mil
- Army Research Office (ARO)
 - www.aro.army.mil
- Office of Naval Research (ONR)
 - www.onr.navy.mil
- Air Force Office of Scientific Research (AFOSR)
 - www.afosr.af.mil
- Congressionally Directed Medical Research Programs (CDMRP)
 - <http://cdmrp.army.mil/default.htm>

- National Security Agency
 - <http://www.nsa.gov/about/index.cfm>

Written by Lucy Deckard

Article 14, ([Top](#))

NSF Tips by Lucy Deckard

Tips for Exploring the NSF Website (continued from Oct. 1 newsletter):

Navigating NSF's Award Database

NSF's website is a treasure trove of helpful information for anyone planning to apply for an NSF grant, but as with most treasure, it's helpful to know where to dig. This is the second in a series of short articles on where to look on the NSF website for those nuggets of information that can help you as you prepare a proposal to NSF.

NSF's award search tool, which can be found on their website, can help you to identify the NSF program that fits your research, determine what types of projects have been funded by a particular program, and find out who has been funded on a particular program. To find the "award search" tool, go to <http://www.nsf.gov/awardsearch/>. Then click on the tab for "Search all Fields."

The **first field** allows you to search for key words. You'll note that you can search all abstracts for a key word, or you can search the project titles only by clicking the "Restrict to Title Only" box. This first field will accept the Boolean operators "AND" and "OR" between keywords.

The **second group of fields** ("Awardee Information") allow you to search for awards based on the PI's name, a co-PI's name, organization (e.g., the PI's university), state, zip code or country.

The **third group of fields** ("Program Information") allows you to search based on NSF Organization (e.g., Division, Directorate or Office), Program Officer, Element Code (a four digit number used to identify the funding source for the program), Reference Code (Programs by a digital reference code), by Program name, or by Field of Application (e.g., Chemistry, Climate models, etc. selected from a pull down menu). All of these fields except Field of Application provide a lookup box (to the right of the field entry box).

Finally, the "Additional Information" group allows you to search based on award date, start date, expiration date, award number, funded amount (in dollar ranges), and award instrument (standard grant, continuing grant, etc.). The toggle switches at the bottom allow you to designate whether to search in historical awards (grants funded prior to 1976), active awards (grants currently funded) or expired awards (expired grants funded after 1976).

The power of this tool lies in the fact that you can focus your search by entering search parameters in several fields simultaneously. So, for example, you could search for grants funded to Texas universities under the Major Research Instrumentation Program within the last 10 years. You could further focus that list by designating only such grants that were funded out of the Division of Earth Sciences. When you get your search results, you can then use those results as further leads. If you click on the name of a Principal Investigator listed for a program in the search results, the tool

will bring up all of the grants received by that investigator. You might then notice that one of those grants is for a program that might fit your interests. Click on that program, and all grants funded under that program will be listed. Click on the title of a project of interest, and the award abstract will appear along with other information on that project. If you find a program similar to yours, look at the program reference code and field of application listed on this page, and you can use that information to conduct another search. You might also conduct a search based on the program manager's name. The PI's e-mail address is listed, and you might want to contact him or her for more information on the project. In this way, you can start with a very small lead (for example, the name of someone you met at a conference who does work similar to yours, or a keyword pertaining to your research), and follow that lead to the NSF program that best fits your research interests. You can also find out a lot about a specific program in order to assess if it's the right program for you.

By **Lucy Deckard**

Article 15, ([Top](#)) ***Types of University Proposals***

University proposals are divided into two broad categories: **research and educational**. Some agencies fund research grants with little or no investment in complementary educational initiatives. Other agencies, most notably the National Science Foundation, fund a broad range of university-based research and educational initiatives. Many research agencies fund some educational initiatives that relate in some way to the research mission of the agency. The types of research grants funded at universities vary depending on discipline.

Research Funding in the Humanities

In the humanities and humanities-centered social sciences, research grants are often oriented toward support of scholarly work by providing funding for travel, residency at a research site, research materials, copyright payments, sabbatical salary support, and the like. Results of the research are usually expected to be books or journal articles. Sponsors of this research may include federal agencies such as the National Endowment for the Humanities, National Endowment for the Arts, or the U.S. Department of State through the Fulbright Program, but often are libraries, collections, archives, scholarly associations, museums, or endowed humanities centers.

Research Grants in the Sciences & Engineering

Research grants to universities may be broadly categorized as either basic or applied research, although the boundary between these two types of research may be blurred at times. It is important to understand into which of these categories a particular funding opportunity falls. For example, proposing a basic research project, where the ultimate pay-off might be ten years in the future, will doom a proposal to a funder that is looking for results to address a particular problem within the next few years. Similarly, proposing highly applied research that does not have a theoretical underpinning to a basic research agency will be an equally futile effort. Research projects in some disciplines may also include applications-based research and contract research, most often funded by federal mission agencies (**Article 4**, e.g., DoD, EPA, NOAA, DHS).

Basic & Applied Research

Basic research, sometimes called fundamental research, is typically open-ended and longer-term,

perhaps three to ten years, with the objective being the creation of new knowledge by advancing the underlying theory at the frontiers of a specific discipline. Applied research may be either a follow-on to basic research or concurrent with it, but it is more short term and focused on defined objectives that use the new knowledge gained from basic research in some way for some specific purpose, e.g., for the development of new technologies.

Applications-based Research

Applications-based research takes the results from applied research, e.g., new technologies or existing technologies, and reconfigures their use for some specific new purpose. This reconfiguration of "off the shelf" technologies, for example, might explore the reconfiguration of existing sensors for a specific new purpose, such as what was done in the homeland security area post 911, or for new uses in environmental monitoring.

Contract research

Contract research is most often funded by a mission-focused federal agency for a specific purpose with pre-defined, near-term deliverables (outcomes of the proposed work that must be delivered to the agency). Example projects might be research on the habitat and ecosystem of a certain species in a coastal estuary that will help guide agency policy and environmental management, or research for a federal or state educational agency to answer specific questions on how well tests assess student learning based on a specific curriculum. An important difference in contract research is that funds may be contingent on receipt of promised deliverables, whereas grants are typically not tied to specific performance outcomes.

Educational Grants

Educational proposals typically focus on achieving an educational objective at the proposing institution or on using resources and knowledge at the proposing institution to achieve an educational objective at partnering institutions such as K-12 schools or community colleges. (Education-related research may be funded as a part of these grants but would, in general, be funded by a research grant, as discussed above.) These types of proposals can be broadly categorized as described below.

Institutional Educational Proposals

Institutional educational proposals achieve some academic objective, typically at the department, college, or university level, and may also involve educational partnerships with community colleges and K-12 schools. For example, increasing student or faculty diversity, increasing the number of degrees granted to women and underrepresented minorities in specific disciplines, partnerships with community colleges to make it easier for their students to continue at the four-year college, or outreach partnerships with K-12 schools, museums, and science centers are all projects that might be funded by educational grants.

Hybrid Research & Education Grants

Hybrid research and education grants use faculty research as the underpinning of an educational initiative; for example, undergraduate research with faculty research mentors, course development that transfers new knowledge from the laboratory to the classroom, or development of new doctoral

training programs. Graduate training grants (such as NIH's T-32 grants) may fall into this category since they generally require that students are involved in research as a significant part of their training. Usually, these types of grants support the educational initiative (e.g., student stipends, enrichment activities, etc.), but expect that the project will build upon on-going research that is already funded; therefore, little or no funds are expected to be spent on the research projects.

By Lucy Deckard & Mike Cronan; edited by Robyn Pearson

Article 16, ([Top](#))

How to Read the RFP

The funding solicitation, commonly known as a Request for Proposals (**RFP**) – or, depending upon the agency, Program Announcement (**PA**), Request for Applications (**RFA**), or Broad Agency Announcement (**BAA**) – is one common starting point of the proposal writing process. Other starting points to the proposal process include investigator-initiated (**unsolicited**) proposals, or white (concept) papers and quad charts often common to the defense agencies, and briefly defined below.

Unsolicited or Investigator-Initiated Proposals

- Program Description or Program Announcement instead of a solicitation
 - More general statement of interests of funding agency or program
- Typically the main source of research funding for individual researchers funded by NSF, NIH, DoD
 - Majority of external research funded by NSF (~50%) and NIH (~80%) result from unsolicited or investigator-initiated proposals
- Formatting guidelines often in a separate document
 - NSF Grant Proposal Guide
 - NIH SF424 Application Guide
 - DoD long-term Broad Agency Announcements
- If you are considering submitting an unsolicited proposal, it is important to **contact the program officer to bring specificity** to the often generally, or even vaguely, defined research objectives, or to determine if the development of a white paper or concept paper might be the preferred first step in the process.

Solicitations in the form of an RFP, PA, RFA, BAA

The solicitation represents an invitation by a funding agency for applicants to submit proposals that address research areas of **specific interest to the agency**, and it contains the key information you will need to develop and write a competitive proposal that is fully responsive to an agency's submission process, research objectives, review criteria, and budget requirements.

The RFP is Treasure Map

The solicitation is to research funding what a will is to an heir or a treasure map to a pirate—it is a very detailed set of instructions that must be **meticulously and faithfully followed** to achieve the desired reward. Moreover, in reading a solicitation, it is essential that you understand the document for what it is in its entirety—**and that you not read into it what you want it to be**,

either by wishful thinking or selective interpretation.

The RFP is an invitation by a funding agency for applicants to submit requests for funding in research areas of interest to the agency. ***This point is often overlooked by grant applicants and is worth repeating: funding agencies fund research of interest to them.*** Your role in this as the grant applicant is to provide the research capacities to meet the objectives of the funding agency.

Moreover, the RFP is not an à la carte menu or research smorgasbord offering you a choice of addressing some research topics but not others, depending on your interests or capabilities. The RFP does not give you the choice of responding to some review criteria but not to others, nor is it an invitation to propose research only tenuously linked to the scope of research defined in the solicitation. Rather, **the RFP is best viewed as a non-negotiable list of performance expectations stating the agency's research goals, objectives, and desired outcomes** that you must meet in order to be competitive for funding.

Reviewing the RFP

In your review of the RFP, the central question you must resolve is **how closely your research fits the research objectives of the agency.** This requires an honest assessment of how tightly your research interests and the agency research objectives are conjoined, by asking:

- Does my research fully fit the agency research objectives?
- Is it really a fit?
- No partial fits allowed
- No wishful thinking
- Close doesn't count
- **If you are not a fit—don't submit.**

Unfortunately, at times it is tempting to read the RFP and be swept up in an irrational exuberance inspired by your dream of obtaining funding, so be alert to make sure you:

- **Understand the RFP for what it is...not what you want it to be.**
- Do not see it as a speculative investment.
- Invest your time, resources, and energy wisely.

By Lucy Deckard & Mike Cronan; edited by Robyn Pearson

Article 17, ([Top](#))

Know Your Funding Agency

The more knowledgeable you are about a funding agency's mission, strategic plans, research culture, investment priorities, and the rationale behind them, the better you will be able to weave a compelling and competitive proposal narrative. This agency-specific knowledge allows you to more convincingly describe how your proposed research is relevant to the research objectives spelled out in the solicitation, which, in turn, will advance the agency's larger strategic plan. How well you convince reviewers that your research plays a key role in advancing the agency's research objectives, thus contributing to the success of the larger strategic plan, will be a determining factor in the decision whether to fund your proposal.

It is not uncommon, for example, for reports of the National Academies, the American Association for the Advancement of Science, or similar associations to significantly influence funding directions at one or more agencies, and for those reports to form the underpinnings of subsequent solicitations. **Understanding the origins, underpinnings, and rationale behind funding solicitations will help you better frame your arguments of research merit and thereby better position you to write a competitive proposal narrative.**

Why Analyze the Funding Agency?

To better understand several key elements **common to every competitive proposal narrative**:

- Who is the audience (e.g., agency program officers and reviewers) and how are they best characterized in terms of the expertise they bring to the review process?
- What is the best way to address them?
- What is a fundable idea and how does it support the agency's research investment priorities?
- How are claims of research uniqueness and innovation best supported in the proposal text and connected to the agency's research objectives?
- How do you best communicate your passion, excitement, commitment, and capacity to perform the proposed research to review panels and program officers?

Much of this information can be derived from analysis of background information gathered on the funding agency related to a range of topics, likely including the following available on the agency's website: mission statement, strategic plan, investment priorities, agency language/ technical dialect, management structure, organizational chart, program officers, reports, publications, leadership speeches, public testimony, review process, project abstracts, funded projects, and current solicitations.

Be Able to Differentiate Among Funding Agencies

It is important to understand how the various funding agencies differ based on characteristics such as mission, strategic plan, investment priorities, and culture. Researchers in the physical, computational, biological, and social and behavioral sciences may have funding opportunities at two or more agencies, e.g., NIH, NSF, DOD, and EPA, but these agencies differ in many ways, including the following:

- Research focus within disciplines
- Research that is basic, applied, or application driven
- Research scope and performance time horizon
- Exploratory, open-ended research, or research targeted to technology development
- Multidisciplinary or interdisciplinary
- Classified or non-classified
- Proprietary or non-proprietary
- Independent research, or dependent linkages to the agency mission, e.g., health care, education, economic development, defense

By Lucy Deckard & Mike Cronan; edited by Robyn Pearson

Article 18, (Top)

Basic vs. Mission-Oriented Agencies

It is important to differentiate between basic research agencies (e.g., NSF, NIH) and mission-focused agencies (e.g. DOD, NASA, USDA), as well as to differentiate between hypothesis-driven research and needs- or applications-driven research at the agencies. For example, agencies funding basic research would likely share the following characteristics:

- Independent agency and management
- Independent research vision, mission, and objectives
- Award criteria based on intellectual and scientific excellence
- Peer panel reviewed, ranked, and awarded by merit
- Focus on fundamental or basic research at the “frontiers of science,” innovation, and creation of new knowledge
- Open ended, exploratory, long investment horizon
- Non-classified, non-proprietary

Alternatively, an analysis of mission-oriented agencies (e.g., DOD, DOE, ED, USDA) would show characteristics related to research and development that will serve the agencies’ immediate goals and objectives:

- Scope of work tightly defines research tasks/deliverables
- Predominately applied research for meeting near-term objectives, technology development and transfer, policy goals
- Predominately internal review by program officers
- Awards based on merit, but also on geographic distribution, political distribution, long term relationship with agency, and Legislative and Executive branch policies
- Classified and non-classified research

One of the most important differences between these types of agencies is the **degree of autonomy they have in setting their investment priorities**. Basic research agencies, such as NSF and NIH, set long-term goals through a strategic plans and are not as strongly influenced by the President or U.S. Congress. Mission-oriented agencies, such as the Department of Defense or NASA, are highly influence by the priorities of the President and Congress. Therefore, focus and priorities can change rapidly with changes in political leadership or climate. **This means that researchers who apply to these agencies for funding are well advised to constantly monitor the priorities of these agencies for changes in direction.**

By Lucy Deckard & Mike Cronan; edited by Robyn Pearson

Article 19, ([Top](#)) Analyze the Agency Culture

It is important to understand the research culture of the funding agency in order to more knowledgably embed your proposed research plan within the research focus of the agency. For example, while NSF and NIH both fund research in the biological sciences, they often fund research in very different areas under that broader umbrella. Sometimes the differences are clear, and in other cases more nuanced, but the distinctions are there and you need to be aware of them.

In most cases, this information can be obtained on the internet by visiting the agency web site. Perusing the web site gives the applicant a sense of how the funding agency views itself and the role it sees itself playing in the national research enterprise. This information can be found in the agency mission statement or strategic plan, for example. In other cases, particularly with regard to private foundations, the applicant will find the annual report a source of useful information on an agency's mission and agenda. An annual report gives the applicant a profile of funded projects, award amounts, and results.

The proposal writer needs this information for several reasons, but principally because it will allow the writer to shape the proposal from its inception to conform to the agency's mission. It helps the grant writer keep the proposal process on track by reminding participants that the **grant ultimately must reflect the funding agency's mission.**

By Mike Cronan & Lucy Deckard; edited by Robyn Pearson

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Agency Language and Terminology

Learning to echo the language and terminology of the funding agency is another factor that will enhance the overall competitiveness of a proposal. Funding agencies, like most institutions, often develop a unique phraseology to define and describe common, recurrent components of their mission and research agenda, e.g., "broader impacts" or "research and education integration" at NSF, or "bench to bedside" at NIH. Learning the language of the funding agency is important in writing the narrative section of a proposal; it helps to frame arguments more clearly and communicate more effectively with program managers and reviewers.

Once the funding agency's language is learned, it allows the appropriate translation to occur between the language of the funding agency and that of the applicant. It often helps the clarity of the narrative text to translate the applicant's institutional language into that used by the agency's program officers and reviewers. This is not an onerous or difficult task, but involves being alert to any preferred or repeated terms, usages, and meanings favored by the funding agency. Learned fluency in the use of funding agency language and terminology is yet another factor that can enhance competitiveness.

By Lucy Deckard & Mike Cronan; edited by Robyn Pearson

Article 21, ([Top](#))

Intramural versus Extramural Research

Some agencies fund only research by outside scientists (**extramural research**), while many also hire researchers who conduct research from within the agency (**intramural research**). NSF and DARPA are examples of agencies that fund only extramural research, while NIH, NASA, the National Labs, DOE, and many other agencies fund both extramural and intramural research. Furthermore, the proportion of intramural versus extramural research funding varies significantly by agency. The National Labs and NIST primarily fund intramural research, while NIH mostly funds extramural

research.

For mission-oriented agencies that fund both intramural and extramural research, **it is extremely important for external researchers hoping to be funded by the agency to be familiar with relevant intramural research being conducted at the agency and to network with those intramural researchers.** Those researchers are likely to be reviewers on external proposals in their research areas, and it is often expected that external researchers collaborate with agency researchers. The degree of expected collaboration varies by agency and is one aspect of the agency culture that proposers must understand in order to be competitive.

By Lucy Deckard & Mike Cronan; edited by Robyn Pearson

Article 22, ([Top](#)) The RFP & Proposal Organization

The RFP plays a key role in proposal organization by establishing the order, required level of detail, and focus of the proposal narrative. A simple copy and paste of the RFP's key sections, research objectives, and review criteria into a beginning draft narrative allows the RFP to serve as an organizational template for the full proposal and a reference point to ensure that subsequent draft iterations of the narrative are continuously calibrated to the guidelines.

For example, an RFP will often contain a detailed description defining the agency's objectives for the program (e.g., goals, objectives, performance timeline, outcomes, research management, evaluation, etc.) that must be addressed in the proposal narrative. This detail, including review criteria, can be selectively copied and pasted into the first draft of the proposal itself. This process provides initial section and subsection headings under which the applicant can draft out preliminary written responses to every requested item in the guidelines, ensuring that the first draft of the proposal fully mirrors the program solicitation requirements in every way.

Use the RFP as a Narrative Template

This copy and paste process of **transforming the RFP into a narrative template** helps ensure that several elements key to a successful proposal are addressed at the beginning and adhered to throughout the writing process, even though ideas and approaches may change as they mature during the proposal development process. Using this approach, you will ensure that the proposal narrative:

- **is fully responsive to all requested information**
- **is written in the order requested**
- **provides the required detail**
- **integrates review criteria into the narrative**
- **does not drift off topic or sequence**

The RFP can also serve as a guide as you develop the ideas that will be at the core of your proposal, and then help you flesh out the narrative with details on what you propose to do and why. It is important that you fully understand the sponsor's research objectives to avoid wasting valuable development time on discussions and directions that do not clearly reflect the funding agency's research objectives. This is particularly important on larger research proposals that often involve

multiple investigators, each bringing a specialized research expertise to the overall effort.

Also, although funding agencies vary on the required detail and organization of the narrative text, in many cases reviewers will expect to see the text organized in the same general order as the RFP and the review criteria. In fact, many agencies require reviewers to fill out evaluation forms that list review criteria in the order given by the RFP. Therefore, using the RFP as a guide for your proposal outline will make it easier for reviewers to compare your proposal to the program guidelines and review criteria without having to search around in a long narrative to find out if each required topic has been addressed.

By Mike Cronan & Lucy Deckard; edited by Robyn Pearson

Article 23, ([Top](#))

Tips for Exploring the NSF Website: Unsolicited Proposals

NSF's website is a treasure trove of helpful information for anyone planning to apply for an NSF grant, but as with most treasure, it's helpful to know where to dig. This is the first in a series of short articles about where to look on the NSF website for those nuggets of information that can help you as you prepare a proposal to NSF.

Submitting an Unsolicited Proposal

Trying to figure out which program at NSF fits your research? If you're interested in submitting an unsolicited proposal to a disciplinary program (as opposed to responding to a solicitation), it can sometimes be tough to figure out which part of NSF funds research in your area. This is further complicated by the fact that many of the "Program" pages now list all solicitations issued by the program, including NSF-wide solicitations, making it hard to find the program description for unsolicited proposals. Also, keep in mind that different directorates and divisions within NSF act like semi-autonomous organizations with different procedures and requirements. This is one reason why it's important to pinpoint which program or programs you would like to apply to for funding and then learn as much as you can about that program.

Here's One Way to Find These Programs:

- Go to the "NSF Organization List" (<http://www.nsf.gov/staff/orglist.jsp>). This list provides links to each Division, organized under its Directorate.
- Click on the link for a Division you think might be interested in your research.
- Example: If you're interested atmospheric chemistry, click on "Division of Atmospheric Sciences" under "Directorate of Geosciences"
- Near the top of the page, there will be one or more links to Disciplinary Programs funded by that Division (below that, you'll usually see links to Solicitations).
- Click on the Disciplinary Program that looks most promising, and you should see a synopsis of the program. This is a relatively broad description of the types of research that will be considered for funding under this Program.
- Example: Click on "Atmospheric Chemistry;" a one-paragraph description of the type of research this program supports is given under the title, "Synopsis."

- Just as importantly, at the bottom of the page, there will usually be a link entitled "[Abstracts of Recent Awards Made Through This Program](#)." **You have found treasure!** Click on this link, and you will find a list of funded projects with information on each project. By clicking on the title of any of these projects, you'll find an abstract, the name and contact information for the PI, the PI's organization, and lots of other useful information. By going through these awards, you can get a good idea of the types of projects that have been funded by the program.
- Caveats: This list includes all grants that receive funds from the program, including solicited proposals, SGER (Small Grants for Exploratory Research) grants, and grants jointly funded by more than one program. You will need to sift through this list to find grants that were likely submitted as unsolicited proposals. Also, be wary of the figure listed under "Awarded Amount to Date." This figure often does not represent the entire amount of the award since many of the grants are awarded on an incremental basis, so it may be difficult to get a good idea of typical amounts of entire grants from this database.

Example: In the database, you'll see several projects with titles, "SGER:..." and other projects with titles, "MRI:...". These projects were funded through those mechanisms and would not be good examples of the types of projects funded through unsolicited proposals to the program. However, most of the other projects listed that have only "Atmospheric Chemistry" listed in the Program column may be good example projects.

Programs handle deadlines for submitting unsolicited proposals in different ways. Some programs list "target dates," indicating that the deadline is somewhat flexible. If you think you will miss the date by a day or two, contact the program director, and he or she may still agree to accept the proposal. Other programs list "proposal windows," which means they will accept unsolicited proposals only during the time interval listed. Some programs provide links to a "Program Announcement" that looks just like a solicitation, where the "Synopsis" can be found. Some programs don't list any deadlines or Announcements at all. In this case, it is wise to contact one of the program managers to find out what their policy is for accepting proposals.

Finally, especially in the case of unsolicited proposals it is wise to contact the program director to discuss your research idea and whether it fits that particular program.

Next month: More about navigating NSF's Awards Database
By Lucy Deckard; edited by Robyn Pearson