How to Write Winning Proposals

“Keys to Success”

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Getting Started

- No lack of opportunities
- Challenges of finding the right fit
- Assess your chance of success
- Build the right team
- Know your customer
- Get organized!
Funding Opportunities

- Firstgov.org
- Air Force Research
- Army Research Office
- Catalog of Federal Domestic Assistance
- Congressionally Directed Medical Research Program
- Defense Advanced Research Projects Agency
- Environmental Protection Agency
- FedBizOpps.Gov
- Federal Acquisition Jumpstation
- Federal Register
- Grants.gov (all federal funding opportunities)
- Health & Human Services (HHS) GrantsNet
- National Aeronautics and Space Administration
- National Endowment for the Arts
- National Endowment for the Humanities
- National Institutes of Health
- NIH Parent Announcements
- NIH Basic Behavior and Social
- National Oceanic and Atmospheric Administration
- The Foundation Center (foundationcenter.org)

- National Science Foundation
- Office of Naval Research
- U.S. Department of Agriculture
- U.S. Department of Education
- U.S. Department of Energy
- Office of Science
- National Energy Technology Lab
- Office of Nuclear Energy
- Office of Energy Efficiency and Renewable Energy
- Advanced Research Projects Agency
- U.S. Department of Homeland Security
- U.S. Department of Housing and Urban Development
- Information about Grants
- Federal Register
- Federal Business Opportunities
- NIH Guide to Grants & Contracts
- NSF Bulletin
- NSF Guide to Programs
- Catalog of Federal Domestic Assistance
Two Major Research Funding Paths

1. Responding to an agency-published research solicitation.

2. Following agency specific guidelines to submit an unsolicited or investigator-initiated research proposal.
   - These are best done after building a relationship with a program manager or responding to a multi-year BAA.
   - Agency websites are the best places to go to get information – each one has a different process, but it usually includes a white paper, (for example, DOE (energy) has a guide for unsolicited proposals.)

<table>
<thead>
<tr>
<th>Solicitation</th>
<th>Unsolicited</th>
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<tbody>
<tr>
<td>• May be too late</td>
<td>• Targets a known problem</td>
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<td>• Lots of competition</td>
<td>• Must know your end user</td>
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<td>• Advertised project details</td>
<td>• May not have funding</td>
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<tr>
<td>• Respond to larger agency needs</td>
<td>• Might not get response</td>
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<td>• Can be complicated</td>
<td>• Better know a name</td>
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A Strategic / Realistic Approach

- Assess:
  1) Does your project answer their need?
  2) Do you have a unique approach?
  3) Do you have, or can you get the right expertise?
  4) Do you have enough time to
     - Develop your approach
     - Write your proposal and have it reviewed at least twice by numerous people
     - Finalize a budget and budget narrative (for all partners)
     - Obtain letters of commitment
     - Finalize a teaming agreement
     - Get signatures for NDA’s
     - Start the IRB process
     - Write other required documents (like a DMP)
     - Get all partners CV’s/biosketches completed in the right format
Get Tactical

- Define the research need and the purpose of the solicitation
  
  Research expectations
  - Project scope
  - Expected outcomes/deliverables
  - Schedules

- Outline competitive information
  - Eligibility
  - Number and size of awards
  - Conditions of award
  - Review process and timeline

- Application instructions
  - Deadlines
  - Content requirements
  - Format requirements
    - Page length
    - Margins/fonts
    - Headers/footers
    - Page numbers
    - URLs
    - Completion of required forms

- Sponsor contact information
  - Program officer and technical support

- Conditions of award/reporting requirements/deliverables
- Limited submission?
Get Organized

- Once you are satisfied with your approach, contact the agency Program Manager for feedback.

- Finalize the required personnel to meet project requirements.

- Agree on partner responsibilities.

- Determine how you will maintain configuration management.

- Assign partners writing tasks, be as specific as possible and limit them to a reasonable space relative to your page count.

- Develop or use letter templates, DMP templates, CV’s/biosketches, organizing the proposal, providing strategic comments, editing, adherence to requirements, and alignment of your proposal to the solicitation.
In the Proposal Itself. . .

• Upfront state specifically what your effort will do for that agency and convince them their money will be well spent.

• Tell them why it is unique/innovative, etc.

• Start with the big picture, then explain details to convince them you have a solid plan.

• Use figures, graphs, tables, pictures to offer a snapshot and pique their interest.

• Present a solid team and how they will interact.

• Use confident language.

• Explain how your work will advance knowledge and impact society!!
Points to Consider

• Your reviewer may not know/understand your language.
• Provide a clear explanation of what you are doing; don’t confuse them.
• Know and be able to explain why your effort furthers the “state of the art”.
• Show leverage whenever possible:
  – Previous dollars spent
  – Preliminary work completed
  – Existing equipment, software, facilities
  – Other programs/projects that compliment
  – Existing personnel/resources that can be used
• Can you provide details on how you will sustain the effort after the PoP is over?
• Show how you are organized (personnel) with a strong management structure.
• How will you manage the project itself? Data/analysis/dissemination.
• Demonstrate in text that you have a full understanding of what it takes to deliver.
• Provide a realistic budget – too little – too large?
Partnering

• Locate the best partners that add unique expertise to your project.

• Look for partners that broaden your opportunities for funding. Small business, academia partners (HBCU/MI/Rural/URM), large business (sponsorship), non profits.

• Seek sponsorship for interns, equipment, advisory panels/boards, events, scholarships.

• Use existing programs to expand to new opportunities.

• Continue to develop your network.
• Be Aware of National/International Research/Funding Trends.

Major Research Initiatives OSTP
for FY 2022 Budget Priorities

1. American Public Health Security & Innovation
   - Diagnostic, Vaccine, Therapeutic R & D
   - Infectious Disease Modeling, Prediction & Forecasting
   - Biomedicine and Biotechnology
   - Bioeconomy

2. American Leadership in Industries of the Future and Related Technologies
   - AI
   - Quantum Information Science
   - Advanced Communications Networks
   - Advanced Manufacturing
   - Related Technologies – Future Computing
   - Related Technologies – Autonomous and Remotely Piloted Vehicles

3. American Security
   - Resilience
   - Advance Military Capabilities
   - Semiconductors

4. American Energy and Environmental Leadership
   - Energy
   - Earth System Predictability
   - Oceans and Artic

5. American Space Leadership
Process and Programs

• CRADA – Cooperative Research and Development Agreement
• EPA – Educational Partnership Agreement
• IRAD – Independent Research and Development (industry funds)
• ILIR – In-house Laboratory Independent Research (Mainly 6.1 hi-risk/hi-payoff)
• SBIR – Small Business Innovative Research (3.2% of research budgets greater than 100M per year.
• STTR – Small Business Technology Transfer Program 0.45% of research budgets greater than $1 billion per year

(Over 5,000 new awards every year)
Further Tips

What to provide . . .
• Approaches that emphasize cost avoidance/reduction
• Understanding of research application and need
• Shortened research cycles
• Multiple applications
• Innovation – results, relevance and responsiveness

What to look for . . .
• Budget cycles (CRA crisis)
• Programs in chaos
• Who has ownership of the problem
• Conference, opening meetings where government organizations brief research efforts
• Association memberships/meetings
• Opportunities to serve on panels, chair sessions

Remember . . .
• Doing business with the government is like a 3-legged stool
  1) Relationship  2) Credibility  3) Delivery
If you don’t win:

• Request your review comments and/or get a meeting with the program manager to discuss.

• Recycle your material with other opportunities.

• If you apply again, address the concerns of the previous review in your new proposal.

• Find out who the winners were. Make friends.