Tips

The NSF Grant Writing Workshop
2017 Summer Writing Institute Part I
July 25, 2017
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SIGH... I HAVE TWO PAPERS, A GRANT PROPOSAL, A HOMEWORK SET, AND A PRESENTATION ALL DUE THIS WEEK! AND I HAVE TO ASK MY PARENTS TO LEND ME MONEY!

HOW DO YOU DO IT, TAJEL? HOW COME YOU ARE NEVER STRESSED OUT ABOUT GRAD SCHOOL OR ANYTHING??

WELL, WHENEVER I START TO FEEL STRESSED, I ASK MYSELF THIS QUESTION...

WOULD I REALLY WANT TO BE DOING SOMETHING ELSE WITH MY LIFE?

phd.stanford.edu
Welcome to Research Grant Competition

Good luck!

Weak publication record

Turn back now!

The research grant application process.
The Audio PhD asks...

How has the funding climate affected your academic career plans?

Funding for basic science in the U.S. is the worst it’s been... ever.

Is this the worst time to become a scientist?

Laurence Yeung

It’s taken a brutal toll on my health and my relationships.

It’s impossible to make long term, rational plans...

This is anonymous, right?

A listener from Canada.

An Assistant Professor

I... I’m leaving scientific research.

A Post-doc

U.S. FEDERAL R&D

Percentage of GDP

1.2%
1.0%
0.8%

Source: AAAS

THE GRANT CYCLE

HOW IT’S SUPPOSED TO WORK:

WRITE GRANT \rightarrow GET $ \rightarrow DO RESEARCH \rightarrow PUBLISH RESULTS

(REPEAT)

HOW IT REALLY WORKS:

DO RESEARCH \rightarrow GET RESULTS BUT DON'T PUBLISH THEM YET. CALL THEM "PRELIMINARY RESULTS" \rightarrow WRITE GRANT TO DO WHAT YOU ALREADY DID \rightarrow GET $

USE $ TO PAY FOR AN UNRELATED NEW PROJECT

OK, NOW YOU CAN PUBLISH RESULTS

“Piled Higher and Deeper” by Jorge Cham
www.phdcomics.com
Granting Funding Opportunities: Funding Sources

- Most research funding comes from two major sources.
  - Corporations (R&D Departments)
  - Government (Universities and Specialized Government Agencies)

- Some small amount of scientific research are funded by charitable foundations especially in relation to developing cures for diseases
  - American Cancer Society
  - American Asthma Foundation

Differences between Corporation (Private-Sector) or Government-funded research.

- Profit
- Knowledge.
NSF Overview

• An independent Federal agency established by the National Science Foundation Act of 1950

• The Act states the purpose of the NSF is "to promote the progress of science; [and] to advance the national health, prosperity, and welfare by supporting research and education in all fields of science and engineering"
NSF Organizational Structure

- Discipline-based Directorates (7)
  - Biological Sciences (BIO)
  - Computer & Info Sciences & Engineering (CISE)
  - Education & Health Resources (EHR)
  - Engineering (ENG)
  - Geoscience (GEO)
  - Mathematical & Physical Sciences (MPS)
  - Social, Behavioral & Economic Sciences (SBE)

- Division within each Directorates
- Sections
- Programs within Sections
- Program Directors (permanent & IPAs also known as “rotators”)


NSF Champions Research and Education Across All Fields of Science and Engineering
Type of NSF Proposals

• Unsolicited proposals (most $$)

• Program Solicitations/Announcements (PA’s)

• Cross-Directorate Programs (CAREER, EFRI)

• *EArly-concept Grant for Exploratory Research (High Risk-High Reward; EAGER; < $300,000 for 2yrs; Invite only)

• *Rapid Response Research (RAPID; <$200,000 for 2yrs)

• Integrated NSF Support Promoting Interdisciplinary Research and Education (High risk/high-reward interdisciplinary; INSPIRE: max award and size of 1,000,000 for max duration of 5 yrs; must be co-funded by two or more intellectually distinct NSF divisions or programs)

• Supplements (including REU, RET)

• Research Centers (ERC, MRSEC, STC)

* Internal Merit review required
Who Gets Funded?

- Typically funded
- Almost Always funded
- Almost Never funded

“Gray” Zone
Common Reasons for High Ratings

• “This proposal suggests a clear, elegant, well-documented approach to a problem that has plagued this field for decades.”

• “The PI has a beautiful plan. Undergraduates or new graduate students can step right into this work, yet it solves a major problem and will be publishable in a first-rate journal.”

• “This is certainly adventurous, and I frankly would have doubted it could be done. Yet the PI has proven the method in preliminary AND had it accepted by a peer-reviewed journal!”

• “This reads like a dream. I have rarely seen a proposal, even from long-established investigators, that shows such careful thoughts and meticulous presentation.”
Common Reasons for Low Ratings

• No well defined hypotheses or tests of same: Lack of focus: “Why all the rambling, this seems like a fishing expedition.”

• Extraneous aspects or PIs: “What does the components/Co-PI have to do with the central focus of the proposal.”

• Important information on experimental and sampling procedures is omitted: “I really can’t tell what is going to be done and how.” (aka “Trust me” syndrome)

• Unrealistic work plan and or budget: Scope of the work out of proportion to the budget and length of time required.
What Makes a Proposal Competitive?

- Significance (Important area of research)
- Original approach “Wow Factor”
- Strong likelihood of success, i.e., will make a significant contribution to the field
- Knowledge and experience in the discipline
- Experience in essential methodology
- Succinct, logical and focused project plan
- Realistic amount of work
- Sufficient detail
- Cost effective
General NSF Review Criteria

- What is the intellectual merit of the proposed activity?
  - Strength of science

- What are the broader impacts of the proposed activity?
  - What’s your education plan?
  - How would it attract women or under representative groups?
  - What is the benefit of society?

- Program specific criteria may be listed in the program announcement
Intellectual Merit - 5 strands

1) How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields?

2) How well qualified is the proposer to conduct the project?

3) To what extent does the proposed activity explore creative, original, or POTENTIALLY TRANSFORMATIVE CONCEPTS*?

4) How well conceived and organized is the proposed activity?

5) Is there sufficient access to necessary resources?

*“potentially transformative” is a relatively new emphasis (Sept 2007) www.nsf/gpv/pubs/2007/in130.jsp
Broader Impacts-5 strands

1) How well does the activity advance discovery and understanding while promoting teaching, training and learning?

2) How well does the proposed activity broaden the participation of women and underrepresented groups? (“Diversity”)

3) To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks and partnerships?

4) Will the results be disseminated broadly to enhance scientific and technological understanding?

5) What may be the benefits of the proposed activity to society?

Areas of Impact

• Social Impact: Improved quality of life, safety, security, poverty and decreased marginalization, and racism

• Environmental Impact: Improved quality of air, water, land, soil, species and ecosystem including energy, food, climate changes and environmental policy development

• Economic Impact: Increased employment, jobs, exports, and economic poly development including increased private sector investment

“(Pis) must address both merit review criteria in separate statements within the one-page Project Summary. This chapter also reiterates the broader impacts resulting from the proposed project must be addressed in the Project Description and described as an integral part of the narrative.”

Effective October 1, 2002, NSF will return without review proposals that do not separately address both merit criteria within the Project Summary.

Grant Proposal Guide, Ch.

III
Do you feel like you have the David and Goliath Syndrome when it comes to Grant Writing?
Planning Your Proposal

• Start Early!!! (3-6 months before deadline)

• Study Program Announcements (PA) and goals

• Search NSF Awards to see what related projects have been funded; carve out YOUR niche

• List some ideas that excite you; test them with colleagues (form your own review panel!)

• Read successful grants; identify potential mentors

• Sharpen the focus of your strongest idea(s)

• Contact key NSF Program Directors; test idea(s) for “fit”
Key NSF Web Pages

- [www.nsf.gov/funding/](http://www.nsf.gov/funding/) Funding opportunities by Directorate, with an alphabetical index of grant programs


Writing Your Proposal

• Project Summary (1 page)
• Project Description (15 pages)
• Reference Cited
• Biographical sketches (1 page)
• Budget
• Facilities, Equipments & Other Resources
• Appendix (only if authorized)
Note: These are commandments, not suggestions!
Proposal Structure

Project Summary (1 page)

- A self-contained “thumbnail sketch” of the project
- Should stress significance and innovation
- Summarize project overall goal(s) objectives
- List methods to be employed
- Identify expected outcomes
- Address separately, with headlines:
  1) Intellectual Merit
  2) Broader Impact
Tips for the Project Summary

1) Strive to be COMPLETE though BRIEF

2) View it as a one page advertisement

3) Write it last after you’ve completed the entire proposal

4) DO NOT merely cut and paste from the first page of the project description

5) Keep in mind purposes other than the reviewer:
   - Condensed into abstract if awarded
   - Request from top management at NSF

Remember: This maybe the only section that some reviewers will read! Make it brief “stand alone” statement of the scope, methods and significance of your project
Proposal Structure, cont’d

Project Description (15 pages)

- Detailed description of the project’s overall purpose, specific objective and expected significance
- Relation to longer-term goals of researcher(s)
- Contribution to present state of knowledge
- Results from prior NSF support, if any (5pp.max)
- Clear description of experimental methods and procedures
- Detailed work plan, with major tasks and timelines
- Address broader impacts of project
- Plans for dissemination of outcomes

Large-scale optimization has been a subject of investigation for over 50 years, but the challenge of making it useful in practice has continued to the present day. Initially the primary dif culties were posed by computation, but breathtaking increases in computer power and algorithm sophistication combined to allow for routine solution of large problems arising in practical applications [3]. As computational needs were addressed, the more serious dif culties came to be posed by representation, as modelers found that they could solve larger problems than they could manage or understand [15, p. 169]. This challenge, too, was eventually met, by increasingly sophisticated modeling languages and systems for describing and working with optimization problems [12, 26].

The primary dif culty of large-scale optimization has now shifted again, to one of communication. Increasing numbers of optimization algorithms are implemented increasingly well, but prospective users are unaware of these “solvers” or do not see the potential bene t that would justify obtaining and installing them. Only certain combinations of solvers and modeling systems work with each other, moreover, and modeling language support is slow to keep up with solver extensions to new problem types.

The Internet is now providing an increasingly practical way of addressing communication problems in large-scale optimization [19]. Websites offer abundant solver information [16], to be sure, but the more signi cant advance is the ability to send optimization problems over the Internet for submission to a solver at some remote site. The remote optimization “server” can address numerous problem types and can provide varied solvers for problems of each type, giving modelers much more of a choice than they could hope to have locally. In previous work under the auspices of the Optimization Technology Center at Northwestern University and Argonne National Laboratory, we have studied and experimented with the concept of an optimization server through the creation of the NEOS Server [6, 9, 24], which makes nearly 50 solvers available via a broad variety of network interfaces.

The current NEOS Server only begins to address the communication dif culties of large-scale optimization, however. The Server cannot tell users which solvers are appropriate for a problem that has been submitted, or choose a solver host based on the expected resource needs of a problem. Connections from modeling languages to solvers are still incomplete, and support for benchmarking is limited. Because NEOS has evolved along with the Web and the Internet — its rst interface, through e-mail, dates back to 1996 — it is limited to some degree by early design decisions.

The research that we propose is thus motivated by our vision of a next-generation NEOS Server that addresses outstanding challenges of communication in large-scale optimization. This work will address design as well as implementation issues posed by standardizing problem representations, automating problem analysis and solver choice, working with new web-service standards, scheduling computational resources, benchmarking solvers, and verication of results — all in the context of the special requirements of large-scale computational optimization. Our research in these areas is timely, being motivated by new standards for web services and by the recent success of the NEOS Server itself, and will build on the considerable expertise in optimization servers already in place at the Optimization Technology Center.

The remainder of this introduction addresses the broader impact of the Optimization Technology Center, the NEOS project, and speci cally the NEOS Server. The four major

http://users.iems.northwestern.edu/~4er/NEOSprop.pdf
Tips for the Project Description

1) Be persuasive; cite authoritative sources to prove the importance of the research problem

2) Cite enough relevant research to show familiarity with state of the art scholarship

3) Establish credibility of your approach by citing relevant preliminary data and published work

4) Provide detailed description of the educational activities integrated into the project

5) Show how your work will advance the field

Remember: Pictures do more than words: Use charts, illustrations and graphs to help reviewers “see” exactly how the project will unfold
Formulate Precise Goals and Objectives

Goals: General statement of the project’s overall purpose(s)

“Our long term goal is to reveal the dynamics of heat transport within nanostructures and across interfaces of dissimilar materials at the nanoscale levels.”

Objective: A specific, measurable outcome, benchmark or milepost on the way toward the goal

1. “Measure the precise thermal conductivity of DNA molecules using laser pulses.”

2. “Quantify the thermal properties of interfaces between nanoscale thin films and liquids metals using transient thermoreflectance.”
Use Graphic Illustrations

1) Visualize the overall project with a drawing

2) Specify major tasks and timelines; use Gantt charts, calendars or flow charts
Proposal Structure, cont’ d

References Cited

• This section is required

• Include: Author(s), article and journal title, vol #, page numbers, year of publication

• If available electronically, include url

• Follow an accepted scholarly format

• Do NOT include commentary parenthetical to narrative!

• No page limit

References Cited


Proposal Structure, cont’d

Biographical Sketch(es) (2 pages)

- Required for Senior Personnel (PI’s co-PI’s and Faculty Associates)
- Two page limit, NSF format required
  - Professional preparation
  - Appointments
  - Publications
  - Synergistic activities
    - Updates
  - Collaborators and other affiliations are no longer required as part of the BioSketch
- Optional: Other personnel w/exceptional qualifications may be listed (Post docs, GRA’s etc)

http://grantwriting.tufts.edu/?pid=15
Proposal Structure, cont’d

Budget

• Must be supplied for each year of project duration

• Justification required for all major items (3 page limit)

• Must match project design and work plan EXACTLY!

• Faculty salaries included for summer work only (some exceptions)

• Details on budget structure, allowable costs, etc., may be found in the GPG, Sections II-10 thru 11-17

Remember: The budget should be exactly what the project requires, no more, no less. Deliberate padding or “lowballing” is quickly spotted.
Proposal Structure, cont’d

Facilities, Equipment & Other Resources
• Used to assess the adequacy of the organizational resources available to complete the project successfully
• Must describe only those resources that are directly applicable

Special Info & Supplementary Documentation
• Included if needed for special circumstances (Performing part of project off campus or in foreign countries)
• Posdoc Mentoring Plan (if applicable) filed here
• Not to be used as an appendix

Appendix
• May be included only if a deviation from guidelines has been requested and authorized by NSF!
Surefire proposal killers

1) Exceed page limits

2) Fonts too small, margin too narrow

3) Graphic illustrations hard to read

4) Supplementing the project narrative with urls or commentary in the “References” section

5) Lack of knowledge about current scholarships

6) Insufficient detail or overly broad promises in “broader impacts” and “diversity” sections

7) Discrepancies between work plan and budget

8) Using “trust me” language instead of providing project details
Challenges for Researcher: Future NSF Evolution

January 21, 2011, The National Science Board announced it is undertaking a thorough review of the NSF merit review criteria in response to the 2010 American COMPETES Reauthorization Act:

SEC 526. BORDER IMPACTS REVIEW CRITERION

(1) Increased economic competitiveness of the United States
(2) Development of a globally competitive STEM workforce
(3) Increased participation of women and underrepresented minorities in STEM
(4) Increased partnerships between academia and industry
(5) Improved pre-K-12 STEM education and teacher development
(6) Improved undergraduate STEM education
(7) Increased public scientific literacy
(8) Increased national security
Changes in NSF Policies

New PAPPG released
October 25 2016

Effective January 30, 2017

• Proposal & Award Policies & Procedures Guide
  – 9 months review and comment beginning in April 2016
  – Effective date, January 30, 2017
  – Significant Changes and Clarifications to the PAPPG:
Some of the notable changes

- 5 p.m. submitter’s local time is standard for all submissions, including proposals submitted in response to solicitations.
Some of the notable changes

Use of “should” and “must”

• The use of “should” and “must” have been revised throughout the PAPPG.
  • Should is voluntary, must means MUST.

• If the word “must” (rather than “should”) has been used, please note that this is a requirement. Proposals that do not have required elements may be returned without review. This includes use of special characters, formatting, and organization of documents uploaded separately as well as collaboration plans, data management plans, and other elements required by solicitation or the Grant Proposal Guide.
Some of the notable changes

• Broader impacts. “The Project Description must contain, as a separate section within the narrative, a section labeled "Broader Impacts". GPG II.C.2.d(i)

• Pay attention to changes in:
  • Results from Prior NSF Support
  • Biographical Sketches
  • Current and Pending Support

• Public Access requirement will apply to peer-reviewed journal articles and juried conference papers resulting from awards made from proposals submitted after January 2016.
  • NSF Public Access Repository (NSF-PAR), par.nsf.gov
  • Voluntary deposit to NSF-PAR is possible.
Some of the notable changes

NSF Public Access: Project Reporting

• Reduce burden on PIs by automatically ingesting publication information submitted through NSF-PAR into annual and final project reports
• Cumulative listing of all products
• Simplify reporting of products
• Automatic ingest will only happen for awards that must comply with the new Public Access policy
• NSF has worked with a small group of PIs to voluntarily deposit publications in NSF PAR to test the automatic ingest process
# Automated Compliance Checking

**Automated Proposal Compliance Checks Performed by System as of July 24th, 2015.***

<table>
<thead>
<tr>
<th>Compliance Check</th>
<th>Funding Opportunity Type</th>
<th>Error / Warning</th>
<th>Funding Mechanism Type</th>
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<tbody>
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<td>Research</td>
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<tr>
<td>Proposal Section Exists Checks</td>
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<tr>
<td>1. Project Summary is required.</td>
<td>GPG Program Description Program Announcement</td>
<td>ERROR</td>
<td>✓</td>
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<td></td>
<td>Program Solicitation</td>
<td>ERROR</td>
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<tr>
<td>2. Project Description is required.</td>
<td>GPG Program Description Program Announcement</td>
<td>ERROR</td>
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<td></td>
<td>Program Solicitation</td>
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<td>✓</td>
</tr>
<tr>
<td>3. References Cited is required.</td>
<td>GPG Program Description Program Announcement</td>
<td>ERROR</td>
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</tr>
<tr>
<td></td>
<td>Program Solicitation</td>
<td>WARNING</td>
<td>✓</td>
</tr>
<tr>
<td>4. Biographical Sketch(es) is required.</td>
<td>GPG Program Description Program Announcement</td>
<td>ERROR</td>
<td>✓</td>
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<td></td>
<td>Program Solicitation</td>
<td>WARNING</td>
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<tr>
<td>5. Primary Budget is required.</td>
<td>GPG Program Description Program Announcement</td>
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<td></td>
<td>Program Solicitation</td>
<td>ERROR</td>
<td>✓</td>
</tr>
<tr>
<td>6. Budget Justification for the Primary Organization is required.</td>
<td>GPG Program Description Program Announcement</td>
<td>ERROR</td>
<td>✓</td>
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<td></td>
<td>Program Solicitation</td>
<td>WARNING</td>
<td>✓</td>
</tr>
<tr>
<td>7. Budget Justification for each Subrecipient Organization that exists is required.</td>
<td>GPG Program Description Program Announcement</td>
<td>ERROR</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Program Solicitation</td>
<td>WARNING</td>
<td>✓</td>
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</tbody>
</table>

Key Documents

• Proposal & Award Policies & Procedures Guide
  Fiscal Year 2016 Budget Request
  https://www.nsf.gov/about/budget/fy2017/
  NSF Strategic Plan for Fiscal Years 2014-2018
  nsf.gov/publications/pub_summ.jsp?ods_key=nsf14043

• NSB Report on Merit Review
  nsf.gov/nsb/publications/pub_summ.jsp?ods_key=nsb1333

• Public Access
  • Plan (NSF 15-52)
  • Research.gov (www.research.gov), About Public Access
Support in Proposal Preparation

- Talk to NSF Program Officers
- Serve as reviewer and panelist
- Review funded proposals
- Seek mentors on campus
- Use your Sponsored Research Office

**NSF Publications**

- Program Announcement
- Grant Proposal Guide
- Web pages
- Funded Project Abstracts
- Reports, Special Publications
Electronic Submission Required

OR

www.FastLane.NSF.gov

OR

Three Most Important Rules

1) Don’t wait until the last minute to submit!
2) Don’t wait until the last minute to submit!
3) Don’t wait until the last minute to submit!

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Tele: (813) 974-7225
Questions?...
Contacting Grant Program Officers

The NSF Grant Writing Workshop
2016 Summer Writing Institute Part II
July 25, 2017
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University of South Florida Health
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Developing the Right Skill Sets for Success
Success in Sponsored Research

- Scholarly Expertise
  - Widely recognized
  - Grant Writing Skills
- Relational Skills
  - Less appreciated
Relational Skills with the Program Officer

• Communication with a program officer (PO) is the best possible investment of your time

• Never write a proposal before doing this!

• POs are available to you for advice and appointments (conference booths, visits to NSF)
  • Do your homework before you meet with program officers, prepare specific questions
  • POs can find out help you find out about other programs and make contacts across the Foundation

• POs are your contacts for becoming a reviewer and panelist

Note: Many good proposals are rejected because they don’t land on the right desk
“Tip of the Iceberg”

• Published materials is just the “official line”

• Review panels, POs develop unspoken preferences

• Program priorities can change over time

• PO’s response to core theme is best predictor of success

• PO’s can advise on issues related to program track, budget, collaborations, project structure

Remember: Unofficial “rules of the game” can separate the winners from the losers”
Initial Concerns

How will I be received?

Is it really legitimate to discuss my project before I’ve written a proposal?
Why Program Officers Welcome Inquiries

• Keep up with new directions in the field (POs are former academics and researcher)

• Deflect weak/inappropriate proposals

• Encourage, even coach good ideas

• Scout for new grant reviewers

Most important: Sponsors encourage a “customer service” culture (especially federal agencies)
Plan for a Successful Encounter

1) Find the best “fit”

2) Write a preabstract, or “elevator speech”

3) Start with e-mail

4) Study the response

5) Make the call

6) Ask for meeting (if practical)
(1) Find the Best “Fit”

- Develop funding search skills (COS, Grants.gov, Agency web site)
- Study program mission statement/PA
- Search recent awards, read abstracts
- Look up staff directory
(2) Write a preabstract

- Think “elevator speech”
- Keep it brief, informal
- Specify goals, methods, outcomes
- Stress uniqueness and contribution to the field
- Rewrite and rehearse!
(3) Send the Emails

- Multiple addresses okay
- Concise & brief: 2-3 paragraphs
to argue fit, borrow terminology from office mission or PA
- End with key questions:
  “Is this the kind of project your program would consider funding?”
(4) Study the Response

• Look for tone and nuance, as well as direct message

• Take all suggestions as instructions

• Best Results: Request for more information

• Also Good: Recommendation for completely different program

• If encouraged, plan for phone call
(5) Make the Call

• Remind PO of your project and emails

• Write questions out in advance

• Key questions:
  - Does my project fit your current priorities?
  - What would you recommend to improve my chances?
  - What is the anticipated success ratio?
  - Do you expect last year’s average award to change this year?
  - What are some of the common reasons proposal are rejected?

• Listen for “buying signals”

• Follow up with “thank you” note, summarizing key points

• Offer to serve on a review panel

• Stay in touch (and visit, if possible)
Words of Encouragements…

“To make our way, we must have firm resolves, persistence, tenacity. We must gear ourselves to work hard all the way. We can never let up.” Ralph Bunche, Journal of Negro Education and 1950 Nobel Peace Prize

“I have learned that success is to be measured not so much by the position that one has reached in life as by obstacles which he has had to overcome while trying to succeed.” Booker T. Washington, American political leader and First President of Tuskegee Institute

“Success is a journey not a destination. The doing is usually more important than the outcome.” Arthur Ashe, professional tennis player and Civil Right leader

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Top Ten Ways To Write a Good Proposal…

That Won’t Get Funded
Flaw #10

Inflate the budget to allow for negotiations.

Instead…

- Make the budget reflect the work plan directly.
- Provide a budget explanation that ties your budget request to project personnel and activities.
- Make it clear who is responsible for what.
- Provide biographical sketches for all key personnel.
Provide a template letter of commitment for your (genuine) supporters to use. (They will!)

Instead…
- Ask for original letters of support that detail what your collaborators will do and why involvement in your project will help them.
- Letters from administrators are stronger if they demonstrate real commitment, e.g. release time, faculty development funds, new course approvals, etc.
Assume your past accomplishments are well known.

Instead...

- Provide results from prior funding – this includes quantitative data and information on impact.
- Describe how new efforts build on this previous work, and how it has contributed to the broader knowledge base about educational improvement.
- Recognize that the review panelists are diverse and not all familiar with your institutional context.
Assume a project website is sufficient for dissemination.

Instead...

- A website may be necessary, but who will maintain it and how in the long run?
- Engage beta test sites. Other adopters can serve as natural dissemination channels.
- Plan workshops and mini-courses; identify similar projects and propose sessions at regional and national meetings.
- Learn about and use the NSDL.
- Use OneNet for videoconferencing and sharing.
Assert: “Evaluation will be ongoing and consist of a variety of methods.”

Instead...
- Plan for formative and summative evaluation.
- Include an evaluation plan with specific timelines and projected benchmarks.
- Engage an objective evaluator.
Assume the program guidelines have not changed; or better yet, ignore them!

Instead...
- Read the solicitation completely and carefully.
- Address each area outlined in the solicitation that is relevant to your project.
- Check the program solicitation carefully for any additional criteria, e.g. the Integration of Research and Education, or integrating diversity into NSF Programs, Projects, and Activities.
Don’t check your spelling, nor you’re grammar.

Instead...
- Check and double check; first impressions are important to reviewers.
- State your good ideas clearly. Ignore the bad ones.
- Have a trusted colleague who is not involved in the project read your drafts and final proposal.
Flaw #3

Substitute flowery rhetoric for good examples.

Instead...

- Minimize complaints about students, other departments, the administration, etc., and describe what you will do and why.
- Ground your project in the context of related efforts.
- Provide detailed examples of learning materials, if relevant.
- Specify who you will work with and why.
- State how you plan to assess progress and student learning.
- Detail the tasks and timeline for completing activities.
- Specifically address intellectual merit and broader impacts and use the phrases explicitly in the project summary.
Assume page limits and font size restrictions are not enforced.

Instead...

- Consult the program solicitation and the GPG (Grant Proposal Guide) carefully.

- Proposals that exceed page and/or font size limits are returned without review.
Assume deadlines are not enforced.

Instead...

- Work early with your campus Sponsored Research Officer (SRO).
- Test drive FastLane and grants.gov and make sure your SRO knows how to drive too!
- Set your own final deadline 5 days or so ahead of the formal deadline to allow time to solve problems.
Tips on Writing a Good Proposal…
That WILL Get Funded
Contact a program officer before you start. “Call early, call often”

Check the NSF award database to “connect” to the community

Don’t give up! The first application funding rate is 20%. The second application funding rate is 50%!

REJECTION IS GOOD!
Tips for writing proposals provided by Jeanne Small, NSF

The opinions represented here are my own and are not necessarily those of the National Science Foundation although everything is based on the NSF published material.

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