Developing and Submitting a Successful Mission Agency Grant Application
emphasis on DOD, DOE
and some insights for NSF and NIH

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12 years at USC
40 years in Dept of Defense S&T at NRL / ONR / OSD
USC DC Research Advancement Office

Services

Research Funding
Research initiative alerts
Collaborations across schools, other institutions
Federal funding agency advocacy / connections / intel
Strategically targeted activities
Proposal preparation - biosketch, letters of support, editorial, budget, and scientific
Mission Agency Program Summary (MAPS) resources
Program/Program Officer database

Visibility/Prestige
(Inter)national conferences / workshops
Strategic partnerships
Advisory/planning committees

Faculty Development
Grant-writing courses
Talks – staff from DC Office, federal funding agencies
Faculty recruitment

<table>
<thead>
<tr>
<th>Proposal: Budget/Presentation</th>
<th>Technical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robyn Gill - manager</td>
<td><a href="mailto:robyngil@usc.edu">robyngil@usc.edu</a></td>
</tr>
<tr>
<td>Dan Barker - writer</td>
<td><a href="mailto:djbarker@usc.edu">djbarker@usc.edu</a></td>
</tr>
<tr>
<td>Jordan Lacy - writer</td>
<td><a href="mailto:locy@usc.edu">locy@usc.edu</a></td>
</tr>
<tr>
<td>Stephanie Griep - writer</td>
<td><a href="mailto:griep@usc.edu">griep@usc.edu</a></td>
</tr>
</tbody>
</table>
The mazes were too easy, so now they have me running through bureaucracies and looking for grants.
Presentation Outline

Introduction to (selected) federal agency science and engineering funding perspectives on various agency programs

National Science Foundation (NSF)

1. Department of Defense (DOD)
2. Intel Community (IC)
3. Department of Homeland Security (DHS)
4. Department of Energy (DOE)
5. National Aeronautics and Space Agency (NASA)
6. National Institute of Standards and Technology (NIST)
7. US Department of Agriculture (USDA)
8. US Department of Education (ED)
9. Environmental Protection Agency (EPA)
10. National Oceanic and Atmospheric Agency (NOAA)
11. Department of Transportation (DOT)
12. Department of Justice (DOJ)
13. Department of Health and Human Services (HHS)
14. Other - Dept of State (DOS), National Endowments for Arts and Humanities (NEA and NEH), Administration for International Development (USAID),...

National Institutes of Health (NIH)

Suggestions for selling your ideas to program officers

Resources at your disposal

Other Pertinent Center of Excellence in Research (CER) Workshops

Dr. Randy Hall           Developing Funded Research Programs
Dr. Paul Ronney          Writing Compelling NSF Proposals
Dr. Carl Castro          Obtaining DOD Medical Research Funding
Dr. Steven Moldin        Developing NIH Grant Applications
Ms. Bonnie Lund          Writing Winning Proposals
Agency Science and Technology (S&T) Extramural Program Focus

National **Science Foundation (NSF)**
The National Science Foundation (NSF) is the primary Federal agency supporting research at the frontiers of knowledge, across all fields of science and engineering (S&E) and all levels of S&E education.

National **Institutes of Health (NIH, HHS)**
Fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce the burdens of illness and disability.

**Department of Defense (DOD)**
All scientific study and experimentation directed toward increasing fundamental knowledge and understanding in those fields related to long-term national security needs.

**Department of Homeland Security (DHS)**
Produce revolutionary changes in technologies and capabilities for homeland security.

**Intel Communities (IC)**
Technologies/methodologies to acquire and process data

**Department of Energy (DOE)**
Change the landscape of energy demand and supply
Climate Change: Position U.S. to lead on climate change policy, technology, and science

**National Aeronautics and Space Administration (NASA)**
Expand scientific understanding of the Earth and the universe in which we live.
Advance aeronautics research for societal benefit.

**National Institute of Food and Agriculture (NIFA, USDA)**
Solve problems critical to making a plant, animal, ecosystem, food system, community, or marketplace work

**National Institute of Standards and Technology (NIST, DOC)**
Promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology.
Also to play a major role in the Advanced Manufacturing Initiative

**Department of Transportation (DOT)**
Highway, intelligent transportation and aviation

**National Oceanic and Atmospheric Administration (NOAA, DOC)**
Conducts research in three major areas: weather and air quality, climate, and ocean and coastal resources.

**Department of Education (DoEd or ED)**
Research that contributes to school readiness and improved academic achievement.

**Environmental Protection Agency (EPA)**
Provide the solutions to meet today’s complex environmental and human health challenges.

**Department of Justice**
Knowledge and understanding of crime and justice issues

**Department of Health and Human Services**
Protecting the health of all Americans and providing essential human services
Trends in R&D by Agency
in billions of constant FY 2018 dollars

*NOTE: Beginning in FY 2017, a new official definition of R&D has been adopted by federal agencies. Late-stage development, testing, and evaluation programs, primarily within the Defense Department, are no longer counted as R&D. FY 2018 figures are AAAS estimates based on omnibus-enacted appropriations. 1976-1994 figures are NSF data on obligations in the Federal Funds survey. Source: AAAS Report: Research & Development series and analyses of FY 2018 omnibus legislation. © 2018 AAAS
National Research Priorities
(e.g., where “new” Federal money preferentially goes under Trump)

Military Superiority
- Modernized nuclear deterrent
- Hypersonic weapons and defense,
- Autonomous systems
- Advanced microelectronics, computing and cyber capabilities

Security
- Border defenses
- Detect the interdict illegal activity

Information
- Artificial intelligence
- Quantum information science
- Strategic computing

Connectivity and Autonomy
- Advanced communication networks
- Internet of things
- Autonomous vehicles

Manufacturing
- Smart and digital manufacturing
- Advanced industrial robotics
- Distributed and continuous manufacturing
- Future computing and storage paradigms

Space Exploration and Commercialization
- Microgravity related research
- Space related power and propulsion
- In-space manufacturing

Energy Dominance
- Next generation energy technologies
- Improve academic / industrial collaboration

Medical
- Personalized medicine
- Veteran healthcare
- Aging adults / disabilities

Agriculture
- Precision agriculture and aquaculture
- Safety of gene edited specie

From Office of Management and Budget (OMB) /Office of Science and Technology Policy (OSTP)
annual S&T Investment Priorities Memo (for FY2020)
NSF
Principal S&E Funding Divisions
http://www.nsf.gov/staff/orglist.jsp

Directorate for Mathematical & Physical Sciences
Astronomical Sciences (AST)
Chemistry (CHE)
Materials Research (DMR)
Mathematical Sciences (DMS)
Physics (PHY)
Office of Multidisciplinary Activities (OMA)

Directorate for Engineering
Chemical, Bioengineering Environmental & Transport (CBET)
Civil, Mechanical & Manufacturing Innovation (CMMI)
Electrical Communications & Cyber Systems (ECCS)
Engineering Education & Centers (EEC)
Industrial Innovation and Partnerships (IIP)
Emerging Frontiers and Multidisciplinary Activities (EFMA)

Directorate for Biological Sciences
Biological Infrastructure (DBI)
Environmental Biology (DEB)
Integrative Organismal Systems (IOS)
Molecular & Cellular Biosciences (MCB)
Office of Emerging Frontiers (EF)

Directorate for Computer & Information Science & Engn
Advanced Cyberinfrastructure (OAC)
Computer & Network Systems (CNS)
Computing & Communication Foundations (CCF)
Information & Intelligent Systems (IIS)

Directorate for Geosciences
Atmospheric & Geospace Sciences (AGS)
Earth Sciences (EAR)
Ocean Sciences (OCE)
Polar Programs (OPP)

Directorate for Education & Human Resources (EHR)
Graduate Education (DGE)
Human Resource Development (HRD)
Research on Learning in Formal & Informal Settings (DRL)
Undergraduate Education (DUE)

Directorate for Social, Behavioral, & Economic Sciences
Behavioral & Cognitive Sciences (BCS)
Social & Economic Sciences (SES)
National Center for Science and Engineering Statistics (NCSES)
Multidisciplinary Activities (SMA)

Office of the Director
Integrative Activities (OIA)
International Science and Engineering (OISE)
NSF Research Opportunities
Proposal Guidance

What: Announcements for the many topics
Proposals may be submitted in response to the various funding opportunities that are announced by NSF. These funding opportunities generally fall into three categories:
- program descriptions (PD-XX-YYYY, continuing core programs)
- program announcements (NSF XX-YYY, generally special topic and constrained lifetime)
- center solicitations (also NSF XX-YYY, but are interdisciplinary/cross cutting)

Subscribe to e-alerts for NSF opportunities/events at
https://public.govdelivery.com/accounts/USNSF/subscriber/new?pop=t&qsp=823

When: See NSF announcements - almost all opportunities have specific deadlines, but there is some experimentation with no deadlines

Where: NSF Fastlane (https://www.fastlane.nsf.gov/)

The NSF Days workshop is primarily designed for researchers and educators less experienced in proposing to the NSF. It covers the NSF proposal and merit review process, and those programs that cut across NSF disciplines.

Resources:
USC Center of Excellence in Research (CER) Workshops by Paul Ronney

NSF Prospective New Awardee Guide, January 2018, NSF 18-033

NSF Publication: A Guide for Proposal Writing, NSF 04-016

NSF Proposal and Award Policies and Procedures Guide (GPG), NSF 18-001


NSF Days Presentations (USC MAPS has some past NSF Days presentations)
NSF Proposal - Generic Structure
adapted from Paul Ronney, USC AME

# pages  Topic

1  Introduction  - what your topic is and why it is important
3  Previous work  - what has been done in this area
- note what key knowledge is lacking (not incremental)
1  Objectives  - very specifically what you will do (your new insights)
- how it extends the prior work
- the impact (scientific/technological) of your results
1  Hypotheses  - what you think will happen
5  Approach  - how you will test the hypotheses
- experimental or computational apparatus, etc.
2  Closure  - what you will do with the data once you have it
2  Broader Impact - applications of the research results and educational merit
NSF Proposal Review Panel Dynamics
adapted from Paul Ronney, USC AME

• Typically ~8 panel members, 25 proposals
• Each proposal read **fully** by at least 3 reviewers - 1 lead, 2 others
• Each of those reviewers discusses his/her opinion, starting with the lead
• Entire panel gives comments / feedback
• Champions are highly valuable - someone who will argue for your proposal
• Reviewers may revise comments based on panel discussion
• Proposals are ranked after all are discussed
• Every panel has different personnel and different dynamics
  (i.e., be sure to suggest appropriate panelists to your NSF program officer)

• Various programs at NSF are experimenting with other forms of review (to reduce financial and personal time costs), so there may be a somewhat different process - check with the NSF program manager.
NSF Programs with Internal (NSF Program Officers) Review

Early Concept Grants for Exploratory Research (EAGER)
The EAGER funding mechanism can be used to support exploratory work in its early stages on untested, but potentially transformative, research ideas or approaches. This work could be considered especially "high risk-high payoff" in the sense that it, involves radically different approaches, applies new expertise, or engages novel disciplinary or interdisciplinary perspectives. Exploratory proposals may also be submitted directly to an NSF program. Principal Investigators (PIs) must contact the NSF program officer(s) whose expertise is most germane to the proposal topic prior to submission of an EAGER proposal to determine the appropriateness of the work for consideration under the EAGER mechanism.

Rapid Response Research Grants (RAPID)
The RAPID funding mechanism is used for proposals having a severe urgency with regard to availability of, or access to data, facilities or specialized equipment, including quick-response research on natural or anthropogenic disasters and similar unanticipated events. PI(s) must contact the NSF program officer(s) whose expertise is most germane to the proposal topic before submitting a RAPID proposal.
## Guide to Defense Basic Research Funding - Index to MAPS Charts

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<th>Chart #s</th>
<th>Topic</th>
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DOD RDT&E Taxonomy - Primer

Science and Technology ($13.7B in FY19 PBR)

BA1 6.1 Basic Research (TRL 0-1)  knowledge of fundamental aspects of a phenomena – largely use inspired
BA2 6.2 Appl Research (TRL 2-3)  determine means by which a specific need may be met
BA3 6.3 Adv Technol Development  development / integration of hardware for lab-based demonstration

Development ($79B in FY19 PBR)

BA4 6.4 Adv Component Devel and Prototype  evaluate integrated technology in realistic environment
BA5 6.5 System Devel and Demonstration  for projects without approval for full rate production
BA6 6.6 RDT&E Management Support  program managers, ranges, test facilities,…
BA7 6.7 Operational Systems Development  support of development acquisition programs or upgrades

Congressionally Directed Medical Research (CDMRP)

SBIR 2.9% (3.2% in FY2019) tax on R&D funding by Agencies with over $100M/yr extramural research
STTR 0.35% (0.4% in FY2019) tax on R&D funding by Agencies with over $1B/yr extramural research

BA  Budget Activity
RDT&E  Research, Development, Test & Evaluation
SBIR  Small Business Innovation Research
STTR  Small Business Technology Transfer
TRL  Technology Readiness Level
Service Research Offices (OXR’s)

Air Force Office of Scientific Research (AFOSR)  www.wpafb.af.mil/afrl/afosr
Office of Naval Research (ONR)  www.onr.navy.mil

Defense Advanced Research Projects Agency (DARPA)

Defense Science Office (DSO)  www.darpa.mil/Our_Work/DSO
Biological Technologies Office (BTO)  www.darpa.mil/Our_Work/BTO
Microsystems Technology Office (MTO)  www.darpa.mil/Our_Work/MTO
Information Innovation Office (I2O)  www.darpa.mil/Our_Work/I2O
Strategic Technology Office (STO)  www.darpa.mil/Our_Work/STO
Tactical Technology Office (TTO)  www.darpa.mil/Our_Work/TTO

Defense Threat Reduction Agency (DTRA)

Basic and Applied Research Directorate (BA)
Chemical and Biological Technologies Directorate (CB)

Army Medical Research and Materiel Command

DMRDP (Defense Medical Research and Development Program)  dmrpd.dhhq.health.mil/home.aspx
CDMRP (Congressional adds / DMRDP, fully open competition)  cdmrp.army.mil

Army Research Inst for Behavioral & Social Sci

https://flcbusiness.federallabs.org/#/laboratory/1339
Service - Air Force (AFOSR), Army (ARO), Naval (ONR) 
Basic Research Funding Opportunities (DRS)

**What:** Largest source of DOD funding for University basic research
Each Service has specifically identified program interests (see solicitations, websites)
Majority invested in single investigator efforts (in contrast to MURI program)
OXR Broad Area Announcements (BAA) are relatively generic
Each Program Officer (PO) has focused interests, linking science with some military need

**OXR PO key to success**

**How Much:** typically $100 – 250K/yr for three years (with continuation possible)
OXR programs typically have ~20% turnover each year

**When:** Initial white paper useful (usually required)
Generic BAAs allow submission nominally anytime, but spring/early summer to be timely
Special program announcements have specific due dates
Most funding decisions processed in late fall, early winter – after appropriation bill is passed

**Where:** See Agency websites / BAAs Mix of paper and electronic (grants.gov)

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<td>~101</td>
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<tr>
<td>Air Force</td>
<td>343</td>
<td>~348</td>
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<td>Navy</td>
<td>458</td>
<td>~459</td>
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<tr>
<td>DARPA</td>
<td>432</td>
<td>~422</td>
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DRS - the Defense Research Sciences is a budget line for DOD
MURI - Multidisciplinary University Research Initiative
OXR - umbrella acronym for ONR, AFOSR, ARO
**Example of DOD Basic Research Opportunities by Academic Discipline**

**Physics**

**Physics - ONR**

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<tr>
<th>Discipline</th>
<th>Name</th>
<th>Phone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atomic, Molec, Quantum Physics</td>
<td>Tommy Willis</td>
<td>703 696 4214</td>
<td><a href="mailto:richard.t.willis@navy.mil">richard.t.willis@navy.mil</a></td>
</tr>
<tr>
<td>Quantum Information Sciences</td>
<td>Tommy Willis</td>
<td>703 696 4214</td>
<td><a href="mailto:richard.t.willis@navy.mil">richard.t.willis@navy.mil</a></td>
</tr>
<tr>
<td>Chaos/Non-linear Physics</td>
<td>Michael Shlesinger</td>
<td>703 696 5339</td>
<td><a href="mailto:mike.shlesinger@navy.mil">mike.shlesinger@navy.mil</a></td>
</tr>
<tr>
<td>Superconducting Technol</td>
<td>Deborah van Vechten</td>
<td>703 696 4219</td>
<td><a href="mailto:deborah.vanvechten@navy.mil">deborah.vanvechten@navy.mil</a></td>
</tr>
<tr>
<td>Free Electron Laser</td>
<td>Ryan Hoffman</td>
<td>703 696 3873</td>
<td><a href="mailto:ryan.hoffman@navy.mil">ryan.hoffman@navy.mil</a></td>
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</table>

**Physics - AFOSR**

<table>
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<th>Discipline</th>
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<tbody>
<tr>
<td>Atomic and Molecular Physics</td>
<td>Grace Metcalfe</td>
<td>703 696 6204</td>
<td><a href="mailto:amphysics@us.af.mil">amphysics@us.af.mil</a></td>
</tr>
<tr>
<td>Biophysics</td>
<td>Sofi Bin-Salamon</td>
<td>703 696 8411</td>
<td><a href="mailto:sofi.bin-salamon@us.af.mil">sofi.bin-salamon@us.af.mil</a></td>
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<tr>
<td>Electromagnetics</td>
<td>Arje Nachman</td>
<td>703 696 8427</td>
<td><a href="mailto:arje.nachman@us.af.mil">arje.nachman@us.af.mil</a></td>
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<tr>
<td>Laser Sources and Materials</td>
<td>Pomrenke (acting)</td>
<td><a href="mailto:laser.optics@us.af.mil">laser.optics@us.af.mil</a></td>
<td></td>
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<tr>
<td>Plasma &amp; Electro-Energetic Phys</td>
<td>Jason Marschall</td>
<td>703 696 7721</td>
<td><a href="mailto:Jason.marshall.3@us.af.mil">Jason.marshall.3@us.af.mil</a></td>
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<tr>
<td>Quantum Electronic Solids</td>
<td>Harold Weinstock</td>
<td>703 696 8572</td>
<td><a href="mailto:harold.weinstock@us.af.mil">harold.weinstock@us.af.mil</a></td>
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<tr>
<td>Quantum Information Science</td>
<td>Tatjana Curcic</td>
<td>703 696 6204</td>
<td><a href="mailto:tatjana.curcic.1@us.af.mil">tatjana.curcic.1@us.af.mil</a></td>
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<tr>
<td>Remote Sensing</td>
<td>Stacie Williams</td>
<td>703 588 8213</td>
<td><a href="mailto:Stacie.williams@us.af.mil">Stacie.williams@us.af.mil</a></td>
</tr>
<tr>
<td>Ultra-short Pulse Laser-Matter</td>
<td>Enrique Parra</td>
<td>703 696 8571</td>
<td><a href="mailto:enrique.parra@us.af.mil">enrique.parra@us.af.mil</a></td>
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**Physics - ARO**

<table>
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<th>Discipline</th>
<th>Name</th>
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<tbody>
<tr>
<td>Atomic and Molecular Physics</td>
<td>Paul Baker</td>
<td>919 549 4202</td>
<td><a href="mailto:paul.m.baker4.civ@mail.mil">paul.m.baker4.civ@mail.mil</a></td>
</tr>
<tr>
<td>Condensed Matter Physics</td>
<td>Marc Ulrich</td>
<td>919 549 4319</td>
<td><a href="mailto:marc.d.ulrich.civ@mail.mil">marc.d.ulrich.civ@mail.mil</a></td>
</tr>
<tr>
<td>Quantum Information Science</td>
<td>TR Govindan</td>
<td>919 549 4236</td>
<td><a href="mailto:t.r.govindan.civ@mail.mil">t.r.govindan.civ@mail.mil</a></td>
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<tr>
<td>Quantum Information Science</td>
<td>Sara Gamble</td>
<td>919 549 4241</td>
<td><a href="mailto:sara.j.gamble.civ@mail.mil">sara.j.gamble.civ@mail.mil</a></td>
</tr>
<tr>
<td>Optics &amp; Fields</td>
<td>Richard Hammond</td>
<td>919 549 4313</td>
<td><a href="mailto:richard.t.hammond10.civ@mail.mil">richard.t.hammond10.civ@mail.mil</a></td>
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**Physical Sciences – DARPA DSO**

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<tr>
<td>Photonics</td>
<td>Prem Kumar</td>
<td>703 526 2709</td>
<td><a href="mailto:prem.kumar@darpa.mil">prem.kumar@darpa.mil</a></td>
</tr>
<tr>
<td>Quantum, Photonics</td>
<td>James Gimlett</td>
<td>703 526 2874</td>
<td><a href="mailto:james.gimlett@darpa.mil">james.gimlett@darpa.mil</a></td>
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Multidisciplinary University Research Initiatives (MURI, in the URI budget line)

**What:** Supports University teams that involve one or more traditional science/engineering disciplines
Topics down-selected by agencies from OXR PO suggestions
~20 new topics announced annually by DOD
For prior topics and University awardees from 2007 to present, ask DC Office

**How Much:**
~$1-2.5M/yr for three years + two additional option years; typically 1.2-1.5M/yr
For FY19

**When:**
Announcement (25 Mar 2018)
White paper (strongly encouraged, not required) (29 Jun 2018)
Full proposal (16 Oct 2018)

**Where:** ARO / AFOSR / ONR BAA

<table>
<thead>
<tr>
<th>USC MURI awardees</th>
<th>ONR - Adaptive Networks for Threat and Intrusion Detection</th>
<th>Army</th>
<th>$53M</th>
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<tbody>
<tr>
<td>2009 Sukhatme</td>
<td>supporting institution in one other MURI award</td>
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<tr>
<td>2010 USC</td>
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<tr>
<td>2011 Tambe</td>
<td>ARO - Game Theory for Real World Adversarial Behavior</td>
<td>Navy</td>
<td>84</td>
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<tr>
<td>Lidar</td>
<td>ARO - Control of Quantum Systems</td>
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<td>2015 USC</td>
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<td>2016 Shanechi</td>
<td>ARO - Modeling and Analysis of Multisensory Neural Information</td>
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<td>USC</td>
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<td>2017 Tambe</td>
<td>ARO - Realizing Cyber Inception - Personalized Deception for Defense</td>
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<td>USC</td>
<td>supporting institution in three other MURI awards</td>
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<td>2018 El-Naggar</td>
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<tr>
<td>USC</td>
<td>supporting institution in three other MURI Awards</td>
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Defense University Research Instrumentation Program (DURIP in URI)

What: Acquisition of major equipment to augment current, or develop new, research capabilities to support research in the technical areas of interest to the DoD

Provide equipment to conduct research and to educate new scientists/engineers

Matching funds not required, but is helpful (especially for larger grants)

DOD research grant not required, but is very helpful

OXR program officer support very, very helpful

How Much: >$50K, <$1.5 M per award

(expect ~180 awards out of ~600 proposals, averaging $300K in FY16)

Total funds fluctuate somewhat depending on MURI selections

When: In past, typically due in July to early Sept (6 Jul 2018 for FY19)

Where: ARO / AFOSR / ONR webpages for the DURIP BAA

USC Awardees  
2015 Armani  Inverted fluorescent microscope (ONR)  
    Haiges  A Raman spectrometer for the characterization of high-energy-density materials (ONR)  
    Hashemi  Wideband high-dynamic arbitrary signal generator (ONR)  
    Sha  Understanding representation learning (ARO)  
    Spedding  Experiments in developing wakes of submerged bodies (ONR)  
2016 Cronin  Electron Beam and Magnetic Sputtering System (AFOSR)  
    Madhukar  Synthesis and Optical Characterization of Metamaterials (ARO)  
    Willner  Optical Transmitter (AFOSR)  
2017 Carlsson  Geographic Resource Allocation Solutions (ONR)  
    El-Naggar  Fast Scanning Atomic Force Microscopy System (AFOSR)  
    Shanechi  High-density Electroencephalogram Recording Systems (ARO)  
2018 Albash  Modeling and Benchmarking Quantum Annealers (ARO)  
    de la Haye  Observational System for Monitoring/Modeling Group Social Dynamics ((ARO)  
    Kapadia  Broadband Ultrafast Photon Source (AFOSR)  
    Madhukar  Hi Res Single Photon Emission and Optical Behavior (AFOSR/ARO)  
    Malmstadt  Probes for Oxygen Damage of Neuron Cell Membranes (ONR)  
    Willner  Frequency Combs and Orbital Angular Momentum (ONR)  

FY19  
Army  $  8M  
Navy  24  
Air Force  15
The Defense Medical Research and Development Program (DMRDP), part of the Defense Health Program (DHP), contributes to the Defense Department’s overall investment for medical research and development (R&D) with Research, Development, Testing, and Development (RDT&E) dollars. The objectives of the DMRDP are:

1. To discover and explore innovative approaches to protect, support, and advance the health and welfare of military personnel, families, and communities;
2. To accelerate the transition of medical technologies into deployed products; and
3. To accelerate the translation of advances in knowledge into new standards of care for injury prevention, treatment of casualties, rehabilitation, and training systems that can be applied in theater or in the clinical facilities of the Military Health System.

The DMRDP has six major program areas:

- Medical Training and Health Information Sciences  JPC-1
- Military Infectious Diseases (MID)     JPC-2
- Military Operational Medicine     JPC-5
- Combat Casualty Care     JPC-6
- Radiation Health Effects     JPC-7
- Clinical and Rehabilitative Medicine    JPC-8

Each major research program area is managed by a committee, called a Joint Program Committee or JPC, which consists of DoD and non-DoD medical and military technical experts. These experts work through a coordinated effort to translate guidance into research and development needs.

The DMRDP is now administered via the CDMRP selection process

When: See program announcements

Where: http://cdmrp.army.mil/funding/dmrdp.shtml

Executed through the CDMRP process - recent examples

- W81XWH-18-S-BAA1 USAMRMC Generic USAMRMC solicitation
- W81XWH-18-RFI-JWMRP Joint Warfighter Medical Research
- W81XWH-17-DMRDP-MID-ARA Infectious Diseases Applied Research Award
- W81XWH-17-DMRDP-MID-CSA Infectious Diseases Clinical Study Award
- W81XWH-16-R-CRM1 DMRDP Extremity Regeneration Intervention
- W81XWH-16-R-MSI4 DMRDP Health Information Technologies and Informatics Hands-Free...
# Congressionally Directed Medical Research Program (CDMRP)

cdmrp.army.mil

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<td>Peer Reviewed Cancer – skin, pediatric brain, genetic, non-invasive ablation treatment</td>
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### FY18 ($M)

- Peer Reviewed Medical Research: $330M
- Breast Cancer Research: $130M
- Prostate Cancer Research: $100M
- Peer Reviewed Cancer: $80M
- Joint Warfighter Medical: $50M
- Spinal Cord Injury: $30M
- Peer Reviewed Orthopaedic: $30M
- Ovarian Cancer Research: $20M
- Gulf War Illness Research: $21M
- Parkinson’s Research: $16M
- Neurofibromatosis Research: $15M
- Kidney Cancer: $15M
- Alzheimer’s: $15M
- Vision: $14M
- Lung Cancer Research: $12M
- Reconstructive Transplant: $10M
- Hearing Restoration: $10M
- Kidney Cancer: $10M
- Trauma Clinical: $10M
- Orthotics and Prosthetics Outcomes: $10M
- Amyotrophic Lateral Sclerosis: $10M
- Epilepsy: $8M
- Military Burn: $8M
- Autism Research: $8M
- Tuberous Sclerosis Complex Research: $6M
- Multiple Sclerosis: $6M
- Lupus: $5M
- Tick Born Disease: $5M
- Alcohol and Substance Abuse: $4M
- Bone Marrow Failure: $3M
- Duchenne Muscular Dstroph: $3M

### How Much

- 1-5 year grants, average of $150K/yr (direct)
- If multiyear funded, all funds come from the year of appropriation

### When

- Various – see website program announcement

### Where

- Proposal submission to be done via grants.gov
Other Medical Related
(DTRA) HDTRA1-17-S-0001
JSTO-CB INITIATIVES FY2017 PROGRAM

Diagnostics, Detection, and Disease Surveillance Division (CBA)
Topic: CBA-01  Challenging Agents by Novel Diagnostic Orthogonal (CANDO) Technology Program
Topic: CBA-02  Field Assays for Chemical Weapons Exposure
Topic: CBA-03  Integrated Early Warning Ecosystem for Chemical and Biological Defense
Topic: CBA-04  Analytics and Data Sources to Support DoD Integrated Early Warning
Topic: CBA-05  Identification of Optimal Clinical Matrices for Etiologic Biothreat Agent Disease Diagnosis

Translational Medicine Division (CBM)
Topic: CBMB-01  Advanced Bacterial Antimicrobials and Anti-infectives with Novel Mechanisms of Action
Topic: CBMB-02  Innovative Technological Approach to Treat Active Filovirus Infections
Topic: CBMB-03  Antibody-based Therapeutic and/or Prophylactic Protection against Viral Pathogens
Topic: CBMB-04  Drug Discovery and Development of Therapeutics for Encephalitic Alphavirus Infections
Topic: CBMB-05  Pharmacological and Biologic Intervention to reduce inflammation and seizures caused by viral encephalitis
Topic: CBMB-06  Development and Integration of Novel MCM Delivery and Bioagent-MCM Co-Localization Platforms

Topic: CBMV-01  INext-Generation Prophylaxis Platform Technologies
Topic: CBMV-02  Development of a Coxiella burnetii Reactogenicity Model
Topic: CBMV-03  Develop of a Pan-Arenavirus Vaccine that can Elicit Broad Sterilizing Immunity in the Respiratory Mucosa

Advanced and Emerging Threat Division (CBS)
Topic: CBS-01  Development of New Platform Technology for Nerve Agent Prophylaxis
Topic: CBS-02  Computational Rapid Identification & Scientific Threat AnaLysis (CRISTAL)

No follow-on as of 9 Apr 2018
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28-32 Chemical, Biological, Nuclear, Radiological and Explosive Office
(subsuming/replacing Domestic Nuclear Detection Office (DNDO))

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<td>19-21</td>
<td>National Geospatial Intelligence Agency (NGA)</td>
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What: Within its Basic Research Portfolio, S&T generally funds quality research projects that meet at least one of these selection criteria:

* Addresses an important Department issue without a near-term solution.
* Pursues a creative solution that addresses a unique, long-term Department need, which is not addressed elsewhere.
* Exploits new scientific breakthroughs (for example, from universities, laboratories, or industry) that could strengthen homeland security.

Generic areas (DHS S&T Divisions) are:

Under HSARPA
- Border and Maritime Security (BMD) - Tools and Technologies to improve security
- Chem / Bio (CBD) - Awareness and Countermeasures (not in Amendment 6 version)
- Cybersecurity (CSD) - Cybersecurity and information assurance solutions
- Explosives Countermeasures (EXD) - Detection, Mitigation, Response

Under Homeland Security and First Responders
- First Responder Group (FRG) - identifies/validates/fixes capability gaps
- Office of Resilient (OFR) - develop and deploy solutions

Under Capability Development Support
- Office of Standards (STN) - develop/promote use of standards (not in Amendment 6 of LRBAA)

How Much: Nothing specified
When: A white paper submission anytime up to 03 Jun 2023 for LRBAA 18-01
Where: DHS S&T LRBAA18-01

CSD HSHQDC-14-R-B0005 (Five year BAA for Cybersecurity Division)
CSD HSHQDC-17-R-B0001 (Five year BAA for International Collaboration, Feb 2017)
RSD HSHQDC-15-R-00002 (Five year BAA for Resilient System Division)
CBD 70RSAT18R00000011 (Open BAA with subsequent calls)
FRG BAA 18-02 (Open BAA with subsequent calls)
What:
Anticipating Intelligence Characterize/ reduce uncertainty through anticipatory intelligence
Analysis Maximize insight from the information we collect, in a timely fashion.
Computing Foundations of computing infrastructure with integrity
Collection Dramatically improve the value of collected data from all sources.
Estimation of performance Measurement and estimation of performance in above topics

In addition to generic BAAs, there are specific, directed funding opportunities throughout the year.

Seedling ideas are to be for topics that are not addressed by emerging or ongoing IARPA programs or solicitations. It is primarily intended for early stage research that may lead to larger, focused programs through a separate BAA in the future, so periods of performance generally will not exceed 12 months. https://www.iarpa.gov/index.php/working-with-iarpa/seedling-information

Offerors are strongly encouraged to interact with the Program Managers and to submit a five-page white paper describing their proposed research as their first formal submittal to IARPA before preparing a full proposal.

How Much: DARPA-like funding profiles; awards generally for a period of performance of 12 months or less

When: Early preferred, but at any time up to 2 May 2018 for current generic solicitation

Where: IARPA-wide Research (Seedlings) IARPA-BAA-17-01 (closes 2 Aug 2018)
National Reconnaissance Office (NRO)
Director’s Innovation Initiative (DII)
https://acq.westfields.net/innovation/

What:
The Director's Innovation Initiative provides a risk-tolerant environment to invest in cutting edge technologies and high payoff concepts relevant to the NRO’s mission. The projects focus on NRO R&D thrusts such as developing new intelligence sources and methods to solve intractable intelligence problems.

The DII Program funds basic research efforts, e.g., technology readiness levels 1-3, that substantially enhance mission performance and address the areas of interest listed below. The main areas of interest categories are:
  - Revolutionary Sensing
  - Revolutionary Apertures
  - Revolutionary Design
  - Sensemaking: Next Generation Analysis
  - Other Disruptive Concepts and Technology

We anticipate that proposals will be sought from US domestic educational institutions, non-profit and not-for-profit organizations and private industry.

How Much:
Selected projects will receive a maximum of $450K over 9 months

When: For FY2019 released May 2018; proposals due 13 Jul 2018

Where:
What:
DIA is interested in the full range and full scope of possible innovative ideas from all interested and qualified sources, to include participation by, and potentially with, both "traditional and non-traditional " members (e.g. large businesses, small businesses, independent consultants, academic institutions, consortium participants, other).

The DIA is interested in all potential "innovative" concepts/ideas of interest that may fill current gaps, to include effort focused principally on maximizing agency operating efficiency and effectiveness, and access by the DIA to potential or existing state-of-the-art innovations, both technical and otherwise, that may not currently be in use by the agency or that may be in limited use and in need of leveraging across a greater expanse of the collective enterprise. Areas of need, as listed on DIA’s Needipedia webpage are:

1. Prevent Strategic Surprise through Improved Acquisition Support
2. New Analysis Technologies and Methods
3. Enhance Counterintelligence and Security
4. Intelligence Collections
5. Mission Enhancing Science and Technology
6. Improves Mission Support Capabilities
7. Increase Organizational Effectiveness
8. Empower Partnerships

How Much: Smaller (<$650K) initiatives preferred

When: white papers (required) accepted from throughout the open period - to 26 Nov 2018

Where: DIA-BAA-14-01 issued 27 Nov 2013, revision 4 on 27 Apr 2018
What:
Path-breaking GEOINT research in areas of potential interest to NGA, the DoD, and the Intelligence Community (IC). Example areas are:

- Access to GEOINT data and services
- Advancing Geolocation and data uncertainty
- Anticipatory Analysis
- Computer Vision
- Earth, Ocean, and Atmospheric Science supporting GEOINT
- Exploiting data from new sources and sensors
- GEOINT tradecraft
- Geolinguistics
- Video Indexing and Search
- Video Content Extraction
- Graph methods for geospatial data
- Image Science
- Massive data
- Predictive intelligence
- Signature development & discovery
- Spatio-temporal analysis
- Strategic indications and warning
- Understanding human activities
- Visual analytics for GEOINT

University Research Initiatives (NURI) awards focused on fundamental research in Geospatial Intelligence topics such as those listed above.

Outstanding New Scientific and Technical Innovative Researcher (ONSTIR) Program grants are open to faculty employed by eligible institutions who are U.S. citizens, U.S. nationals, or permanent U.S. residents who have held their doctorate degrees (PhD or equivalent) for less than five years at the time of application.

Offerors are highly encouraged to submit white papers prior to submitting proposals.

How Much:
NURI awards have a 2yr base period with a value of up to $300K, with up to 3 one-year options valued at up to $150K per option year.
ONSTIR award grants have a 2yr base period valued up to $200K, with a up to one-year option valued at $100K.

When: BAA is open to 8 Dec 2018
White papers anytime before 11 Jun 2018 for Topic Area 9 - Metadata Tampering Study.

Where: Broad Agency Announcement HM0476-16-BAA-0001, Amendment 9, 11 May 2018
## Guide to Dept of Energy Funding

### Index to MAPS Charts

Information garnered from DOE Budget Submission Presentations, Justifications, and Webpages

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## DOE Science and Engineering
### Principal Funding Offices

**Basic**
- **Office of Science (SC)**
  - Advanced Scientific Computing Research: ASCR (
    http://science.energy.gov/ascr/)
  - Biological and Environmental Research: BER (
    http://science.energy.gov/ber/)
  - Basic Energy Sciences: BES (
    http://science.energy.gov/bes/)
  - Fusion Energy Sciences: FES (
    http://science.energy.gov/fes/)
  - High Energy Physics: HEP (
    http://science.energy.gov/hep/)
  - Nuclear Physics: NP (
    http://science.energy.gov,np/)
  - Workforce Develop for Teachers and Students: WDTS (
    http://science.energy.gov/wdts/)

**Applied**
- Energy Efficiency and Renewable Energy: EERE (
  http://www.eere.energy.gov/)
- Electricity Delivery and Energy Reliability: OE (
  http://energy.gov/oe/)
- Fossil Energy: FE (
  http://energy.gov/fe/)
- Nuclear Energy: NE (
  http://energy.gov/ne/)

**Adv Research Projects Agency - Energy**
- ARPA-E (
  http://arpa-e.energy.gov/)

**National Nuclear Security Administration**
- NNSA (
  http://nnsa.energy.gov/aboutus/)
What:
• The mission of the DOE Office of Science is to deliver the scientific discoveries and major scientific tools that transform our understanding of nature and advance the energy, economic, and national security of the United States.
• Prior to submission of an application for a research grant, the PI is encouraged to contact the program manager whose areas of expertise and responsibilities most closely match the topic of the proposed research activities to learn about current funding opportunities and the nature of the work.
• Based on the interaction with a program manager, the PI may be encouraged to submit a pre-application.
• Based on a review of the proposed research, the principal investigator will be either encouraged or discouraged to submit a full application.
• All grants that are funded undergo external peer review.
• The usual term for a new award is three or four years, divided into one-year budget periods.

How much: Varies with the program

When:
Applications may be submitted at any time. However, it is recommended that a full application be sent between June 1st and November 30th in order that SC can make a funding decision by June of the following year. (DE-FOA-0001820 closes 31 DEC 2018)

Where:
DE-FOA-0001820 - FY2018 Continuation of Solicitation for the SC Financial Assistance Program. Applications must be submitted through Grants.gov to be considered for award.
DOE
Energy Efficiency and Reliable Energy (EERE)
Applied Research and Development Programs

What: The programs support research and development of energy efficiency or renewable energy technologies:

Energy Efficiency
- Advanced Manufacturing
- Buildings
- Government Energy Mgmt
- Homes

Renewable Power
- Geothermal
- Solar
- Wind
- Water Power

Transportation
- Bioenergy
- Hydrogen and Fuel Cells
- Vehicles

When: Various

What: Nuclear Science and Engineering Nonproliferation Research Consortium
A successful consortium is a rich collaborative environment between the university members, their student and faculty researchers, and the DOE National Laboratory scientists and staff. Priority on skill sets:
- nuclear science and engineering;
- nonproliferation, arms control and related verification work;
- remote technologies for proliferation detection;
- nuclear security;
- radiochemistry;
- mass spectrometry.
How Much: $5M for one award as a cooperative agreement to the lead University - 5 year program
When: due by 19 Aug 2015
Where: DE-FOA-0001300

What: Stewardship Science Academic Alliances (SSAA)
The research areas of interest in the SSAA Program are: properties of materials under extreme conditions and/or hydrodynamics (condensed matter physics and materials science, and fluid dynamics); low energy nuclear science; radiochemistry; and high energy density physics. A successful Center of Excellence consists of a multi-investigator team, preferably from multiple academic institutions, that addresses an over-arching theme or themes of interest within a topical research area of interest to NNSA
How Much: Up to $3M/yr for up to 5 years
When: due by 30 April 2017
Where: DE-FOA-0001634

What: Predictive Science Academic Alliance Program III
The National Nuclear Security Administration (NNSA) Office of Advanced Simulation and Computing (ASC) will hold a Pre-Proposal Conference on March 14-15, 2018 at the Airport Marriott in Minneapolis, MN. The conference is for interested U.S., Ph.D.-granting institutions to learn about the next ASC academic program, which is a follow-on to the present ASC Predictive Science Academic Alliance Program II (PSAAP II) (see http://www.sandia.gov/psaap.html). The three major focus areas of the new ASC Alliance program will be:
I. Development and demonstration of technologies and methodologies to support effective Exascale computing in the context of science/engineering applications;
II. "Predictive Science" based on verification and validation and uncertainty quantification (V&V/UQ) for large-scale simulations;
III. Discipline-focused research needed both to further predictive science and enable Exascale computing.
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NASA Principal Research Funding Offices
(NSPIRES web site http://nspires.nasaprs.com/external/)

- **Science Mission Directorate (SMD)**
  science.nasa.gov/
  Research Opportunities in Space and Earth Sciences (ROSES, NRA-NNH18ZDA001N)

- **Aeronautics Research Mission Directorate (ARMD)**
  www.aeronautics.nasa.gov/
  Research Opportunities in Aeronautics (ROA, NRA - NNH18ZEA001N)
  Aeronautics Research generates the innovative concepts, and technologies that will enable revolutionary advances in future aircraft

- **Human Exploration and Operations Systems Mission Directorate (HEO)**
  www.nasa.gov/directorates/heo/home/index.html
  Human Exploration Research Opportunities (HERO, NRA NNJ18ZSA001N)
  Joint NASA/ National Space Biomedical Research Institute (NSBRI) research solicitation in support of space exploration, focused on health effects from space radiation and human physiological changes associated with exploration.

- **Space Technology Mission Directorate**
  www.nasa.gov/directorates/spacetech/home/index.html
  Space Technology Research, Development, Demonstration and Infusion 2018 (80HQTR18NOA01-18ECF-B1)

- **Office of Education**
  www.nasa.gov/offices/education/about/index.html
  Education Opportunities in NASA STEM (EONS, NRA NNH18ZHA002N)
What: Supporting research in science and technology is an important part of NASA’s overall mission. NASA solicits this research through the release of various research announcements in a wide range of science and technology disciplines. NASA uses a peer review process to evaluate and select research proposals submitted in response to these research announcements.

To submit a research proposal to NASA, individuals and the organizations with which they are affiliated must be registered in NSPIRES.

When: Various

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Measurement Science and Engineering (MSE) Research Grant Program (TBD)
Support NIST laboratories with research in fields such as: material measurement; physical measurement; engineering; fire research; information technology; neutron research; nanoscale science and technology; standards services; and law enforcement standards.

Precision Measurement Grants (2018-NIST-PMGP-01)
Support researchers in U.S. colleges and universities for experimental and theoretical studies of fundamental physical phenomena

Standards Services Curricula Development Cooperative Agreement Program (2018-NIST-SSCD-01)
The recipients will work with NIST to strengthen education and learning about standards and standardization.

Nanoelectronics
Supports research and innovation in nanoelectronics through a partnership between NIST and the Semiconductor Research Corp. (SRC).

Centers of Excellence (at Universities) (http://www.nist.gov/coe/)
Establish competitively selected Centers of Excellence in measurement science areas defined by NIST that will leverage and expand NIST research capabilities.
- Materials at Northwestern University in 2014
- Community Resilience at Colorado State University in 2015
- Forensics Sciences at Iowa State University in 2015

Manufacturing USA - National Network for Manufacturing Innovation (NNMI) - Federal in scope but coordinated at NIST
https://www.manufacturingusa.com/
The key objective of the NNMI is to accelerate innovation and transition technology to US manufacturing enterprises. Using redirected Agency funds, DOD and DOE have created:
- NIST - Biopharmaceutical
NIST
Extramural Funding Opportunities Website
https://www.nist.gov/about-nist/funding-opportunities

What:  Current Funding Opportunities website
Federal Funding Opportunity (FFO) Announcements will be posted in this section (URL below)
upon the opening of the applicable application periods. Click on a URL to view the full FFO which
contains information about the opportunity, applicant eligibility, application requirements, and
directions on how to apply

When:  Various

Where:  Office of the Director, NIST Program Information, Current Funding Opportunities
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What:
NOAA conducts and supports climate research, essential oceanic and atmospheric observations, modeling, information management, assessments, interdisciplinary decision support research, outreach, education, and stakeholder partnership development.

Only one competition
Climate Variability Program (CVP)

When: Annual Solicitation, for FY2018 (released )
Letters of Intent for Competitions due Apr 2018
Full applications for all Competitions due May 2018

How Much:
It is anticipated that most awards will be at a funding level between $50K and $300K per year.

Where: Funding Opportunity Number: NOAA-OAR-CPO-2018-2005492
http://cpo.noaa.gov/GrantsandProjects.aspx

COM Climate Observation and Modeling Program
AC4 Atmospheric, Chemistry, Carbon, Cycle and Climate Program
CVP Climate Variability And Predictability Program
MAPP Modeling, Analysis, Predictions and Projections Program
COCA Coastal and Ocean Climate Applications Program
SARP Sectoral Applications Research Program
RISA Regional Integrated Sciences and Applications Program
NOAA OAR  
Office of Exploration and Research (OER)  
http://explore.noaa.gov/

**What:**  
OER supports a continuum of ocean science that makes discoveries via exploration and research, and transitions the new knowledge and capabilities to the rest of NOAA, and the national and international science, technology, and ocean management communities.

Its Strategic Plan outlines four strategic goals:
- Conduct scientific baseline characterizations of unknown or poorly-known ocean basin boundaries, processes, and resources.
- Transition ocean exploration discoveries to new research areas and research results to new applications to benefit society.
- Increase the pace, scope, and efficiency of exploration and research through advancement of underwater technologies.
- Engage audiences through innovative means by integrating science, education and outreach.

OER seeks bold, innovative proposals with interdisciplinary approaches and objectives which address at least one of four themes:
1. Exploration of physical, chemical and biological environments and processes within the oceanic water column below ~200m;
2. Exploration of geological, physical, and biological environments as well as biogeochemical processes associated with seamounts;
3. Novel or innovative technologies and methodologies that could increase the pace and scope of ocean exploration, especially exploration of the water column, seamounts, and archaeological sites; and
4. Proposals focused on the discovery and exploration of historically significant submerged marine heritage sites, features and artifacts associated with WWII.

**When:**  
Two page pre-proposal due date Jun 2018  
Full proposal due 15 Nov 2017

**Where:**  
Visit the Ocean Explorer website to see past and present OE-funded activities.  
http://oceanexplorer.noaa.gov/
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What:
In the last several years NIFA has issued seven RFAs for the AFRI Program:

- Foundational Program addressing the six AFRI priority areas
  a) Plant Health and Production and Plant Products
  b) Animal Health and Production and Animal Products
  c) Food Safety, Nutrition, and Health
  d) Bioenergy, Natural Resources and Environment
  e) Agriculture Systems and Technology
  f) Agricultural Economics and Rural Communities

- Challenge Areas (6):
  a) Resilient Agroecosystems in a Changing Climate
  b) Food Safety
  c) Food Security
  d) Sustainable Bioenergy
  e) Water for Food Production Systems

- NIFA Fellowships Grant Program soliciting Pre and Postdoctoral applications

Applications for AFRI funds may also be solicited through other announcements including supplemental AFRI RFAs or in conjunction with multi agency programs

How Much:
Standard Grants not exceed $500K total (including indirect costs) for project periods of up to 5 years.

When: for the Foundational Program
Letter of Intent Deadline Required for some programs in the past
Application Deadline for FY2017 program, due dates range from Jun/Jul 2017

Three FRAs due in April - Education and Workforce Development; Foundational and Applied Science; Sustainable Agriculture Systems (replaces the Challenges)

Where: https://nifa.usda.gov/afri-request-applications

RFA - Request for Application NIFA - National Institute for Food and Agriculture
# Guide to ED Research Funding

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The Institute of Education Sciences also considers unsolicited applications for research, evaluation, and statistics projects that would make significant contributions to the mission of the Institute. Unsolicited applications are defined as those that are not eligible for funding under the Institute's current grant competitions.

What: Funding Opportunities (with Catalog of Federal Domestic Assistance number)

- Education Research Programs (84.305A)
- Research Training Programs in the Education Sciences (84.305B)
- Education Research and Development Centers (84.305C)
- Statistical and Research Methodology in Education (84.305D)
- Partnerships and Collaborations Focused on Problems of Practice or Policy (84.305H)
- Low-cost Short-Duration Evaluation of Education Interventions (84.305L)
- Research Networks Focused on Critical Problems of Education Policy and Practice (84.305N)

- Special Education Research Programs (84.324A)
- Research Training Programs in Special Education (84.324B)
- Low-cost, Short-duration Evaluation of Special Education Interventions (84.324L)
- Research Networks Focused on Critical Problems of Policy and Practice (84.324N)

Contact relevant Program Officer(s) for the topic(s) of interest
Submit your (optional but strongly encouraged) Letter of Intent.

When: for FY2019
Letter of Intent due date: 21 Jun 2018
Full proposal due date: 23 Aug 2018

Where: Detailed RFAs posted at: http://ies.ed.gov/funding
Webinars on the opportunities: http://ies.ed.gov/funding/webinars/previous_webinars.asp

The Institute of Education Sciences also considers unsolicited applications for research, evaluation, and statistics projects that would make significant contributions to the mission of the Institute. Unsolicited applications are defined as those that are not eligible for funding under the Institute's current grant competitions.
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EPA

Research Grants

What: Our critically important work is providing the science needed to address the biggest problems facing environmental science, the Agency, and the world. This cutting-edge and innovative research portfolio is connecting the dots by characterizing problems up front, and recognizing the inherent connections between a healthy and sustainable environment and healthy people.

Research Grant Areas:
- Air
- Climate change
- Ecosystems
- Health
- Safer Chemicals
- Sustainability
- Water

People, Prosperity and the Planet (P3) Student Design Competition

When: Sporadic

Where: See website - https://www.epa.gov/research-grants
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DOT Research Programs
http://www.rita.dot.gov/rdt/dot_research_programs.html

Aviation
• Federal Aviation Administration (FAA) Data and Research

Highway
• Federal Highway Administration (FHWA) Research
• Turner-Fairbank Highway Research Center

Maritime
• Maritime Administration (MARAD) Research and Development Activities

Motor Carrier
• Federal Motor Carrier Safety Administration (FMCSA) Analysis, Research and Technology

Hazardous Mat’ls
• Pipeline and Hazardous Materials Safety Administration (PHMSA) Research & Development

Highway Traffic Safety
• National Highway Traffic Safety Administration (NHTSA) Highway Safety Research and Evaluation Program
• NHTSA Vehicle Safety Research

Pipeline
• PHMSA Research & Development

Railroad
• Federal Railroad Administration (FRA) Research and Development

Transit
• Federal Transit Administration (FTA) Research, Technical Assistance & Training

Intermodal Research
• OST-R Intelligent Transportation Systems Joint Program Office
• OST-R Current Research and Publications
• OST-R Maps of Current Research
• DOT Climate Change Center

Cooperative Research Programs
• Airport Cooperative Research Program (ACRP)
• Hazardous Materials Cooperative Research Program (HMCRP)
• National Cooperative Freight Research Program (NCFRP)
• National Cooperative Highway Research Program (NCHRP)
• Transit Cooperative Research Program (TCRP)
Department of Transportation
Office of the Assistant Secretary for Research and Technology
Research, Development and Technology

**What:** Research Development and Technology
- Coordinates DOT's research and development activities and investments
- Awards and administers grants to universities, including
  - University Transportation Centers
  - FAA Centers of Excellence
  - FHWA University and Grants Programs
  - FTA Research and Innovation
- Sponsors advanced research

**When:** Various

Guide to **DOJ** Research Funding

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Department of Justice - National Institute of Justice
http://nij.gov/funding/Pages/welcome.aspx

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

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<td>Res and Eval of Violence Against Women</td>
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<td>AI Technology Applied R&amp;D for Law</td>
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<td>Res and Eval to Improve School Safety</td>
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<td>Food and Drug Administration (FDA)</td>
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<td>Centers for Medicare and Medicaid Services (CMS)</td>
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<td>Office of Minority Health (OMH)</td>
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<td>19</td>
<td>Biomedical Advanced Research and Development Authority (BARDA)</td>
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Department of Health and Human Services
http://www.hhs.gov/grants/grants/index.html

What:
HHS expands scientific understanding of how to advance health care, public health, human services, biomedical research, and the availability of safe medical and food products. Chief among these efforts are the identification, implementation, and rigorous evaluation of new approaches in science, health care, public health, and human services that reward efficiency, effectiveness, and sustainability.

Pertinent Agencies in DHHS
  ACL  Administration for Community Living
       (Includes National Institute on Disability, Independent Living, and Rehabilitation Research)
  AHRQ  Agency for Healthcare Research and Quality
  CDC  Centers for Disease Control and Prevention
  FDA  Food and Drug Administration
  HRSA  Health Resources and Services Administration
  NIH  National Institutes of Health
  OASH  Office of the Asst Secretary for Health

Where:
  Learn about the steps necessary to successfully compete for and manage a grant.

  Learn about important policies and regulations related to HHS grants, including important information about audits, reporting, efficient spending, and grant reviews.

  A database of planned grant opportunities proposed by DHHS agencies. Each Forecast record contains actual or estimated dates and funding levels for grants that the agency intends to award during the fiscal year.
Guide to “Other” Research Funding
Index of Charts

Information garnered from Budget Submission Presentations, Justifications, and Webpages

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<td>Bureau of Engraving and Printing</td>
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Humanities / Social Science Focused

13-16 Department of State (DOS)
   Bureau of Educational and Cultural Affairs (ECA)
   Bureau of Populations, Refugees and Migration (PRM)
   Bureau of Democracy, Human Rights and Labor (DRL)
   Embassy initiated
17-18 National Endowment for the Arts (NEA)
19-23 National Endowment for the Humanities (NEH)
24-25 National Archives and Records Administration (NARA)
26 Institute of Museum and Library Services (IMLS)
27 Corporation for National and Community Service
National Institutes of Health (NIH)
Extramural Funding Opportunities
http://grants.nih.gov/grants/guide/

Agency Organization
- Largest agency of Department of Health & Human Services (DHHS)
- 27 Institutes and Centers
  - Organized according to disease focus
  - One center conducts most NIH peer reviews
- 24 institutes provide extramural research support

Broad Areas of Research Interest
- Research of directed or strong indirect relevance to understanding and preventing disease
- Research on basic biological and psychological processes of preferential interest if there is disease relevance

Five Themes toward Research Investment
- Applying high throughput technologies to understand fundamental biology, and to uncover the causes of specific diseases
- Translating basic science discoveries into new and better treatments
- Putting science to work for the benefit of health care reform
- Encouraging a greater focus on global health
- Reinvigorating and empowering the biomedical research community
What: The NIH provides financial support in the form of grants, cooperative agreements, and contracts. This assistance supports the advancement of the NIH mission of enhancing health, extending healthy life, and reducing the burdens of illness and disability. While NIH awards many grants specifically for research, we also provide grant opportunities that support research-related activities, including: fellowship and training, career development, scientific conferences, resource and construction.

See the announcements http://grants.nih.gov/grants/guide/
http://grants.nih.gov/grants/planning_application.htm#search

How Much: Varies with program - see announcement

Note that an NIH proposal requests direct monies, indirect costs are added from another account.

When: Varies with program - see the specific announcement

Where: http://grants.nih.gov/grants/submitapplication.htm
Path to Success at NIH

Step #1: Do your homework; learn a bit about the grant process and the options.

Office of Extramural Research:

IC priorities: http://www.nih.gov/icd/index.html

NIH Guide Provides Weekly Updates on Funding Opportunities:
http://grants.nih.gov/grants/guide/

NIH RePORTer – lots of statistics and abstracts of funded grants
http://report.nih.gov/

Step #2: Contact us because...
We’re from the Government, we’re here to help you!
Take Home Messages

Lots of directions and opportunities at the NIH


- Get to know the Program Director(s) for your scientific area and discuss your ideas
  - Fit with institute mission and priorities
  - Best grant mechanism or program
  - Best study section for review

- Participate in workshops and symposia
  - Get fresh ideas and directions for your research
  - Become known to your peers (i.e. reviewers)

- Participate in review of grant applications (serve on study sections)
Suggestions for Success

Get to know the Agency Program Officer and his/her program interests

Participate in Agency activities
  Workshops, meetings
  Be a proposal reviewer (if available) - no better way to understand what constitutes a credible proposal for that agency / program officer

As you mature in your career, consider a rotational assignment at an Agency
  Very good way to establish / cement personal relationships with other POs
  Good opportunity to broaden one’s vistas

Know the Agency’s review process

Utilize the USC Center for Research Excellence workshops on proposal development

Use your colleagues and the DC Office staff to critique / guide your proposal
Know your program officer

Program officers (PO) have variable latitude at project level (depending on agency)

(DOD - DOE - NASA - NIH - NSF)

Their reputation / professional advancement is tied in part to your success

Make contact with Program Officer before submitting a white paper or proposal

• Be informed - read the descriptive paragraph on the website/announcement, the MAPS PO datasheet, and information on prior awards (available from DC office for selected agencies)

• Use “elevator pitch” to open contact, gain attention - your unique idea(s) and impact

• Be ready for a dialogue - not monologue

• Plumb his/her current interest – website paragraphs are likely dated. This can significantly enhance your prospects by tailoring your ideas to the PO's interests

• If lukewarm/disinterested response, ask for suggestions on other POs who might be interested

• Also ask after availability of funds – his/her resources may be fully committed

Watch for new Program Officers - they will be interested in creating “their” program
Project Officer Background:
Laura Kienker was a Research Biologist within the Counterterrorism and Forensic Science Research Unit of the FBI Laboratory, where she managed outsourced research projects pertaining to automating the forensic analysis of biological evidence. Prior to joining the FBI, Dr. Kienker directed a Sequencing and Microarray Core Facility for the Center for Immunology at the University of Texas Southwestern Medical Center in Dallas, where she was an Assistant Instructor in the Department of Internal Medicine.

Education
B.A. in Biology and Chemistry from Oberlin College
Ph.D. in Immunology from the University of Pennsylvania

Program:
Metabolic Engineering
The Office of Naval Research (ONR) Metabolic Engineering Program targets the fundamental understanding of metabolic processes in microbes or plants for the production of chemicals of potential utility to the Navy.

Biomaterials and Bionanotechnology
The Office of Naval Research (ONR) Biomaterials and Bionanotechnology Program supports fundamental research that enables the generation of novel, Navy relevant, nano-scale materials and devices.

Illustrative Publications Reflecting Project Officer Research Interests:
Both V(D)J recombination and radio resistance require DNA-PK kinase activity, though minimal levels suffice for V(D)J recombination
Kienker LJ; Shin EK; Meek K
NUCLEIC ACIDS RESEARCH 28(14), 2752-2761 JUL 15 2000
What to Say - and Not Say - to Program Officers
Michael Spires, Office of Sponsored Projects, Smithsonian Institution

“most scholars and researchers would rather undergo a root canal without anesthesia than call a program officer”

Shalts
1. Do your homework
2. Be as specific as possible
   concentrate on big picture, especially outcomes
   why should they be excited by your proposed work (and its outcomes)
3. When in doubt, ask

Shalt Nots
1. Do not call at the office “just to chat”
2. Do not cold call
   send short email first, summarizing issue(s)
   ask for PO to call you (with your available dates/times) or
to email you back with suggestions on when to contact him/her
3. Do not pester - but be persistent
Keys to a Compelling Proposal

adapted from
George Hazelrigg, NSF Program Officer
Paul Ronney, USC AME, Active Researcher and Reviewer
S. Joseph Levine, Michigan State, Emeritus Professor

**Hazelrigg**
Know the program you are engaging
Pay attention to program requirements
Know the review process
Frame your project around others' work
Formulate an appropriate objective
State your research objective clearly
Develop a viable research plan

**Ronney**
What has been done / its deficiencies
At least one really novel, clever idea
Don't say “just trust me”
Pose specific, testable hypotheses
Avoid kitchen sink mentality - what is key
Where's the beef
Explain your end game - outcome(s)

**Levine**
How extend prior work
Needs an original idea
Strong rationale
Focused Proposal
Problem must be important
Well defined outcomes

Know Yourself

Appropriate experience/resources - but don’t dwell on your past work

Format and brevity are important
Grammar and spelling count

Proofread your proposal before it is sent
Submit on time and confirm its correct transmission

A picture is worth a thousand words

Clear Writing

---

**Comic Strip**

**Top Left Panel:**
Do you have an idea for your grant yet?
No, I'm waiting for inspiration.

**Top Right Panel:**
You can't just turn on creativity like a faucet. You have to be in the right mood.

**Bottom Left Panel:**

**Bottom Right Panel:**
What mood is that? Last-minute panic.
Honing your Proposal Writing Skills
Adapted from
George Hazelrigg, NSF Engineering

A. Not only will a **clear, crisp statement of your research objective** help you write a better research approach section in your proposal, it will, by itself, raise your rating. **Put your research objective right up top in your proposal**

I know of only four ways to state a research objective.

1. "The research objective of this proposal is to test the hypothesis H."
2. "The research objective of this proposal is to measure parameter P with accuracy A."
3. "The research objective of this proposal is to prove the conjecture C."
4. "The research objective of this proposal is to apply method M from disciplinary area D to solve problem P in disciplinary area E." This research integrates knowledge from one disciplinary area into another. To do this often involves the resolution of inconsistencies across the disciplines.

The very statement of your research objective should lead you directly to your methodology. If it does not, you don't have a clear statement of research objective.

B. **Typical problems with proposals** include:

1. **Failure to follow submission guidelines** - NSF, for example, will return without review proposals that do not follow guidelines published in their Grant Proposal Guide. If you're going to take a month or two of your life to write a proposal, I strongly advise that you take an hour to read the GPG. If you are submitting to another agency, read their proposal guidelines carefully.

2. **Use of small fonts and illegible materials** - It makes no sense whatever to submit a proposal in a format that cannot be read. As **many as half the proposals received at NSF include totally illegible materials**, particularly figures and tables, where fonts have been compressed to micron sized grey blobs. I strongly recommend only approved 12-point fonts and nothing smaller, including tables and figures. Smaller only aggravates the reviewers. Use smaller fonts only if you want a lower rating.

3. **Misspellings and poor grammar** are commonplace - I find that about one in thirty proposals (give or take) has a **misspelling in the title**. This is a degree of sloppiness that does not impress reviewers. Bad grammar simply makes the proposal difficult to read. NSF (and most other Federal agencies) do not use grammar as a review criterion, but I'm here to tell you that it counts. It really doesn't matter how good your idea is if the reviewers can't understand it.

These things are so obvious that you may be wondering why I bother to note them. Well, I note them because upwards of two-thirds of the proposals I see have substantial problems in at least one of these three areas.
Proposal Development
NSF Vice Mission Agencies

NSF

1a. Interest in most S&E
   most proposals will “fit somewhere”

1b. Knowledge inspired - Bohr Quadrant
   more funding in science than in engineering
   (but can include Pasteur when addressing topics of societal importance)

1c. Basic monies only, with tweaks such as
   I-CORP, I/UCRC, GOALI, SBIR/STTR

1d. Impact on S&E knowledge
   addressing national/Intl priorities useful

2. Additional requirements for:
   broadening participation
   education, underrepresented
   wider-scale Impact, International
   data management
   Post Doc nurturing

3. Program officer triage for rule compliance
   except for EAGER, RAPID, INSPIRE

4. Review by panel

Mission Agency - Basic Research

Interest restricted to S&E pertinent to mission need
a proposal must interest the program officer

Use inspired (agency mission) - Pasteur Quadrant
likely more funding in engineering than in science

Basic, but applied monies may be also available
(applied tends to have milestones and deadlines)

Impact on S&E knowledge and
addressing agency mission priorities essential

Generally none - perform the promised research

Program officer triage on basis of content / interest

Review by program officer with possible input from others

---

EAGER  Early Concept Grants for Exploratory Research
RAPID  Rapid Response Research Grants
INSPIRE Integrated NSF Support Promoting Interdisciplinary Research and Education
I/UCRC Industry University Cooperative Research Program
GOALI Grant Opportunities for Academic Liaison with Industry
I-CORP Innovation Corp
SBIR/STTR Small Business Innovative Research / Small Business Technology Transfer
What Makes a Strong Proposal?

- New and original ideas *(what?)*
- Sound, succinct, detailed focused plan *(how?)*
- Preliminary data and/or feasibility calculations
- Relevant experience *(why me/us?)*
- Important & timely within field *(why now?)*
- Clarity concerning future direction *(so what?)*
- Well-articulated broader impacts specific to this project
The Heilmeyer Catechism
Questions New Program Pitches Must Answer

- What are you trying to do? Articulate your objectives using absolutely no jargon
  - Example: “take anthrax off the table as a threat to our forces”
  - What is the new military capability that Semantic Web Services could provide?
- How is it done today, and what are the limits of current practice?
  - Why is this specifically a technology problem?
- What's new in your approach and why do you think it will be successful?
  - All software is Turing-equivalent, so software methodology is usually not relevant
  - What is your argument/analysis that a 10x difference in a technology will result in a new capability?
- Who cares? If you are successful, what difference will it make?
  - Who is the customer for the new idea, and what evidence do you have that any transition will be successful?
- What are the risks and the payoffs?
- How much will it cost? How long will it take?
- What are the midterm and final exams to check for success?
  - Metrics and experimentation plans defined up front
Writing Competitive Grants

- Organize your team and plan
- Specific Aims are the bedrock
- Make reviewers your advocates
Tell your story in five compelling, concise, plain-language paragraphs!

1. **Outline an important medical problem and your timely, innovative solution.** Describe the big picture quantitatively. How can science/engineering help?

2. **Define the challenge for this application.** What is your specific target and hypothesis? How will you get there? How do you know?

3. **State each of your (three) Specific Aims in a single sentence in bold face.** Then, identify strategies, methods, assays to be used, and data expected.

4. **Overview the competencies of the team and the resources.** Why is this the right group at the right place and time? Outline your specific skill sets.

5. **What happens when you succeed? What are the next steps?** How will paradigms shift or treatment change, and what will this project contribute?

**Significance – Innovation – Investigator(s) – Approach – Environment**

Hunziker NIBIB 2015
How to Win Over the Peer Reviewers

- Own impact: tackle an important and difficult problem
  - engineers beware: lead with an urgent issue, NOT your cool tools/technologies
  - discovery (basic) science plus technology development (non-hypothesis driven)

- Hit all Review Criteria on the “Specific Aims” page

- Balance “the possible” with “the exciting”
  - feasibility = most relevant preliminary data + sound, logical pathway
  - defend assertions with publications (citing reviewers a plus)
  - inspiration << invention = innovation
  - short term objectives inform long term goals
  - milestones > bold, general ideas
  - experience, expertise count

- Define success and point to the next grant/activity

- Good grantsmanship
  - limit jargon/acronyms
  - reinforce (don’t repeat) important ideas
  - use legible/sensible figures
  - strategically place an overview as “eye candy”
  - proofread!

Hunziker NIBIB 2015
Office of Research Advancement
Assets Available for Assistance
http://web-app.usc.edu/web/ra_maps/search/
Timely Access to new Opportunities

DC Office of Research Advancement alerts - roughly daily

Federal Websites
Grants.gov
GrantsNet (medical/biological)
FedBizOpps (FBO)

Agency E-mail Alerts
Defense Threat Reduction Agency (DTRA)
Institute for Educational Sciences (ED)
Environmental Protection Agency (EPA)
Office of Space Science Research Announcements (NASA)
National Endowment for the Arts (NEA)
National Endowment for the Humanities (NEH)
Guide to Grants and Contracts (NIH)
National Institute of Justice (NIJ)
National Institute for Standards and Technology (NIST)
National Science Foundation (NSF)

Grant Forward
Grant Forward, by Cazoodle, is a database of grants where users can search for funding opportunities (federal-, state-, foundation- and institution-sponsored research) across all fields, including the sciences, humanities, and arts. Free (i.e., prepaid) to all USC employees. Creating an account is a simple two-step process – just follow the instructions on the New User Quick Guide

Funding Opportunity Search
• Search for funding opportunities spread across 39 subject areas and 2009 categories
• Large Database of Sponsors comprising Foundation, Federal and Institutions
• Set up alerts and get opportunities delivered straight to your inbox

Researcher Profiles
• Infers researcher's interests from publication pages and other sources to identify funding opportunities that match
• Each funding opportunity is matched to researchers based on research interests and career stage
The DC Office of Research Advancement has created the Federal Mission Agency Program Summaries (MAPS) to:

1. Connect PIs with appropriate funding agency programs/program officers
2. Assist in development of white papers/charts/elevator pitches

It has the following resources:

Mission Agency (DHS, DHHS, DOD, DOJ, DOE, DOT, ED, EPA, INTEL, NASA, NIST, NOAA, USDA)
  Guide to Agency Funding for FYXX - Chart numbers in the Guides reference the Agency Research Program Chart files.
  Agency Research Program Charts
  Agency Planning Documents

Charts from recent USC Center of Excellence in Research workshops

Reports / guides on writing proposals

URLs at which one can arrange for automatic solicitation updates

URLs at which one can find information on previous agency awardees

Information about DC Office services
Agency Sites Providing Information on Previously Funded Awards

AHQR  http://www.gold.ahrq.gov/
CDC  http://wwwn.cdc.gov/fundingprofiles/fundingprofilesria/
DOE SC  https://pamspublic.science.energy.gov/WebPAMSExternal/interface/awards/AwardSearchExternal.aspx
DOT  http://ntlsearch.bts.gov/researchhub/index.do
DTRA  http://www.dtrareviews.com/register.html (infer from presentations)
https://www.dtrasubmission.net/portal/
EPA  http://cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/recipients.welcome/displayOption/grants
NIH  http://report.nih.gov/
NIJ  http://nij.gov/funding/awards/Pages/welcome.aspx
NIST  the various program websites generally have a list of prior awardees for that program
NSF  http://www.nsf.gov/awardsearch/
NEA  http://arts.gov/grants/recent-grants
NEH  the various program websites have a list of prior awardees for that program
NRC  http://www.nrc.gov/about-nrc/grants/awards/index.html

Website Providing Searchable Information on Federal Grants/Contracts

http://usaspending.gov/
(but does not identify the funding agency program officer or the awardee PI)
Resources for Proposal Writing
(available in MAPS or at shown URL)

NSF CAREER
CAREER Proposal Writing
CAREER Proposal Writing Tips
CAREER Program Presentation (2013)
Writing a Successful CAREER Proposal
Broad(er) impacts of the NSF CAREER Proposal
Hazelrigg, NSF
Pei
LA Salle, NSF
Vigeant, Univ Hartford
Schmitz, UNCC

Other
USC Research Advancement
A Tips for Authoring Grant Proposals
Tips on Writing a Competitive Grant Proposal
Writing a good grant Proposal
Honing your Proposal Writing Skills
Guide for Writing a Funding Proposal
Obtaining Federal Funding
NSF Guide for Proposal Writing
The R&D Proposal
Demystifying DoD Research Funding
NASA Writing Research Proposals
NIH Writing your application
USDA NIFA General Proposal Writing Tips
EPA Writing a Competitive Proposal
http://research.usc.edu/for-investigators/proposal-and-grantwriting/
Hill, Univ Wisc-Madison
Clary, Western SARE
Jones, Microsoft
Hazelrigg, NSF
Levine, Mich State Univ.
Wardle, NSF
NSF 04-016
Yoder, Office of Naval Research
Palmer, Army Research Office
Hertz, NASA Headquarters
http://grants.nih.gov/grants/writing_application.htm
https://nifa.usda.gov/resource/general-grant-writing-tips-success
https://www.epa.gov/grants/tips-writing-competitive-grant-proposal-preparing-budget

USC Center for Excellence in Research Workshops
Developing Funded Research Proposals
Writing Compelling NSF Proposals
Developing NIH Grant Applications
Obtaining DOD Medical Research Funding
Writing Persuasive Proposals
NSF CAREER Award Proposal Workshop
Randy Hall
Paul Ronney
Steve Moldin
Carl Castro
Bonnie Lund
Phillip Taylor
Postdoctoral Fellowships
Selected Opportunities - some continuing, others ephemeral

Science.gov
Grant Forward
http://www.science.gov/internships/graduate.html
https://www.grantforward.com/index

DOD/EPA/FHWA/NIST laboratories
NRC Research Associateship Program
http://sites.nationalacademies.org/pga/rap/
http://nrc58.nas.edu/RAPLab10/Opportunity/Programs.aspx
ASEE
http://www.asee.org/fellowship-programs/post-doctoral
ORAU
http://www.orau.org/arlpostdocfellowship/

Intel Community
Postdoctoral Fellows Res Program
http://www.icpostdoc.org/

NASA
http://nasa.orau.org/postdoc/
New (Early Career) Investigator Program in Earth Science - ROSES 2015 A-35
Fellowships for Early Career Researchers - ROSES 2015 C-16
Nancy Grace Roman Technology Fellowships in Astrophysics for Early Career Researchers - ROSES 2015 D-9
National Space Biomedical Research Institute Fellowships - http://www.nsbri.org/firstaward/

NSF
Arctic Research Opportunities
Atmospheric and Geospace Sciences Postdoctoral Research Fellowships
Centers of Research Excellence in S&T (CREST) and HBCU Research Infrastructure for S&E (RISE)
Documenting Endangered Species
GeoPrisms Program
International Research Fellowship Program
Law and Social Sciences
Mathematical Sciences Postdoctoral Research Fellowships
NSF Astronomy and Astrophysics Postdoctoral Fellowships
NSF Earth Sciences Postdoctoral Fellowships
NSF Fellowships for Transformative Computational Science using CyberInfrastructure
Pan-American Advanced Studies Institutes Program
Postdoctoral Research Fellowships in Biology
SBE Postdoctoral Research Fellowships
ASEE/NSF Corporate Postdoctoral Fellowship for Engineers

USDA NIFA
AFRI Education and Literacy Initiative
http://nifa.usda.gov/program/afri-education-and-literacy-initiative
USC DC Research Advancement Office

Services

Research Funding
Research initiative alerts
Collaborations across schools, other institutions
Federal funding agency advocacy / connections / intel
Strategically targeted activities
Proposal preparation - biosketch, letters of support, editorial, budget, and scientific
Repository with Mission Agency Program Summary (MAPS) resources
Program/Program Officer database

Visibility/Prestige
(Inter)national conferences / workshops
Strategic partnerships
Advisory/planning committees

Faculty Development
Grant-writing courses
Talks – staff from DC Office, federal funding agencies
Faculty recruitment

Proposal: Budget/Presentation

Robyn Gill - manager robyngil@usc.edu
Dan Barker - writer djbarker@usc.edu
Phoebe Lyman - writer plyman@usc.edu
Stephanie Griep - writer griep@usc.edu

Technical

Steve Moldin - biology, medical, bit of everything moldin@usc.edu
Jim Murday - physical sciences/engineering murday@usc.edu
Al Olson - cyber and intelligence aolson@usc.edu